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Hospitalised injury of Australia's Aboriginal and Torres Strait Islander people 2000–02

Yvonne LM Helps
James E Harrison



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2000–02

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Hospitalised injury of Australia's Aboriginal and Torres Strait Islander people

2000–02

Yvonne LM Helps

James E Harrison

November 2006

Australian Institute of Health and Welfare
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Executive summary

The report provides a cross-sectional summary of hospital separations due to injury and poisoning for the aggregated data collection periods 2000–01, and 2001–02 for Australia’s Aboriginal and Torres Strait Islander people. The report text respectfully refers to people identifying as being Aboriginal, Torres Strait Islander or Aboriginal and Torres Strait Islander collectively as Indigenous, in light of space restrictions in tables, and in the interests of readability. Aboriginal and Torres Strait Islander is our preferred term, and is used for all table and chart headings.

Ascertainment of Indigenous data in hospital records differs in quality between jurisdictions, and over different time periods. Data for whole of Australia is presented as a population overview. This report focuses on a region consisting of grouped jurisdictions of better quality Indigenous ascertainment in hospital separations data, referred to as Region A (comprising the Northern Territory, South Australia, Western Australia and Queensland). Comparison of case numbers and rates of separations across total External causes and six selected External causes are made against data for non-Indigenous Australians in the same grouped jurisdictions. Corresponding data for the grouped jurisdictions (referred to as Region B) of less reliable reporting quality are included in the Appendix.

For Region A, Assault was the most common reason for a hospital stay for Indigenous persons, followed by Falls, Transport, Self-harm, Burns and Poisoning by pharmaceuticals. More Indigenous females were affected by Assault and Self-harm than Indigenous males, and more Indigenous males were injured in Transport accidents than Indigenous females. In Region A the rate ratio of Indigenous to non-Indigenous hospitalisation for Assault for females was nearly 46:1, and for males, 10:1. The rate for female Indigenous Self-harm was nearly double the rate for non-Indigenous females, and the rate for Indigenous males was over twice that for non-Indigenous males. Fires, burns and scalds caused hospitalisation for Indigenous females four times more often than for non-Indigenous females, and for Indigenous males, three and a half times more often than non-Indigenous males.

Indigenous Australians are more likely than other Australians to live in remote areas, and rates of external cause injury generally rose with degree of remoteness of residence, rates for Indigenous Australians were commonly higher than rates for non-Indigenous Australians, and rates for Indigenous males were generally higher than rates for Indigenous females. Differences specific to the selected external cause groups are noted in separate sections.

Average length of hospital stay was highest for Burns (9.6 days), followed by Transport cases (5.3 days), Falls (3.5 days), Assault (2.8 days), Self-harm (2.5 days) and Poisoning by pharmaceuticals (2.0 days).

It is well known that the standard of health of Australia’s Indigenous people is substantially lower than that of other Australians. The report identifies a number of differences between Indigenous and other Australians in a range of external causes of injury, not all of which are accounted for when methods of standardisation are applied to factors such as age, population size and remoteness of area of residence. Prevention and control are areas in which improvement can be made to reduce the outstanding differences between Indigenous and non-Indigenous experience of injury. Room for improvement in quality of Indigenous ascertainment in hospital data exists in Region A as well as the remaining jurisdictions.

Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
ALOS	Average length of stay
ARIA+	Accessibility/Remoteness Index for Australia (+ version)
ASGC RA	Australian Standard Geographical Classification Remoteness Areas
CD	Collection District
CI	Confidence Intervals
ERP	Estimated Resident Populations
ICD-10-AM	International Classification of Diseases 10th revision, Australian modification
LOS	Length of stay
NHMD	National Hospital Morbidity Database
WHO	World Health Organization

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1 Introduction

1.1 Purpose

This is a technical report on Australian hospital separations due to injury and poisoning, focussing on cases identified as being Aboriginal and Torres Strait Islander persons and follows on from a previous report (Helps & Harrison 2004), examining patterns of injury mortality for Aboriginal and Torres Strait Islander people, including consideration of remoteness of area of residence. The report provides a cross-sectional summary of hospital separations due to injury for the aggregated data collection periods 2000–01, and 2001–02 for Australia’s Indigenous people. The report focuses on a region consisting of grouped jurisdictions of better quality Indigenous ascertainment in hospital separations data as identified in the earlier injury mortality report (see Section 1.4). An overview of hospital statistics for Indigenous people for whole of Australia is provided for technical comparison only.

In common with the mortality report, injury hospital admissions have been examined to determine relationships with remoteness of place of usual residence and types of external cause of injury, and age and sex. Further analysis provides insight into factors influencing patterns of injury for Aboriginal and Torres Strait Islander people in Australia.

1.2 Selecting injury and poisoning cases

This report is based on national hospital separations data, drawn from the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database (NHMD). For this report, the term separation is defined as:

A formal, or statistical process, by which an episode of care for an admitted patient ceases.
(Australian Institute of Health and Welfare 2001)

The data contained in this report were coded to the second edition of the ICD-10-AM (National Centre for Classification in Health 2002) in all jurisdictions. Data from South Australia for 2001–02 was mapped to the third edition of the ICD-10-AM (National Centre for Classification in Health 2002) before delivery to the national collection, and has subsequently been backward mapped where mapped codes could be identified, but did not reach complete equivalence (Australian Institute of Health and Welfare 2002). This report is restricted to the following selection criteria:

- Australian hospital separations recorded as occurring July 1st, 2000–June 30th, 2002;
- Principal diagnosis in the ICD-10-AM range S00–T75 and T79 (i.e. Chapter XIX ‘Injury, poisoning, and certain other consequences of external causes’ codes, excluding Complications of surgical and medical care, and Sequelae codes);
- Excluding cases within the Principal diagnosis range where no external cause is reported, and Complications of surgical and medical care; and
- Excluding cases transferred from other hospitals.

1.4 Reporting regions

Available evidence, though limited, indicates that case ascertainment of Indigenous status is incomplete in all jurisdictions, or nearly all, and differs greatly between jurisdictions. Hence, overall values for the whole of Australia can be expected to be underestimates, and reporting solely at this level would be unsatisfactory.

An approach used in a recent report (Helps & Harrison 2004) was to focus attention on the three or four jurisdictions for which Indigenous identification appears to be most complete. These tend to be the Northern Territory, Western Australia, South Australia and (in the period covered by this report) Queensland (ABS/AIHW 1999; Cunningham 1998).

Restriction of attention to the jurisdictions for which case ascertainment is probably most complete would go some way towards avoiding misleadingly low overall rate estimates, but it would not achieve the desired national scope. About two-fifths of Australians identified as Aboriginal or Torres Strait Islanders live in the four jurisdictions which are commonly regarded as having the poorest ascertainment of Indigenous status for morbidity data. These jurisdictions are New South Wales, Victoria, Tasmania and the Australian Capital Territory. In the two-year period 2000–01 and 2001–02, almost one quarter of all External cause separations in Australia which were identified as being for Indigenous people, involved residents of these jurisdictions.

Hence, the hospitalised injury experience of over one third of Indigenous Australians and about one quarter of recorded injury cases of Indigenous Australians would be ignored if the poorer-ascertainment jurisdictions were excluded.

In this technical report we have opted to report data for all jurisdictions, but have used an approach that recognises differing case ascertainment. Small case numbers and related factors are reasons against reporting each state and territory separately. Instead, we combined the eight Australian jurisdictions into two groups on the basis of likely quality of case ascertainment. The Northern Territory, Western Australia, South Australia and Queensland are combined as reporting Region A (Figures 1.1 and 1.2). New South Wales, Victoria, Tasmania and the Australian Capital Territory are referred to as reporting Region B, and data for this region are located in the Appendix.

1.5 Geographic allocation of cases

Place of usual residence (state or territory) of the admitted patient as reported in the hospital separation record was the basis for geographic allocation of the case data. That is, separations are reported by pattern of residence, not by geographic location of injury. While most hospitalisations occur in the state or territory in which the person is usually resident, some cross border hospitalisations occur, often related to proximity of health care facility, or availability of specialist services. It is not expected that such occurrences will affect the broad analysis presented in this report to a large degree, though it is important for some types of injury (e.g. spinal cord injury occurring in the Northern Territory is normally treated in South Australia).

1.6 Remoteness

The Accessibility/Remoteness Index for Australia + version (ARIA+) (Glover & Tennant 2003) was the basis for the Australian Standard Geographical Classification Remoteness Area structure (ASGC RA), which was introduced as part of the 2001 edition of the ABS Australian Standard Geographical Classification (ABS 2001). ARIA+ gives precision to the term 'remoteness', defining areas lying outside capitals and major cities in terms of road distance accessibility to just over 200 service centres. Each service centre is assigned to one of five categories, determined by the population at that place. The version of the ASGC RA used for this report divides Australia, down to Collection Districts (CDs), into groupings of average levels of remoteness, based on geography. The zone labels are, therefore, named in relation to degree of remoteness, including a zone for migratory numbers. They are:

- 0 Major cities of Australia
- 1 Inner regional Australia
- 2 Outer regional Australia
- 3 Remote Australia
- 4 Very remote Australia
- 5 Migratory

Not all jurisdictions have areas in all ASGC RA areas. For example, the Australian Capital Territory comprises only zones 0 and 1, while the Northern Territory does not have any zones 0 and 1, and Tasmania does not include zone 0. Victoria does not include zone 4. Figure 1.1 shows the geographical distribution of ASGC RA zones 0-4, indicating the relative difference in the proportion of Very Remote to Major Cities zones.

Figure 1.2 shows the distribution of Aboriginal and Torres Strait Islander persons, in the year 1996, based on the Census of that year (ABS 2002). As described in Australia Now Year Book 2002 (ABS 2002), about 90% of the population of Aboriginal and Torres Strait Islander Australians is spread over 25% of the land mass. In contrast, the same proportion of Other Australian persons is concentrated in only 2.6% of the land and mainly in coastal areas. In 2001, about one third of Indigenous people lived in major cities (compared to two thirds of non-Indigenous people), 43% of Indigenous people lived in regional areas, and around 27% of Indigenous people lived in remote areas (compared to 2% of non-Indigenous people (ABS/AIHW 2005)).

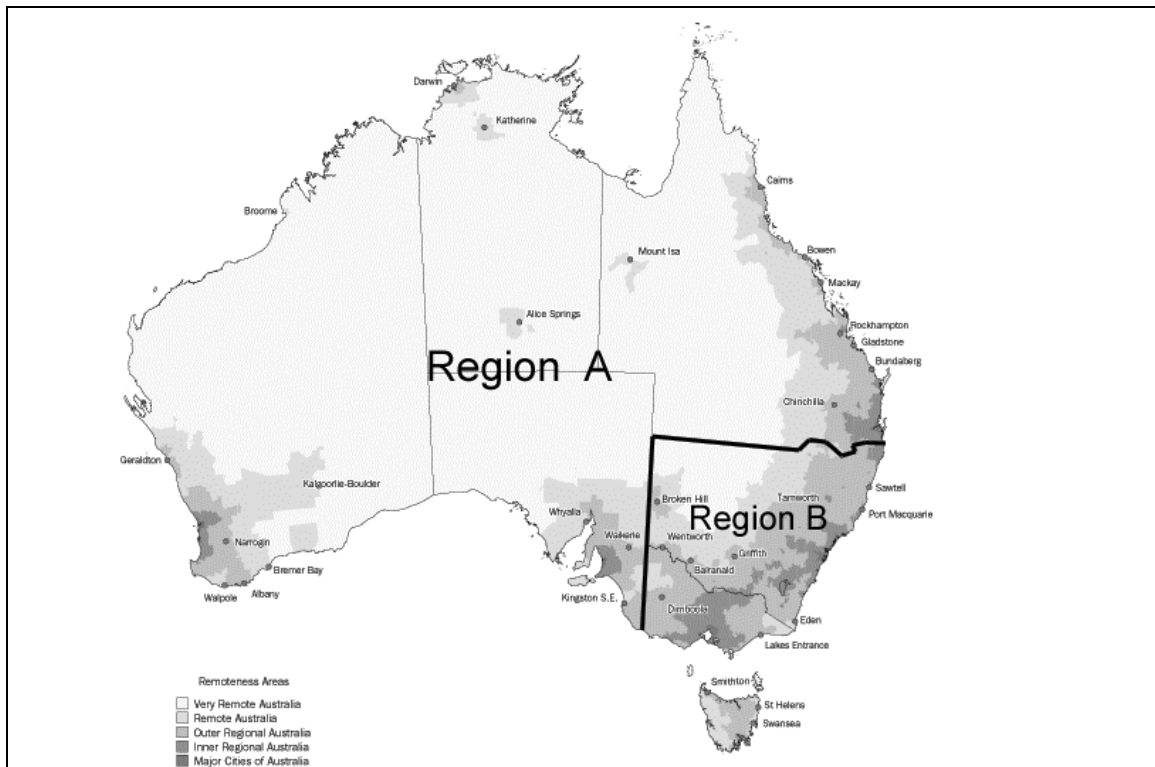


Figure 1.1: Distribution of ASGC RA zones 2003, (modified)¹

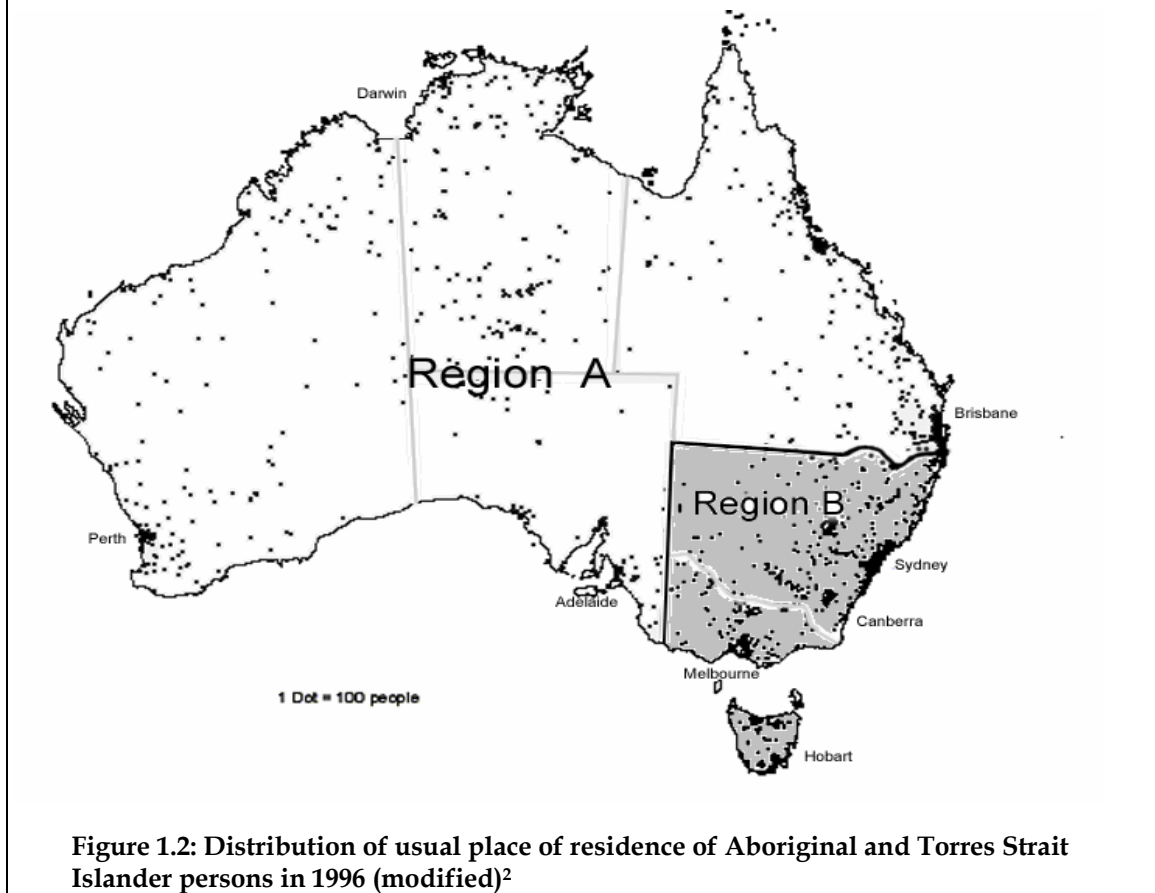


Figure 1.2: Distribution of usual place of residence of Aboriginal and Torres Strait Islander persons in 1996 (modified)²

1 Modified to show reporting Regions A & B (see Section 3.3). Source: personal correspondence, Alec Bamber, ABS, Geography Section, May 2003

2 Modified to show reporting regions A and B (see Section 1.4). Source: (ABS 2001), Map 5.9.

1.7 Data issues

As described in section 1.2, the selection criteria are dependent on hospital separations falling within a specified Principal diagnosis range (ICD-10-AM S00–T75 & T79). It is considered that this selection is representative of injury events precipitating admission to hospital, and is referred to in this report as community injury (in common with Berry & Harrison 2006). This selection excludes ‘Adverse effects not elsewhere classified’ (T78), and ‘Sequelae of injuries, of poisoning and of other consequences of external causes’ (T80–T89). No selection restriction was placed on the accompanying external cause, or position of external cause code in the reporting fields. This is intended to increase the probability of capturing the most complete set of separations due to injury and poisoning. To increase the specificity of separations due to injury prior to hospitalisation, cases within the principal diagnosis range where no external cause code is reported, and those with ‘Complications of surgical and medical care’ have been excluded from analysis, but case counts are generally noted. Although some of these cases may in fact be due to an injury, it is less likely that this will relate to the original principal diagnosis leading to admission to hospital. Admissions identified as transfers from other hospitals (Table 1.1) have also been excluded from community injury, to minimise double counting, and to approach a closer estimate of incident cases.

Estimated average length of stay

The selection criteria for this report excludes case counts where admissions are for cases recorded as transfers or re-admissions, attempting a closer approximation of injury incidence. In order to most closely represent actual length of hospital stay (and actual burden of injury), bed days from all modes of admission are included in length of stay (LOS) analyses.

Bed day rate

The numerator is the sum of bed days occupied for a category of interest. The denominator is the corresponding population. The rates are age standardised and expressed per 100,000 population for the reporting period to give an indication of differences in bed utilisation between sexes and between population groups (Indigenous and non-Indigenous).

Deaths in hospital

Where reported (in table notes), death counts represent the small proportion of cases that ended in death in hospital as a result of the injury responsible for admission to care. These counts do not represent deaths occurring after discharge, or injury deaths not associated with hospital admission. Number of deaths in hospital is not a proxy for establishing severity or lethality of categories of external cause of injury.

Population characteristics

Differences exist in both life expectancy (see Section 2.1) and age distribution of the Australian Indigenous and non-Indigenous populations. The Indigenous population distribution is heavily weighted to the younger end, with only an estimated 3% of persons falling in the 65+ age bracket in 2001, and rates of fertility (and also mortality) are higher at younger ages in the Indigenous population than in the general population (ABS/ AIHW 2005). In consideration of this, age-standardised rates in charts are reported for five-year age-groups up to ages 60–64, and data are aggregated for ages 65+.

Reporting low cell counts

Where tables contain a cell where the count is three or less, the count is reported as ‘..’ in order to maintain record confidentiality and to avoid reporting results likely to be subject to large statistical variation. Associated rates derived from such small numbers are similarly suppressed.

Calculation of rates

Rates were adjusted by direct standardisation to facilitate comparison across ages and between groups. Estimated Resident Populations (ERPs) from the 2001 Census and equivalent information for Indigenous ERPs were used, and the Australian population in 2001 was used as the standard. All rates are expressed per 100,000 population.

Confidence Intervals

Where 95% Confidence Intervals (CI) are applied, a formula appropriate for adjusted rates has been used (Anderson & Rosenberg 1998). Where cell counts are less than $n=100$, the calculation is gamma-based, and resulting CIs will be asymmetrical. Normal approximation is used for cell counts of $n=100$ or more, in which case resulting CIs will be symmetrical. It should be noted that whilst non-overlap of CIs indicates difference between groups, the difference is not statistically robust.

1.8 Data definitions

Terminology

We have used the term Aboriginal and Torres Strait Islander to refer to persons identified, or self-identified, as such in Australian hospital separations data and population data collections. Aboriginal and Torres Strait Islander is our preferred term, and is used for all table and chart headings, and where appropriate in the text. In light of space restrictions and in the interests of readability, the term Indigenous is also respectfully used, particularly within tables and charts.

External cause groups

In addition to summary overviews of external cause groups, six major groups of external causes will be reported in more detail. These are Intentional harm by another (Assault), Falls, Transport, Intentional self-harm (Self-harm), Poisoning –drugs, and Burns. The codes, inclusions and exclusions described at the commencement of each major group section apply wherever these external causes are referred to in the report.

Diagnoses

Principal diagnosis is:

‘The diagnosis established after study to be chiefly responsible for occasioning the patient’s episode of care in hospital (or attendance at the health care facility).’

(Australian Institute of Health and Welfare 2001, p168).

It may be accompanied by up to 30 additional diagnoses, and must be a valid ICD-10-AM code. Descriptive and morphology codes are not permissible; principal diagnoses must be phenomena which affect the health standing of the individual (e.g. disease, injury, poisoning).

Body region

Body region of injury is reported for hospital separations with a principal diagnosis which falls within the range of ICD-10-AM Chapter XIX (S00–T98). The four body regions which are presented in tables within this report are:

- head (S00–S09);
- trunk (S10–S39);
- shoulder and upper limb (S40–S69); and
- hip and lower limb (S70–S99).

Where body region has not been coded (most of the T range), cases have been included in the data as *Other injuries not specified by body region*.

2 Findings

2.1 Whole of Australia

Overview

In the 2001 Census year, the Aboriginal and Torres Strait Islander comprised approximately 2.4% of the entire Australian population (ABS 2003). The Aboriginal and Torres Strait Islander population is young relative to the whole of Australia population, with a median age of 21 years, compared to 36 years for other Australians (ABS/AIHW 2005). Life expectancy for Indigenous people is approximately 17 years lower than for other Australians, estimated at 59.4 years for males, and 64.8 years for females (ABS/AIHW 2005).

There were 27,551 records of injury hospitalisation for Indigenous people, at about twice the rate of non-Indigenous people. Of these injury cases, 95% of people identified as being Aboriginal, 3% as being Torres Strait Islander, and about 2% identified as being of both Aboriginal and Torres Strait Islander descent. All ages standardised Indigenous injury rates were significantly higher than rates for non-Indigenous males, females and persons, and the rate for Indigenous males was significantly higher than the rate for Indigenous females. Rates were particularly high for Indigenous males and females from young adulthood to older age.

Assault accounted for the highest proportion of hospitalisations (33%), with more Indigenous females than males being affected. Falls (17.4%) cases had the next highest proportion of cases, with more men involved than women. Transport cases made up 10% of cases, with over twice as many non-Indigenous males as females being injured.

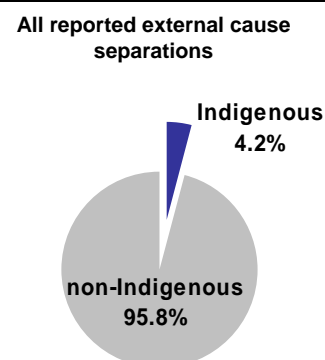
The duration of bed stay for Indigenous people was 1.7 times higher than for non-Indigenous people, while bed utilisation and ALOS for Indigenous males and females was similar.

Injury rates for Indigenous males and females generally rose with area of remoteness, but were significantly lower in the Very remote zone than the Remote zone for both males and females.

The rate of hospitalisation for Indigenous men was nearly one and a half times that of Indigenous women (Table 2.1). Indigenous females were hospitalised at twice the rate of other Australian males and females, and Indigenous males at nearly twice the rate. The proportion of all hospital separations reported as external cause cases was higher for Indigenous males, females and persons than for their other Australian counterparts.

Table 2.1: Aboriginal and Torres Strait Islander separations due to all external causes reported 2000–02, selected indicators; Australia

Indicators	Reported Indigenous separations				Ratio m:f
	Males	Females	Persons		
Number of separations	15,679	11,869	27,551 ^c		1.3
Proportion of all hospital separations ^b	10.0%	5.6%	7.8%		1.8
Crude rate/100,000 population ^a	3,445.5	2,569.1	3,004.3		
Age standardised (direct) rate/100,000 population ^a	3,575.3	2,725.6	3,146.1		1.3
Ratio of age standardised (dir) rates: Indigenous:other	1.8	2.1	1.9		



a Rates are annual averages over the two years 2000–2002, separation numbers are two-year totals.
 b Derived from separations data (Australian Institute of Health and Welfare 2002).
 c Includes 3 separations for which sex was not reported.

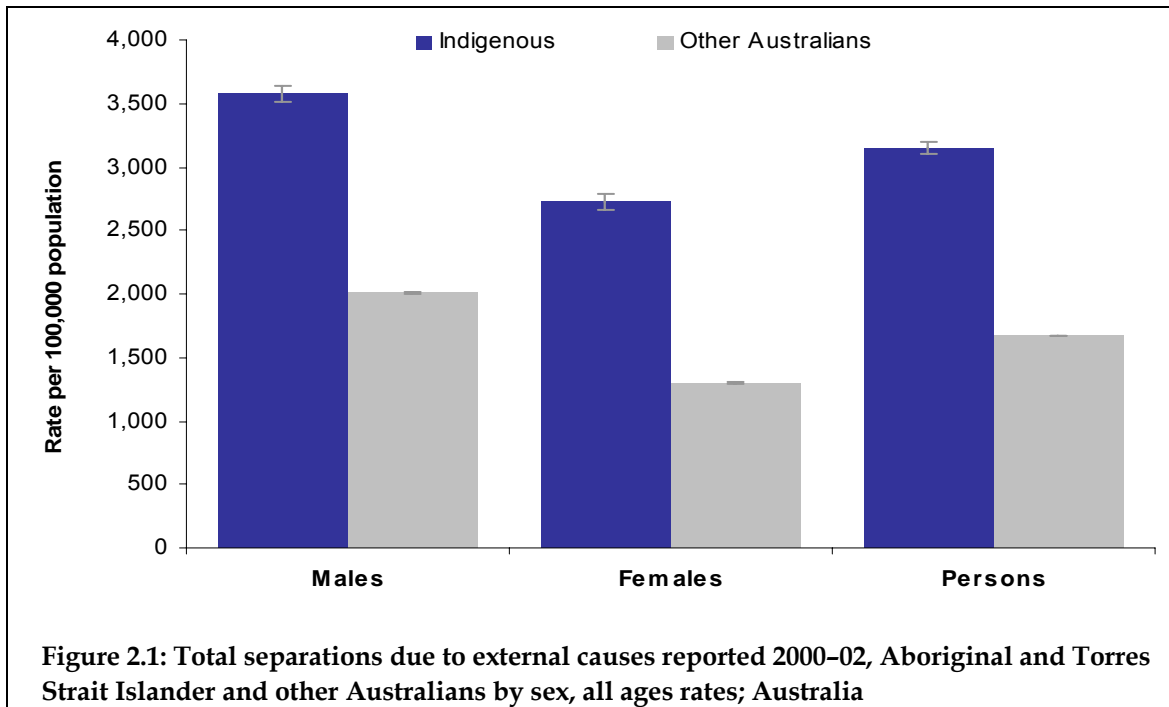
As stated in Sections 1.3 and 1.8, the category ‘Indigenous’ is an aggregate of those people identified or identifying as being Aboriginal, as Torres Strait Islander, or as Aboriginal and Torres Strait Islander. The majority (94.8%) of separations were for people recorded as being Aboriginal (Table 2.2). Separations for Torres Strait Islander people accounted for approximately 3% of total cases, and separations for people of Aboriginal and Torres Strait Islander descent, approximately 2%.

Table 2.2: Separations due to injury and poisoning, Aboriginal, Torres Strait Islander and Aboriginal and Torres Strait Islander Australians, cases by sex; Australia 2000–02

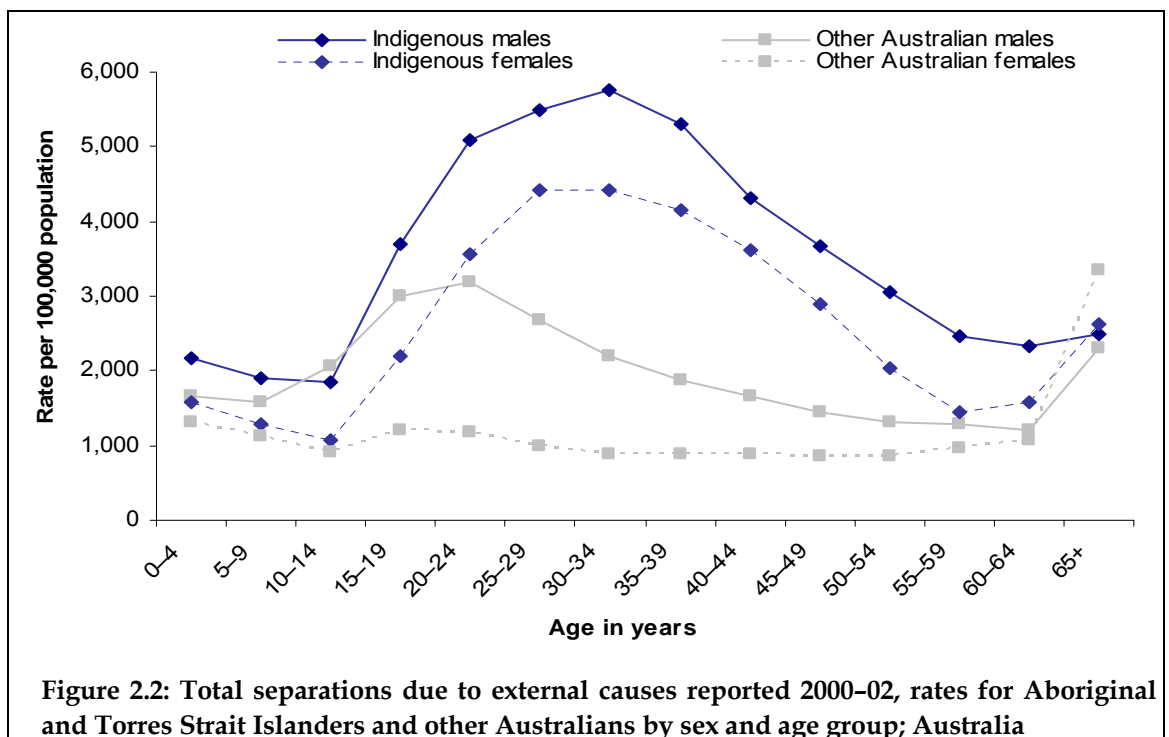
Hospital separations due to injury and poisoning	Males	Females	Persons	Persons injury proportion of all Indigenous cases
Aboriginal	14,727	11,399	26,129 ^c	7.1%
Torres Strait Islander	603	290	893	0.2%
Aboriginal and Torres Strait Islander	349	180	529	0.1%
Total cases	15,679	11,869	27,551	7.5%
All Indigenous hospital separations^a	157,755	210,652	368,485^b	

a Derived from (Australian Institute of Health and Welfare 2002).
 b Includes 78 separations for which sex was not reported.
 c Includes 3 separations for which sex was not reported.

Rates for hospitalisation due to an external cause injury were high for Indigenous males, females and persons, and significantly higher than for non-Indigenous males, females and persons (Figure 2.1).



In all age-groups, rates for Indigenous males were consistently higher than those for Indigenous females (Figure 2.2). Rates for Indigenous males and females were higher than rates for non-Indigenous males and females in almost all age groups. Rates for Indigenous males and females continued to rise in adulthood and mature age, where rates were declining for other Australian males and females.



Of all hospital separations for injury and poisoning in Australia, the highest proportion of hospitalisations for identifiable causes was for Assault (32.5%), followed by Falls (17.4%) and Transport (10.2%) cases (Table 2.3). The rate ratio between Indigenous and other Australians for injury hospitalisations was largest for Assault (11.8:1). Although Burns made up a much smaller proportion of hospital cases, the rate of separations for Aboriginal and Torres Strait Islander persons was three times that of other Australians.

Table 2.3: Separations reported as being of Aboriginal or Torres Strait Islander persons, Australia, 2000–02; case counts, proportion of cases and rate ratios by external cause

External cause	Cases	Proportion of all External causes	Indigenous:other rate ratio
Assault	8,956	32.5%	11.8
Falls	4,797	17.4%	1.1
Transport	2,797	10.2%	1.1
Self-harm	1,942	7.0%	1.9
Burns	775	2.8%	3.2
Poisoning-pharmaceuticals	671	2.4%	1.6

A slightly higher proportion of Indigenous females than Indigenous males sustained injuries from Assault, with both males and females suffering the majority of cases from the effects of *Bodily force* (Table 2.4). Indigenous females reported a higher proportion of injuries from *Blunt objects* than Indigenous males, and males were hospitalised for a higher proportion of injuries from *Sharp objects* than females.

Indigenous males reported 1.5 times more hospitalisations for Fall related injury than Indigenous females, and the most common mechanism for a Fall for both groups was a *Slip, trip, stumble*.

Transport related cases accounted for the third highest proportion of cases (10.2%), with Indigenous males more than twice as likely as Indigenous females to be hospitalised.

For most external cause groups, Indigenous males had a higher case ratio than Indigenous females, with the exception of Assault and Near drowning (both 0.9:1), Poisoning (0.8:1) and Self-harm (0.7:1).

Table 2.4: External causes of hospital separations for Aboriginal and Torres Strait Islander Australians: case counts and proportions of total external causes by sex; Australia 2000–02

Major groups	Males		Females		Persons		M:F	Resulted in death ^b Count
	Count	Per cent	Count	Per cent	Count	Per cent	ratio	
Transportation (V01–V99)	1,915	12.2	882	7.4	2,797	10.2	2.2	15
<i>Land transportation</i>	1,878	98.1	870	98.6	2,748	98.3	2.2	15
<i>Water, air and space transportation</i>	37	1.9	12	1.4	49	1.8	3.1	
Near drowning (W65–W74)	20	0.1	22	0.2	42	0.2	0.9	..
<i>Bathtub</i>	..		6		8		na	
<i>Swimming pool</i>	6		..		9		na	
<i>In natural water</i>	5		8		13		na	..
<i>Other near drowning</i>	7		5		12		na	
Poisoning, pharmaceuticals (X40–X44)	300	1.9	371	3.1	671	2.4	0.8	4
Poisoning, other substances (X45–X49)	127	0.8	82	0.7	209	0.8	1.5	..
Falls (W00–W19)	2,844	18.1	1,953	16.5	4,797	17.4	1.5	12
<i>Slip, trip, stumble</i>	407	14.3	383	19.6	790	16.5	1.1	
<i>Playground equipment</i>	202	7.1	188	9.6	390	8.1	1.1	
<i>Stairs and steps</i>	117	4.1	126	6.5	243	5.1	0.9	
<i>Other falls</i>	2,118	74.5	1,256	64.3	3,374	70.3	1.7	
Fires/burns/scalds (X00–X19)	488	3.1	287	2.4	775	2.8	1.7	4
<i>Scalds from hot water/fluids</i>	148	30.3	107	37.3	255	32.9	1.4	..
<i>Outdoor/camp fire</i>	73	15.0	65	22.6	138	17.8	1.1	..
<i>Other specified/unspecified burns</i>	267	54.7	115	40.1	382	49.3	2.3	..
Other unintentional injuries (W20–W64, W75–W99, X20–X39, X50–X59, Y85, Y86, Y89.9)	4,627	29.4	2,360	19.8	6,990 ^(a)	25.4	2.0	10
Intentional self-harm (X60–X84, Y87.0)	831	5.3	1,111	9.3	1,942	7.0	0.7	16
<i>Poisoning</i>	419	50.4	838	75.5	1,257	64.7	0.5	6
<i>Cutting/piercing</i>	279	33.6	198	17.8	477	24.6	1.4	
<i>Hanging/strangling/suffocation</i>	76	9.1	48	4.3	124	6.4	1.6	
<i>Self harm, other means</i>	57	6.9	27	2.4	84	4.3	2.1	10
Intentional, inflicted by another (X85–Y09, Y35–Y36, Y87.1, Y89.0, Y89.1)	4,324	27.5	4,632	38.8	8,956	32.5	0.9	18
<i>Bodily force/sexual assault/neglect & abandonment/maltreatment syndromes</i>	2,239	51.8	2,646	57.1	4,885	54.5	0.8	
<i>Sharp object</i>	806	18.6	573	12.4	1,379	15.4	1.4	
<i>Blunt object</i>	753	17.4	925	20.0	1,678	18.7	0.8	
<i>Other assault</i>	526	12.2	488	10.5	1,014	11.3	1.1	
Undetermined intent (Y10–Y34, Y87.2)	203	1.3	169	1.4	372	1.3	1.2	5
Major groups total	15,679		11,869		27,551^a		1.3	87^b

a Includes 3 cases in 'Other unintentional' cases, sex not reported.

b Represents only deaths occurring whilst hospitalised for injury (see Section 1.7).

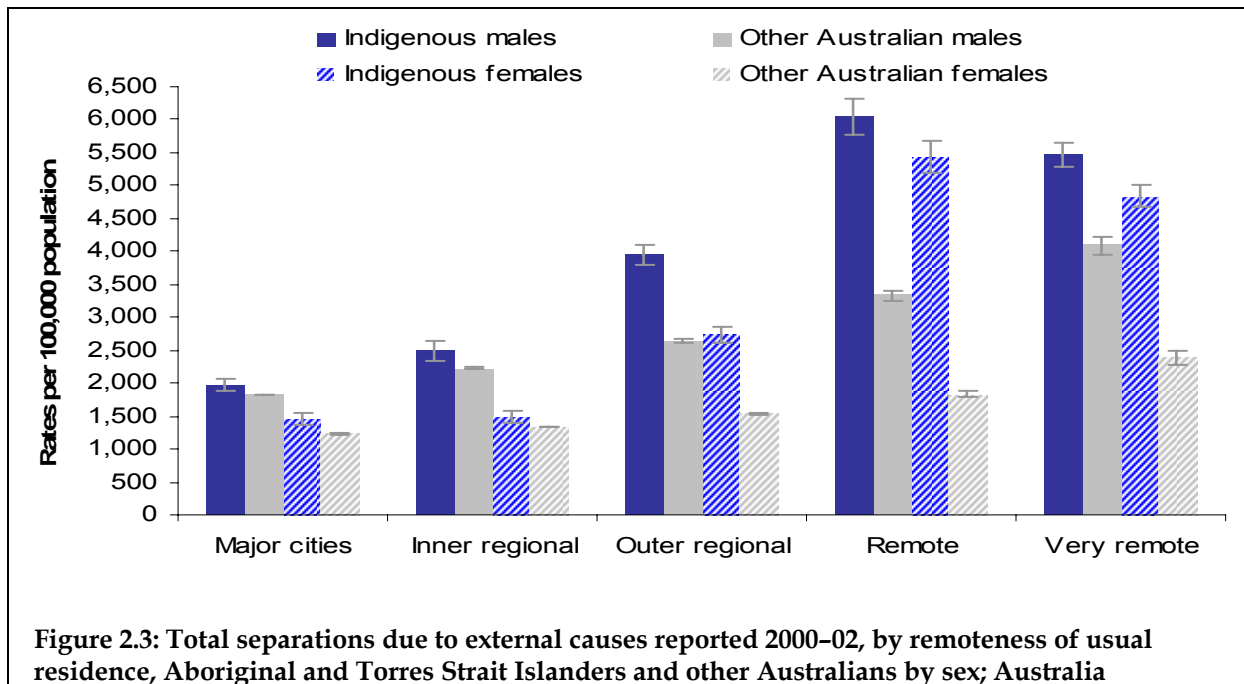
Shaded areas indicate three most common identified external causes.

Per cent column is proportion of corresponding count column total for external causes where case counts are ≥20.

Subgroup proportions are percentages relating to that external cause.

Remoteness

Rates for external cause of injury cases rose with degree of remoteness for all groups (Figure 2.3). Rates for Indigenous males were significantly higher than all groups in all remoteness zones. Rates for Indigenous females were significantly higher than rates for non-Indigenous females in all remoteness zones, and were significantly higher than rates for non-Indigenous males in the Remote and Very remote zones. While rates for Indigenous males and females were lower in the Very remote zone than in the Remote zone, rates for non-Indigenous males and females were higher in the Very remote zone than in the Remote zone.



Place of occurrence

Place of occurrence of injury was specified in 21.8% of injuries to Aboriginal and Torres Strait Islander people as occurring in the *Home*, 7.6% on *Streets or highways*, and 3.2% at *Sports or athletics areas* (Table 2.5). A greater proportion of Aboriginal and Torres Strait Islander females than males were injured in the *Home*, and a higher proportion of males than females were injured on *Streets and highways*. The third highest place proportion for females was in *Schools or other institutions* (1.5%), and for males, *Sport and athletics areas* (4.9%). Place was not reported for over half of the cases, limiting potential to interpret this information.

Table 2.5: Place of occurrence of injury hospitalisations from external causes: case counts and proportions for Torres Strait Islander Australians by sex, Australia, 2000–02

Place of occurrence	Males		Females		Persons	
	Count	%	Count	%	Count	%
Home (includes farmhouse)	2,792	17.7	3,268	27.3	6,060	21.8
Residential institution	149	0.9	54	0.5	203	0.7
School, other institutions & public administration area including hospitals	260	1.6	184	1.5	444	1.6
Sport and athletics area	773	4.9	118	1.0	891	3.2
Street and highway	1,356	8.6	750	6.3	2,106	7.6
Trade and service area	255	1.6	141	1.2	396	1.4
Industrial and construction area	114	0.7	20	0.2	134	0.5
Farm (excludes farmhouse)	142	0.9	25	0.2	167	0.6
Other specified places	1,119	7.1	669	5.6	1,788	6.4
Unspecified place	7,699	48.7	5,729	47.8	13,429 ^a	48.3
No place code reported	1,157	7.3	1,023	8.5	2,182 ^b	7.8
All places	15,816	100.0	11,981	100.0	27,800^c	100.0

Shaded areas indicate three most common identified Places of occurrence of injury.

Range W00–Y34, excluding Y06, Y07.

a Includes 1 case, sex not stated.

b Includes 2 cases, sex not stated.

c Includes 3 cases, sex not stated.

Activity

Most injury cases did not have a specific Activity code present, with nearly 60% of the total sample recording the injury as occurring 'During an unspecified activity'. Of those with a specified activity, *Sport* and *Leisure* activities were common, with a higher proportion of cases for males than for females in both activities (Table 2.6).

Table 2.6: Activity reported for injury hospitalisations from external causes: case counts and proportions for Aboriginal and Torres Strait Islander Australians by sex; Australia 2000–02

Activity	Males		Females		Persons	
	Count	%	Count	%	Count	%
While engaged in sports activity	946	6.0	158	1.3	1,104	4.0
While engaged in leisure activity	650	4.1	341	2.8	991	3.6
While working for income	325	2.1	43	0.4	368	1.3
While engaged in other types of work	153	1.0	87	0.7	240	0.9
While resting, sleeping, eating, etc	324	2.0	250	2.1	574	2.1
While engaged in other specified activities	3,574	22.6	2,785	23.2	6,359	22.9
During unspecified activity	8,635	54.6	7,232	60.4	15,868 ^a	57.1
No activity code reported	1,209	7.6	1,085	9.1	2,296 ^b	8.3
All activities	15,816	100	11,981	100	27,800^c	100

Includes cases having external cause codes in the range V01–Y34.

a Includes 1 case, sex not stated.

b Includes 2 cases, sex not stated.

c Includes 3 cases, sex not stated.

Length of stay

Average length of stay (ALOS) provides an approximate indication of case severity and burden of injury; that is, severe injuries are more likely to result in longer episodes of care than minor injuries. Age may have a confounding effect, as age is a predictor of bed days and ALOS, and age distribution varies between the Indigenous and non-Indigenous groups. This is dealt with by age adjustment of rates, as elsewhere in this report. Analysing and reporting ALOS requires care, particularly because some cases result in more than one episode of care, and these are not linked together in the available data. For Australia, rates of bed stay for Indigenous persons were 1.7 times higher than the rate for non-Indigenous persons (Table 2.7). The bed rate and ALOS was similar for Indigenous males and Indigenous females.

Table 2.7: Length of hospital stay due to all external cause for all ages reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Australia

		Indigenous	Other Australian	Ratio
Males	bed days	49,271	1,248,064	
	ALOS	3.1	3.3	0.9
	adjusted bed rate	12,763.1	7,070.1	1.8
Females	bed days	35,943	1,337,614	
	ALOS	3.0	5.1	0.6
	adjusted bed rate	10,229.3	6,094.5	1.7
Persons	bed days	85,219 ^a	2,585,746 ^b	
	ALOS	3.1	4.1	0.8
	adjusted bed rate	11,540.1	6,758.9	1.7

a Sex of patient not stated for 5 bed days.

b Sex of patient not stated for 68 bed days.

Body region

The most commonly reported body region of injury groups, were *Head* at approximately 31% ($n=8,493$), and *Shoulder and upper limb* at approximately 26% ($n=7,132$, Table 2.8). Proportions of injury by body region were similar for Indigenous males and females, although Indigenous females had a higher proportion of injuries where body region was not specified.

Table 2.8: Body region of injury hospitalisations: case counts and proportions for Aboriginal and Torres Strait Islander Australians by body region and sex; Australia 2000–02

Principal diagnosis by body region	Males		Females		Persons	
	Count	Per cent	Count	Per cent	Count	Per cent
Head	4,813	30.4	3,679	30.7	8,493 ^a	30.6
Trunk (neck, thorax, abdomen, lower back, lumbar spine and pelvis)	1,625	10.3	1,278	10.7	2,904 ^a	10.4
Shoulder and upper limb	4,490	28.4	2,641	22.0	7,132 ^a	25.7
Hip and lower limb	2,376	15.0	1,717	14.3	4,093	14.7
Other injuries not specified by body region	2,512	15.9	2,666	22.3	5,178	18.6
All body regions	15,816	100	11,981	100	27,800^b	100

a Includes 1 case sex not stated.

b Includes 3 cases sex not stated.

2.2 Region A

Overview

Three fifths of Australians identifying as Indigenous were residents of South Australia, the Northern Territory, Western Australia and Queensland (aggregated and referred to in this report as Region A) during the reporting period. Of the 20,683 cases of hospitalisation for injury in Region A where the person was recorded as Indigenous, 94% were for people identifying as being Aboriginal, 4% for people identifying as being Torres Strait Islander, and 2% for people identifying as being of both Aboriginal and Torres Strait Islander descent.

Cases of injury and poisoning in Region A accounted for 74.4% of all injury separations for people recorded as Indigenous in Australia, and rates for Indigenous males, females and persons were much higher, and significantly different than rates for non-Indigenous males, females and persons.

Assault (36%) was the most common cause for hospitalisation, occurring at almost 17 times the rate of non-Indigenous cases. Falls (16%) were next most common, followed by Transport (9.7%) and Self-harm (6%). Burns injury made up only approximately 3% of cases for Indigenous people, yet the rate of hospitalisation was nearly four times higher than the rate for non-Indigenous people. Indigenous people were hospitalised for injury at just over twice the rate for non-Indigenous people, but had a slightly lower ALOS.

Rates for Indigenous males and females rose with degree of remoteness of area of living, but rates for both males and females were lower in the Very remote zone than in the Remote zone. Rates for Indigenous males and females were significantly higher than the rates for non-Indigenous males and females in all zones.

For all external causes, the injury rate for Indigenous persons was 2.3 times the rate for other Australian persons (Table 2.9). Injury cases made up 7.4% of all hospitalised cases for Indigenous persons in Region A. Indigenous males were hospitalised for injury at twice the rate of other Australian males, and Indigenous females at 2.6 times the rate of other Australian females. Indigenous males were more than twice as likely to have been hospitalised for injury as Indigenous females.

Table 2.9: Aboriginal and Torres Strait Islander separations due to all external causes reported 2000–02, selected indicators; Region A

Indicators	Reported Indigenous separations				Ratio m:f	All reported external cause separations
	Males	Females	Persons			
Number of separations ^b	11,630	9,052	20,683 ^c		1.3	<p>Indigenous 7.9%</p> <p>non-Indigenous 92.1%</p>
Proportion of all hospital separations ^d	d	d	7.4%			
Crude rate/100,000 population ^a	4,291.4	3,261.8	3,770.7			
Age standardised (direct) rate/100,000 population ^a	4,458.2	3,411.6	3,922.3	1.3		
Ratio of age standardised (dir) rates: Indigenous:other	2.1	2.6	2.3			

a Rates are annual averages over the two years 2000–2002, separation numbers are two-year totals.

b Excludes complications of surgical and medical care cases.

c Includes 1 case sex not reported.

d Derived from separations data, case numbers available for persons only (Australian Institute of Health and Welfare 2002). Region A comprises SA, NT, WA and Qld.

For all hospitalised injury cases in Australia reported for Indigenous persons, 74% of cases for people identifying as Aboriginal, 87% of cases for persons identifying as Torres Strait Islander, and approximately 70% of cases for persons identifying as Aboriginal and Torres Strait Islander were reported in Region A (Table 2.10).

Table 2.10: Separations due to injury and poisoning, Aboriginal, Torres Strait Islander and Aboriginal and Torres Strait Islander Australians, cases by sex; Region A 2000–02

Hospital separations due to injury and poisoning ^b	Males	Females	Persons	Persons injury proportion of all Indigenous cases
Aboriginal	10,851	8,672	19,524 ^d	7.0%
Torres Strait Islander	530	256	786	0.3%
Aboriginal and Torres Strait Islander	249	124	373	0.1%
Total cases[†]	11,630	9,052	20,683^d	7.4%
All Indigenous hospital separations ^a			278,352 ^c	

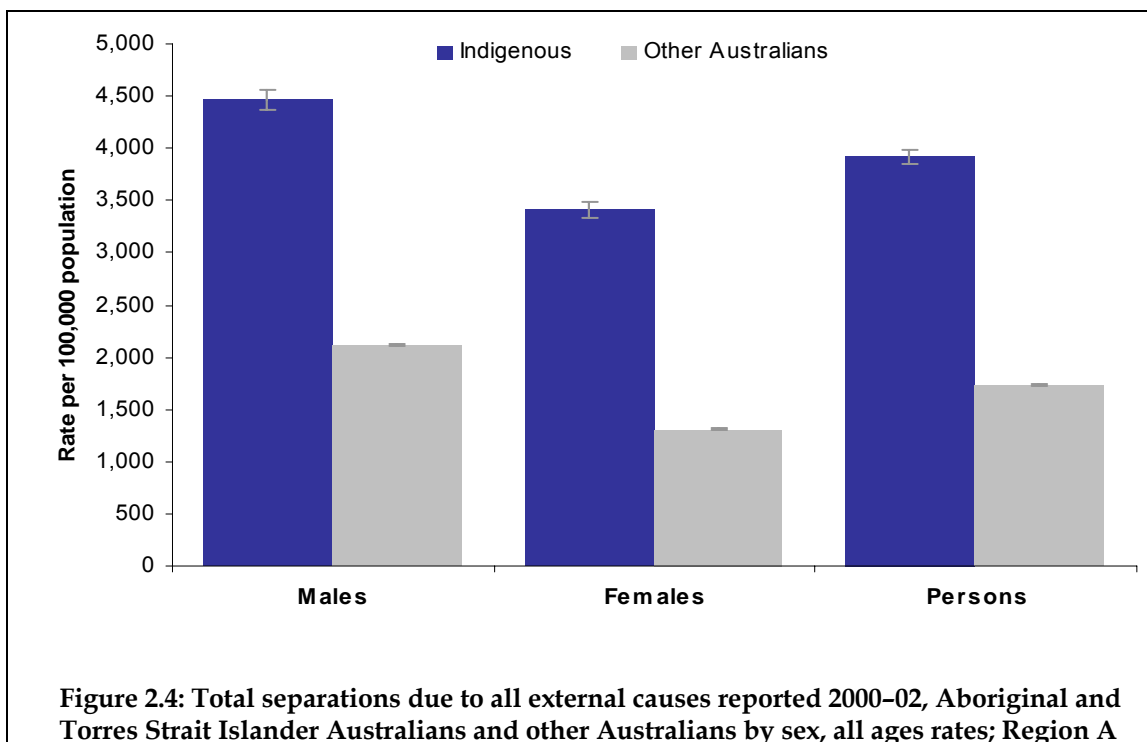
a Australian Institute of Health and Welfare 2002.

b Excludes complications of surgical and medical care cases.

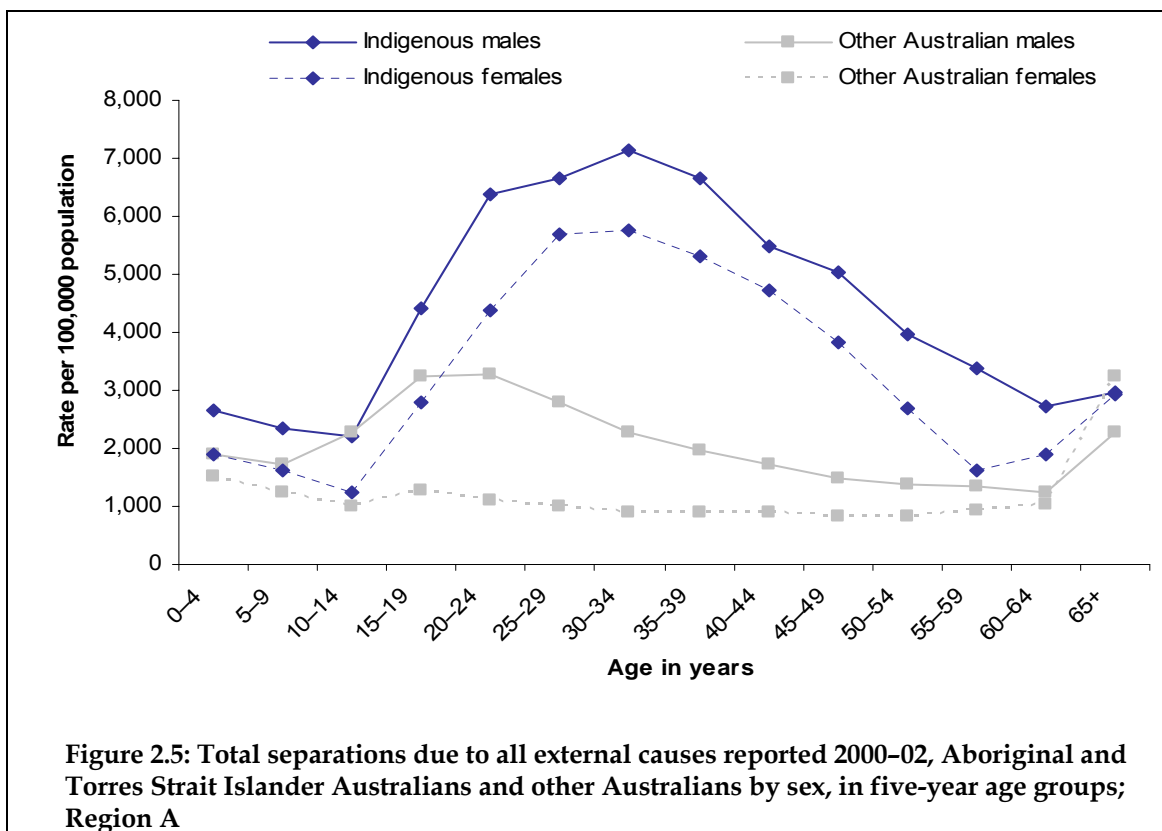
c Includes 3 separations for which sex was not reported.

d Includes 1 separation for which sex was not reported.

Injury rates for Aboriginal and Torres Strait Islander males, females and persons were significantly higher than rates for other Australians (Figure 2.4). Rates for Indigenous males were significantly higher than for Indigenous females.



Injury rates for Aboriginal and Torres Strait Islander males and females were higher than rates for other Australians in almost every 5 year age group and much higher in some, particularly in the late adolescent to mature adult years (Figure 2.5).



Of identifiable external causes, the six listed in Table 2.11 constitute 73% of all cases of injury hospitalisation in Region A.

Assault accounted for 36% of cases, and the rate for Indigenous persons was nearly 17 times the rate for non-Indigenous persons. Falls and transportation cases ranked next, but rates were less than 1.5 times those for other Australians. While burns accounted for only a small proportion (2.9%) of cases, the rate for Indigenous persons was nearly 4 times the rate for non-Indigenous persons. In comparison to whole of Australia (Table 2.4), rate ratios in Region A were considerably higher for assault, and a little higher for all other selected external causes, except for poisoning.

Table 2.11: Separations reported as being of Aboriginal or Torres Strait Islander persons, Region A, 2000–02; case counts, proportion of cases and rate ratios by external cause

External cause	Cases	Proportion of all external causes	Indigenous:other rate ratio
Assault	7,454	36.0%	16.6
Falls	3,305	16.0%	1.3
Transport	2,007	9.7%	1.4
Self-harm	1,253	6.1%	2.0
Burns	590	2.9%	3.7
Poisoning-pharmaceuticals	418	2.0%	1.6

Assault cases accounted for the largest proportion of injury hospitalisations for Indigenous persons in Region A. The very high rate of separations (1,421.4) was nearly 17 times higher than that for other Australian persons, and the rate for Indigenous males was just over 10 times the rate for other Australian males (Table 2.12). For Indigenous women, the rate for Assault was slightly higher than the rate for males, and was nearly 46 times the rate for non-Indigenous women. It is not possible to discern from the separations data what proportion of these are incident cases of Assault, and what proportion are multiple presentations per patient within the two year period of study. The previous mortality report (Helps & Harrison 2004) found that the mortality rate for Assault to Indigenous women in Region A was nearly 12 times the rate for non-Indigenous women.

The rate of hospitalisation for Transport injury was more than twice as high for Indigenous males as the rate for Indigenous females. Rates for Indigenous males and females were higher than for non-Indigenous males and females.

Although the proportion of cases for Burns injuries was low for both groups, the rate of hospitalisation was nearly 4 times higher for Indigenous persons than for non-Indigenous persons. Indigenous males were hospitalised for Burns injury at almost twice the rate for Indigenous females.

Table 2.12: Separations reported as being of Aboriginal or Torres Strait Islander persons, Region A, 2000–02; case counts, rates and rate ratios by type of external cause and sex

External cause of injury	Males			Females			Persons		
	Count	Rate	Ratio	Count	Rate	Ratio	Count	Rate	Ratio
Unintentional injury									
Transport	1,384	480.2	1.4	623	211.1	1.4	2,007	342.2	1.4
Drowning	14	4.6	1.4	19	4.1	1.9	33	4.3	1.5
Poisoning - pharmaceuticals	194	67.3	1.6	224	75.0	1.6	418	70.9	1.6
Poisoning - other substances	85	24.6	1.1	50	16.7	1.3	135	20.7	1.2
Falls	1,956	796.3	1.4	1,349	656.4	1.2	3,305	730.7	1.3
Fire, burns, scalds	373	149.3	3.6	217	81.6	4.0	590	113.2	3.7
Other unintentional	3,425	1,244.6	1.5	1,794	641.5	2.0	5,220 ^a	934.0	1.6
Other injury									
Intentional self harm	562	217.8	2.3	691	247.5	1.8	1,253	232.4	2.0
Intentional, inflicted by other (Assault)	3,497	1,417.6	10.2	3,957	1,428.8	45.8	7,454	1,421.4	16.6
Intentional injury—undetermined intent	140	55.9	5.7	128	49.1	5.2	268	48.9	5.1
Total external causes	11,630	4,458.2	2.1	9,052	3,411.6	2.6	20,683	3,922.3	2.3

Annual average rates per 100,000 population, age-standardised (direct method).

Ratio of age-standardised rate for Indigenous separations to the equivalent rate for separations not recorded as Indigenous.

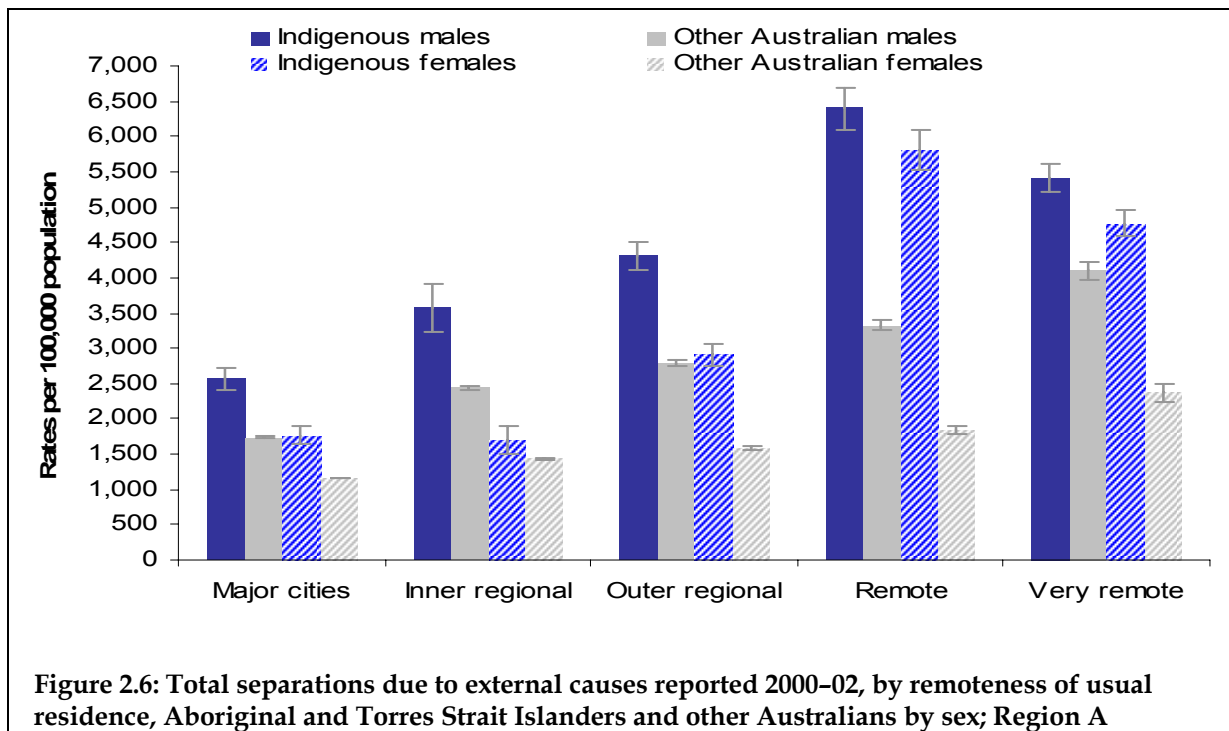
Shaded areas indicate three highest rates for specified injury (i.e. excludes 'Other unintentional injury').

^aIncludes 1 case sex not reported.

Region A aggregates SA, NT, WA, Qld.

Remoteness

With little exception, injury rates for all groups rose with degree of remoteness (Figure 2.6). Rates for Indigenous males and females were lower in the Very remote zone than in the Remote zone, but were still significantly higher than rates for non-Indigenous males and females in that zone. Rates for Indigenous males were significantly higher than rates for other Australian males and females in all remoteness zones, and were significantly higher than rates for Indigenous females in all but the Remote zone. Rates for Indigenous females in the Remote and Very remote zones were significantly higher than rates for non-Indigenous males and females, and significantly higher than the rate for non-Indigenous females in the Outer regional and Major cities zones.



Place of occurrence

Approximately 22% of injuries reported for an identifiable location in Region A occurred in the *Home* (Table 2.13), and Indigenous females reported a higher proportion of injuries for that location than Indigenous males. *Street and highway* and *Sports and athletic areas* were the second and third most common locations of sustaining injury for Indigenous males, and *Street and highway* and *School areas* for Indigenous females.

Table 2.13: Place of occurrence of injury hospitalisations from external causes: case counts and proportions for Torres Strait Islander Australians by sex; Region A 2000–02

Place of occurrence	Males		Females		Persons	
	Count	%	Count	%	Count	%
Home (includes farmhouse)	2,058	17.6	2,463	27.0	4,521	21.7
Residential institution	104	0.9	37	0.4	141	0.7
School, other institutions & public administration area (inc hospitals)	177	1.5	142	1.6	319	1.5
Sport and athletics area	559	4.8	71	0.8	630	3.0
Street and highway	1,042	8.9	574	6.3	1,616	7.8
Trade and service area	174	1.5	109	1.2	283	1.4
Industrial and construction area	79	0.7	13	0.1	92	0.4
Farm (excludes farmhouse)	106	0.9	17	0.2	123	0.6
Other specified places	970	8.3	599	6.6	1,569	7.5
Unspecified place	6,310	54.0	4,853	53.2	11,164 ^a	53.6
No place code reported	113	1.0	239	2.6	352	1.7
All places	11,692	100	9,117	100	20,810^a	100

Shaded areas indicate three most common identified Places of occurrence of injury.

Range W00–Y34, excluding Y06, Y07.

a Includes 1 case, sex not stated.

Activity

Approximately 40% of cases reported a specified Activity at time of injury (Table 2.14). Of identified activities, *Sports* and *Leisure* were reported in similar proportions. Indigenous males reported a higher proportion of cases than Indigenous females in *Sports*, *Working for income* and *Leisure*.

Table 2.14: Activity reported for injury hospitalisations from external causes: case counts and proportions for Aboriginal and Torres Strait Islander Australians by sex; Region A 2000–02

Activity	Males		Females		Persons	
	Count	%	Count	%	Count	%
While engaged in sports activity	675	5.8	93	1.0	768	3.7
While engaged in leisure activity	493	4.2	251	2.8	744	3.6
While working for income	243	2.1	26	0.3	269	1.3
While engaged in other types of work	110	0.9	66	0.7	176	0.8
While resting, sleeping, eating, etc	254	2.2	192	2.1	446	2.1
While engaged in other specified activities	2,884	24.7	2,269	24.9	5,153	24.8
During unspecified activity	6,862	58.7	5,917	64.9	12,779 ^a	61.4
No activity code reported	171	1.5	303	3.3	474	2.3
All activities	11,692	100	9,117	100	20,810^a	100

Includes cases having external cause codes in the range V01–Y34.

a Includes 1 case, sex not stated.

Length of stay

While Indigenous persons had a slightly lower ALOS than other Australian persons, the rate of hospitalisation for injury was just over twice that of other Australians (Table 2.15). ALOS was the same for Indigenous males and females (3.2 days), and the rate of stay was higher for males than females.

Table 2.15: Length of hospital stay due to all external causes for all ages reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

		Indigenous	Other Australian	Ratio
Males	bed days	37,661	471,009	
	ALOS	3.2	3.3	1.0
	adjusted bed rate	16,033.5	7,263.4	2.2
Females	bed days	28,566	474,186	
	ALOS	3.2	5.0	0.6
	adjusted bed rate	13,244.7	6,111.9	2.2
Persons	bed days	66,229	945,258	
	ALOS	3.2	3.9	0.8
	adjusted bed rate	14,698.6	6,855.4	2.1

a Sex of patient not stated for 2 bed days.

b Sex of patient not stated for 63 bed days.

Body region

Most injuries to an identified body region for Indigenous persons were reported for the *Head* (31.5%), with a slightly higher proportion reported for Indigenous females than for males (Table 2.16). *Shoulder and upper limb* injuries (25.7%) were next most common, with more cases for Indigenous males than females. A substantial proportion of cases (17.3%) did not specify a body region, accounted for mainly by Burns and Poisoning cases, which tend to be systemic and not specific to a body part (see Chapters 7 and 8).

Table 2.16: Injury hospitalisations: case counts and proportions for Aboriginal and Torres Strait Islander Australians by body region and sex; Region A 2000–02

Principal diagnosis by body region	Males		Females		Persons	
	Count	Per cent	Count	Per cent	Count	Per cent
Head	3,627	31.0	2,920	32.0	6,547	31.5
Trunk (neck, thorax, abdomen, lower back, lumbar spine and pelvis)	1,214	10.4	996	10.9	2,210	10.6
Shoulder and upper limb	3,289	28.1	2,063	22.6	5,353 ^a	25.7
Hip and lower limb	1,762	15.1	1,328	14.6	3,090	14.8
Other injuries not specified by body region	1,800	15.4	1,810	19.9	3,610	17.3
All body regions	11,692	100	9,117	100	20,810^a	100

a Includes 1 case sex not stated.

3 Intentional harm by another (Assault)

The category *Intentional harm by another person* includes ICD-10-AM codes X85–Y09, Y35, Y36, Y87.1, Y89.0 and Y89.1. This range includes ‘homicide and injuries inflicted by another person with intent to injure or kill, by any means’ (WHO 1992). The following forms of assault are included in these codes:

- Assault by drugs, medicaments and biological substances, corrosive substances, pesticides, gases and vapours, specified and unspecified chemicals and noxious substances;
- Assault by hanging, strangulation and suffocation, drowning and submersion, specified and unspecified firearms discharge, explosive materials, smoke, fire and flames, steam, hot vapours and hot objects;
- Assault by sharp and blunt objects, by pushing from a high place, by pushing or placing victim before a moving object, by crashing of a motor vehicle;
- Assault by bodily force, sexual assault, neglect and abandonment, other maltreatment syndromes, assault by other specified and unspecified means;
- Injury caused by a range of legal interventions, legal execution, legal intervention involving specified and unspecified means; and
- A range of operations of war.

(National Centre for Classification in Health 2000)

Overview

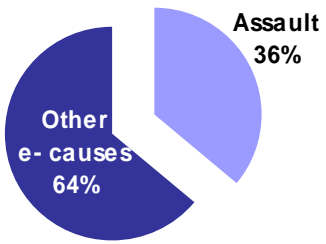
Assault was the largest cause of identifiable injury hospitalisation for Indigenous people for the whole of Australia and for Region A. Assault injuries accounted for approximately 17% (n=3,497) and 19% (n=3,957) of injury related separations for males and females respectively in Region A. Assault was the fourth largest cause of injury hospitalisation for non-Indigenous people. While the rate of assault was closely similar for Indigenous males and females, the reported rate for non-Indigenous males was 4.5 times higher than that for non-Indigenous females. The rate for Indigenous males was 10 times higher than for non-Indigenous males, and for females, nearly 46 times higher than for non-Indigenous women. Hospitalisations for this injury cause made up nearly 44% of all external cause cases for Indigenous women in Region A, compared to 2.3% for non-Indigenous females.

Bodily force (53%) was the mechanism of injury for the majority of cases for Indigenous persons, with Blunt object (20%) and Sharp object (16%) injuries rating second and third highest. Very few cases for Indigenous persons (all for males, n=6) involved Firearms, none of which resulted in death.

The rate of assault injury in Region A was high for Indigenous males (1,417.6) and females (1,428.8), and Assault cases accounted for just over one third of all external cause hospitalisations for Indigenous persons in that region (Table 3.1). For Indigenous females, the hospitalisation rate was nearly 46 times higher than for non-Indigenous females. Indigenous males were hospitalised for assault injury at a rate 10 times higher than non-indigenous males.

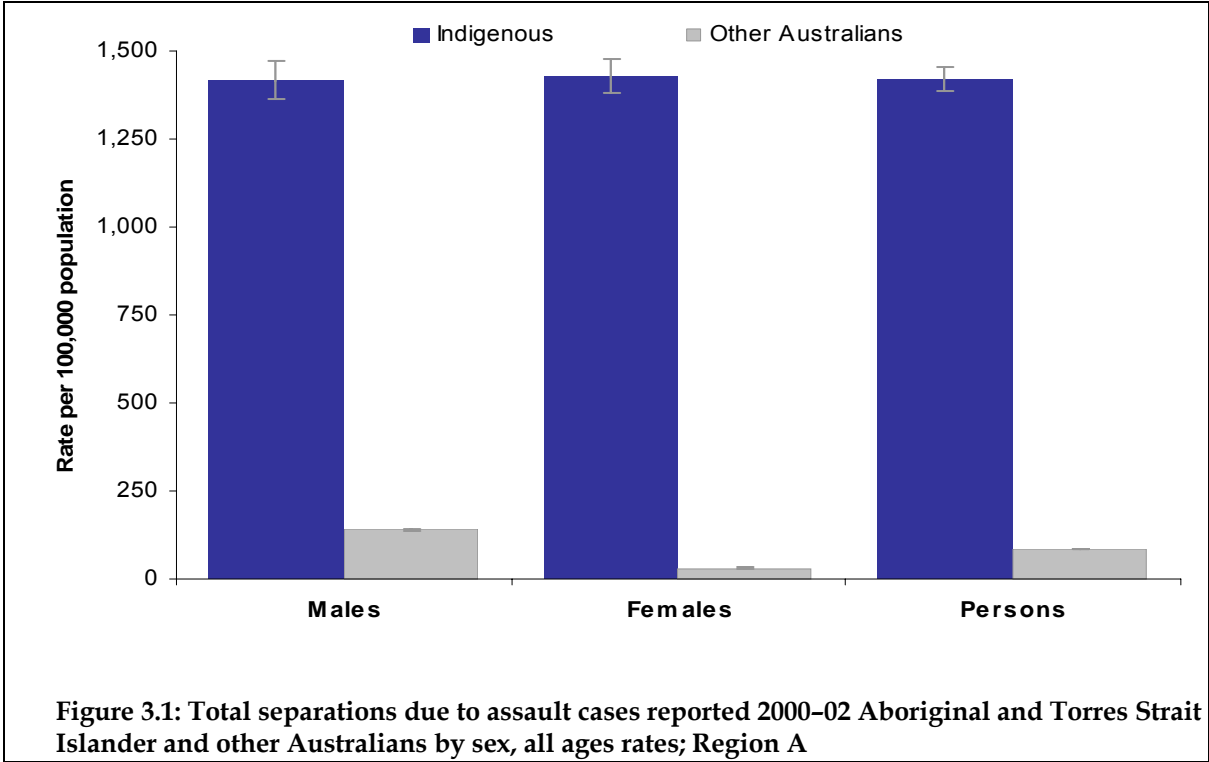
Table: 3.1: Aboriginal and Torres Strait Islander separations due to assault reported 2000–02, selected indicators; Region A

Indicators	Reported Indigenous separations				Ratio m:f
	Males	Females	Persons		
Number of separations	3,497	3,957	7,454		0.9
Proportion of all Indigenous injury separations in region	30.1%	43.7%	36.0%		0.9
Crude rate/100,000 population ^a	1,290.4	1,425.9	1,358.9		
Age standardised (direct) rate/100,000 population ^b	1,417.6	1,428.8	1,421.4		1.0
Ratio of age standardised (dir) rates: Indigenous:other	10.2	45.8	16.6		

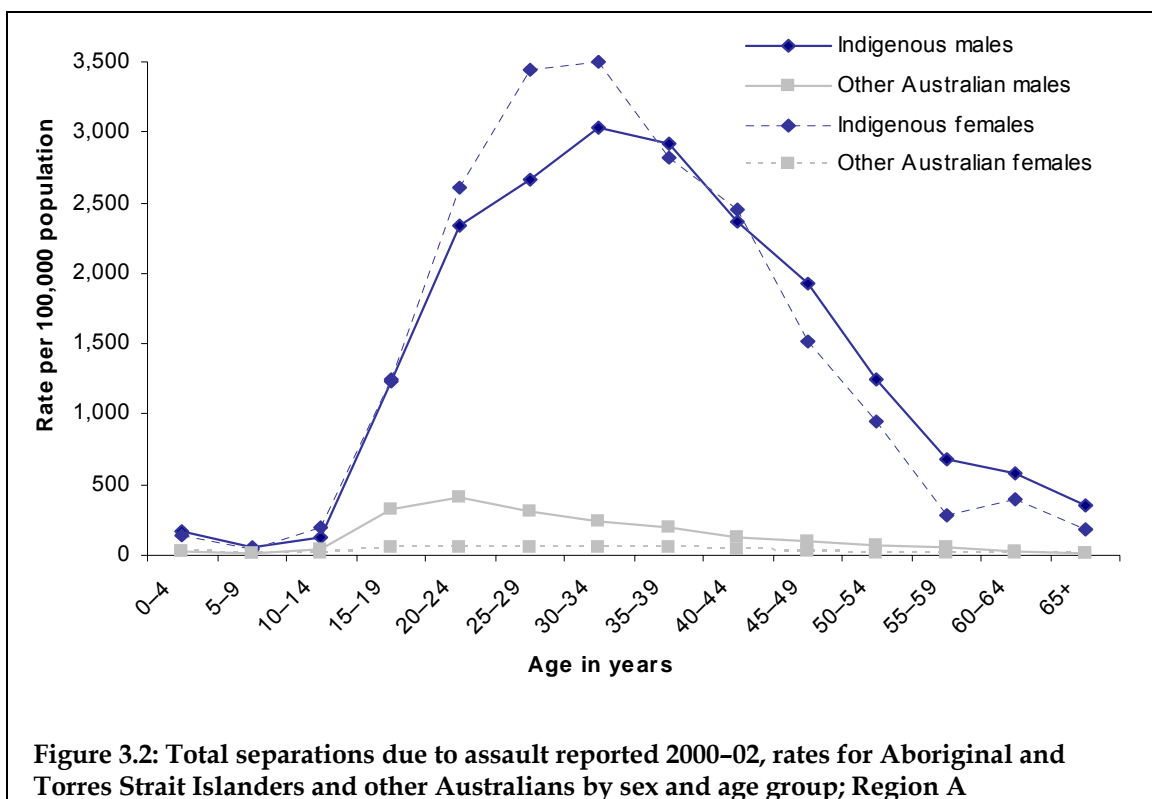


^a Rates are annual averages over the two years 2000–2002, separation numbers are two-year totals. Region A aggregates SA, NT, WA, Qld.

For all ages, assault rates for Indigenous males, females and persons were much higher, and significantly different than those for other Australians (Figure 3.1). Confidence Intervals for other Australians were very narrow, and not discernible on the scale of Figure 3.1.



Rates for injuries caused by assault were highest for Aboriginal and Torres Strait males and females in the 15–44 years age bracket (Figure 3.2). The pattern of assault injury was similar for both sexes, with females reporting a slightly higher rate of cases than males to age 44 years, and slighter lower rates than males after that. Rates for Indigenous males and females were much higher than rates for their other Australian counterparts in every age group, and rates differences were statistically significant (95% CIs) in all age groups except 75+. Figure 3.2 also indicates a significant difference between Indigenous males and females in the 25–29 years and 30–34 years age brackets, with assault rates for Indigenous females significantly higher than those for Indigenous males.



Mechanism

While both Indigenous males and females reported high case numbers for *Bodily force*, Indigenous females were almost twice as likely as males to be injured via this mechanism (Table 3.2). Indigenous women were also much more likely to suffer injury from *Blunt objects*, while men were more likely to be injured by *Sharp objects*.

Table 3.2: Total separations due to assault by mechanism of injury reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Males		Females		Persons	
	Counts	%	Counts	%	Counts	%
Hanging/strangling/suffocation	6	0.2	7	0.2	13	0.2
Firearms	6	0.2	0	0.0	6	0.1
Sharp object	680	19.4	524	13.2	1,204	16.2
Blunt object	636	18.2	860	21.7	1,496	20.1
Bodily force, sexual assault, neglect and other maltreatment	1,784	51.0	2,156	54.5	3,940	52.9
Other specified and unspecified	385	11.0	410	10.4	795	10.7
Total	3,497	100	3,957	100	7,454	100

Shaded areas indicate highest count and proportion of cases by mechanism of injury. Count totals include cases resulting in death while in hospital (persons $n=17$).

For total assault cases for Aboriginal and Torres Strait Islander males and females, there was a general increase in hospitalisations as remoteness of area of residence increased (Table 3.3). Rates were significantly higher in the Outer regional, Remote and Very remote areas for Indigenous women than in the other zones. Rates for Indigenous women and men were significantly higher than those for other Australian women and men in every zone. In each category of mechanism of injury, and for both sexes, cases of hospitalisation were highest in number for residents of Very remote areas. It is possible that the cases from the Very remote areas may be for more serious injury, as access to hospital is restricted, and less serious injury would tend to be treated locally.

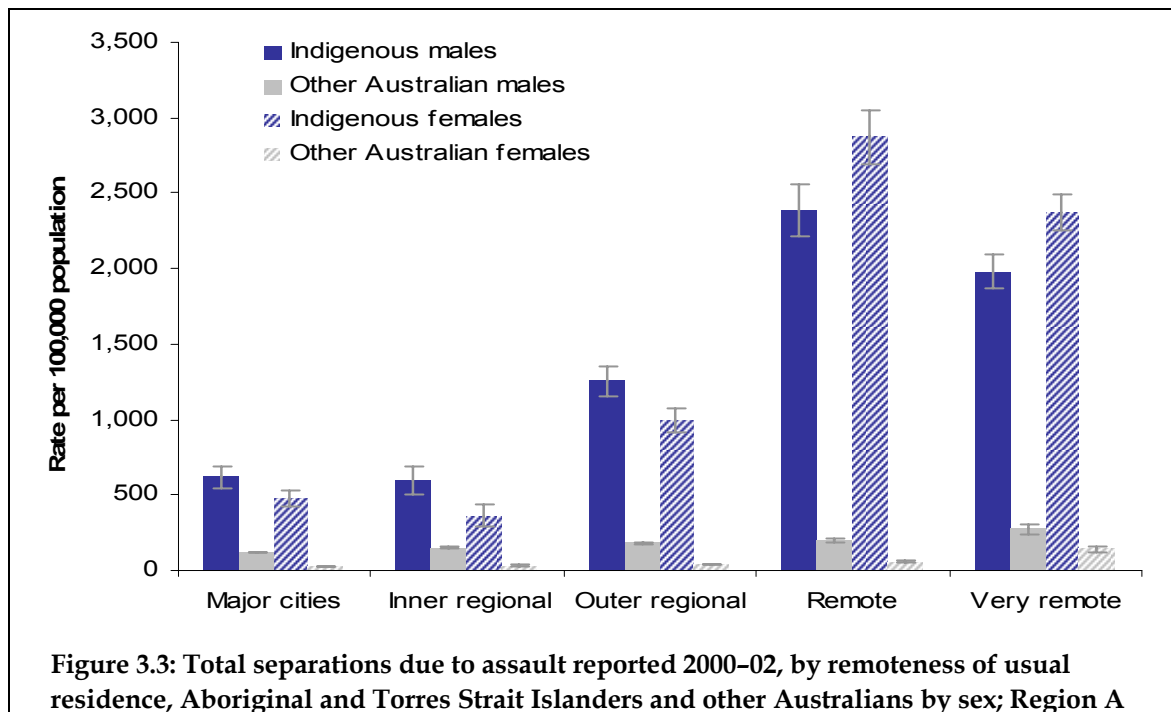
Table 3.3: Total separations due to assault by mechanism of injury by remoteness of place of usual residence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Hanging/strangling/suffocation	0	0	0	0	..	..	..	..	4	..
Firearms	0	0	0	0	..	..	..	..	..	..
Sharp object	57	36	16	10	137	58	164	147	306	273
Blunt object	63	55	27	9	135	133	147	208	264	455
Bodily force, sexual assault, neglect and other maltreatment	183	192	101	88	379	412	424	565	697	899
Other specified and unspecified	60	29	21	13	80	74	76	97	148	197
Total	363	312	165	120	735^a	679^a	812^a	1,020^a	1,422^a	1,826^a

Shaded areas indicate highest count and proportion of cases by mechanism of injury. ^a Indicates total includes cases where a cell count was less than four.

Remoteness

Rates of hospitalisation for assault rose substantially with degree of remoteness of living for Indigenous males and females, but not markedly so for non-Indigenous males and females (Figure 3.3). The difference between rates for Indigenous and non-Indigenous males and females were significant in all remoteness zones. Rates for assault injury were significantly higher for Indigenous males and females than for their non-Indigenous counterparts in all remoteness zones. Rates for Indigenous males were significantly higher than rates for Indigenous females in the Major cities to Outer regional zones. Rates were significantly higher for Indigenous males and females in the Remote zone than in the Very remote zone. Rates for Indigenous females were significantly higher than those for Indigenous males in both the Remote and Very remote zones. Non-Indigenous males reported significantly higher rates than non-Indigenous females in all remoteness zones except the Very remote zone.



Place of occurrence

The majority of assault cases are reported as occurring within the *Home*, with the proportion of cases for males being almost double that for females (24.3%, Table 3.4). 65% of cases did not report a specified place of occurrence.

Table 3.4: Total separations due to assault by place of injury occurrence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Place of occurrence	Males		Females		Persons	
	Count	%	Count	%	Count	%
Home (includes farmhouse)	425	12.2	960	24.3	1,385	18.6
Residential institution	21	0.6	4	0.1	25	0.3
School, other institutions & public administration area includes hospitals	25	0.7	13	0.3	38	0.5
Sport and athletics area	10	0.3	5	0.1	15	0.2
Street and highway	85	2.4	59	1.5	144	1.9
Trade and service area	82	2.3	56	1.4	138	1.9
Industrial and construction area	..	0.0	..	0.1	4	0.1
Farm (excludes farmhouse)	0	0.0	..	0.0	..	0.0
Other specified places	319	9.1	244	6.2	563	7.6
Unspecified place	2,434	69.6	2,382	60.2	4,816	64.6
No place code reported	95	2.7	230	5.8	325	4.4
All places	3,497^a	100	3,957^a	100	7,454^a	100

Shaded areas indicate three most common identified places of occurrence of injury range W00–Y34, excluding Y06, Y07.

^a Indicates total includes cases where a cell count was less than four.

Activity

Most cases were coded to Other specified, or to Unspecified activity, and are not meaningful for the current analysis (Table 3.5).

Table 3.5: Total separations due to assault by activity at time of injury reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Activity	Males		Females		Persons	
	Count	%	Count	%	Count	%
While engaged in sports activity	5	0.1	0	0	5	0.1
While engaged in leisure activity	53	1.5	42	1.1	95	1.3
While working for income	..	0.0	0	0.0	..	0.0
While engaged in other types of work	..	0.1	5	0.1	7	0.1
While resting, sleeping, eating, etc	29	0.8	25	0.6	54	0.7
While engaged in other specified activities	758	21.7	757	19.1	1,515	20.3
During unspecified activity	2,549	72.9	2,887	73.0	5,436	72.9
No activity code reported	100	2.9	241	6.1	341	4.6
All activities	3,497^a	100	3,957	100	7,454^a	100

Includes cases having external cause codes in the range V01–Y34.

^a Indicates total includes cases where a cell count was less than four.

Length of stay

A total of 20,655 bed days were recorded for assault injury cases to Indigenous people in Region A, an average of 2.8 days per case (Table 3.6). Overall, there was no substantial difference in ALOS between cases for men (2.9) and women (2.7). The largest differences were in bed day rates between females, where the rate for Indigenous women (3,919.6) was nearly 55 times higher than the rate for other Australian women (71.7). As reported in previous sections, the rate of hospitalisation for Indigenous women was nearly 46 times the rate for non-Indigenous women (Table 3.1), and rates of hospitalisation were very high for women residing in the Remote and Very remote areas (Figure 3.5).

Table 3.6: Length of hospital stay due to assault for all ages reported 2000–02, Aboriginal and Torres Strait Islander and other Australians by sex; Region A

		Indigenous	Other Australian	Ratio
Males	bed days	10,065	22,740	
	ALOS	2.9	2.3	1.3
	adjusted bed rate	4,221.9	324.7	13.0
Females	bed days	10,590	5,033	
	ALOS	2.7	2.3	1.2
	adjusted bed rate	3,919.6	71.7	54.7
Persons	bed days	20,655	27,774 ^a	
	ALOS	2.8	2.3	1.2
	adjusted bed rate	4,061.0	199.1	20.4

^aSex of patient not stated for 1 bed day.

Body region

Approximately 54% of assault cases for Indigenous males were for injuries to the *Head* and accounted for approximately 44% of bed days (Table 3.7). Injuries to the *Shoulder and upper limbs* were second highest with approximately 21% of cases, and *Trunk* injuries made up 14% of cases. The highest rate of bed days was for injuries to the *Head* (1,798.3), the bed day rate for *Shoulder and upper limb* injuries was second highest (844.8). The rate ratio for bed days was largest between Indigenous and other Australian men for *Shoulder and upper limbs* and *Hip and lower limb* treatments (both approximately 23%), and was substantially higher for all other body regions. The difference in rate ratios was much higher between women (Table 3.8) than between men.

Table 3.7: Length of hospital stay due to assault injury by body region reported 2000–02, all ages, Aboriginal and Torres Strait Islander and other Australian males; Region A

Principal diagnosis by body region		Proportion Indigenous total	Indigenous	Other Australian	Rate ratio
Head	cases	53.6%	1,873	6,966	
	bed days	43.7%	4,394	14,161	
	adjusted bed rate		1,798.3	201.9	8.9
Trunk (neck, thorax, abdomen)	cases	14.0%	491	885	
	bed days	17.7%	1,780	3,236	
	adjusted bed rate		788.8	46.3	17.0
Shoulder and upper limb	cases	20.5%	716	1,401	
	bed days	20.3%	2,044	2,572	
	adjusted bed rate		844.8	36.9	22.9
Hip and lower limb	cases	6.9%	241	346	
	bed days	12.0%	1,203	1,734	
	adjusted bed rate		554.5	24.8	22.4
Other injuries, body region not specified	cases	5.0%	176	198	
	bed days	6.4%	644	1,037	
	adjusted bed rate		235.4	14.8	15.9

For Indigenous women, the highest proportion of injuries to a body region were to the *Head* (51.5%) followed by *Shoulder and upper limbs* (about 19%) and *Trunk* (about 15%, Table 3.8). The highest proportion of bed days was for *Head* (38%), followed by *Shoulder and upper limb* (20%). Rate of bed days was highest for *Head* (1,444.9). The rate ratio for bed days was largest between Indigenous and other Australian women for *Hip and lower limb* treatments (111.6), and was also many times higher for all other body regions.

Table 3.8: Length of hospital stay due to assault injury by body region reported 2000–02, all ages, Aboriginal and Torres Strait Islander and other Australian females; Region A

Principal diagnosis by body region		Proportion Indigenous total	Indigenous	Other Australian	Rate ratio
Head	cases	51.5%	2,036	1,262	
	bed days	38.3%	4,051	2,354	
	adjusted bed rate		1,444.9	33.8	42.7
Trunk (neck, thorax, abdomen)	cases	14.7%	583	302	
	bed days	18.2%	1,923	843	
	adjusted bed rate		696.5	12.1	57.6
Shoulder and upper limb	cases	18.7%	738	294	
	bed days	20.3%	2,154	781	
	adjusted bed rate		875.4	11.1	78.9
Hip and lower limb	cases	8.3%	328	98	
	bed days	14.6%	1,543	395	
	adjusted bed rate		591.6	5.3	111.6
Other injuries, body region not specified	cases	6.9%	272	211	
	bed days	8.7%	919	660	
	adjusted bed rate		311.3	9.3	33.5

4 Falls

The ICD-10-AM range for falls (accidental) is W00–W19. This range includes:

- falls from same level;
- falls from different levels;
- falls involving ice and snow accidents;
- falls involving skate, ski and skateboard events;
- accidents involving other persons
- accidents involving furniture;
- accidents involving playground equipment; and
- accidents involving water and natural objects.

External causes which sometimes involve a fall, but which are not included in this ICD-10 range are:

- acts of assault (Y01–Y02);
- incidents involving animals (V80.–);
- burning building (X00.–) and fire (X00–X04, X08–X09);
- water (where drowning occurs W65–W74);
- whilst operating machinery (W28–W31);
- where transport vehicles are involved (V01–V99); and
- cases of intentional self-harm (X80–X81).

(National Centre for Classification in Health 2000)

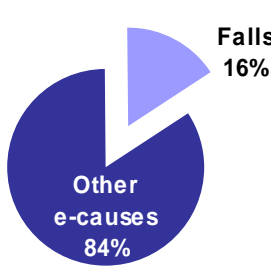
Overview

Falls cases accounted for 16% of hospitalisations, and were the second highest cause for injury hospitalisation in Region A. For non-Indigenous people, falls were the highest cause of injury and made up 33% of all injury hospitalisations for non-Indigenous people in the same region. For all ages, Indigenous males were hospitalised 1.4 times more for falls than Indigenous females, and 1.4 times more than for other Australian males. Patterns of rates for Fall-related separations were similar between Indigenous and other Australian males and females. Rates were lower from young adulthood through to middle age than for children, and rates rose after middle age into the elder years. Rates for the 5–9 years age bracket were the highest in childhood.

The effect of an increasing rate of falls with age was seen from an earlier age for Aboriginal and Torres Strait Islander people than for other Australians. In comparison to patterns of falls death rates seen in the mortality report for 19972000 (Helps & Harrison 2004), rate ratios between Aboriginal and Torres Strait Islander and other Australian males and females were lower for separations, and deaths occurred in mature to older age, with case numbers much smaller for deaths than for hospitalisations. Femur fractures accounted for 3.5% of hospitalisations for males (n=68), and for 7.1% of hospitalisations for females (n=96).

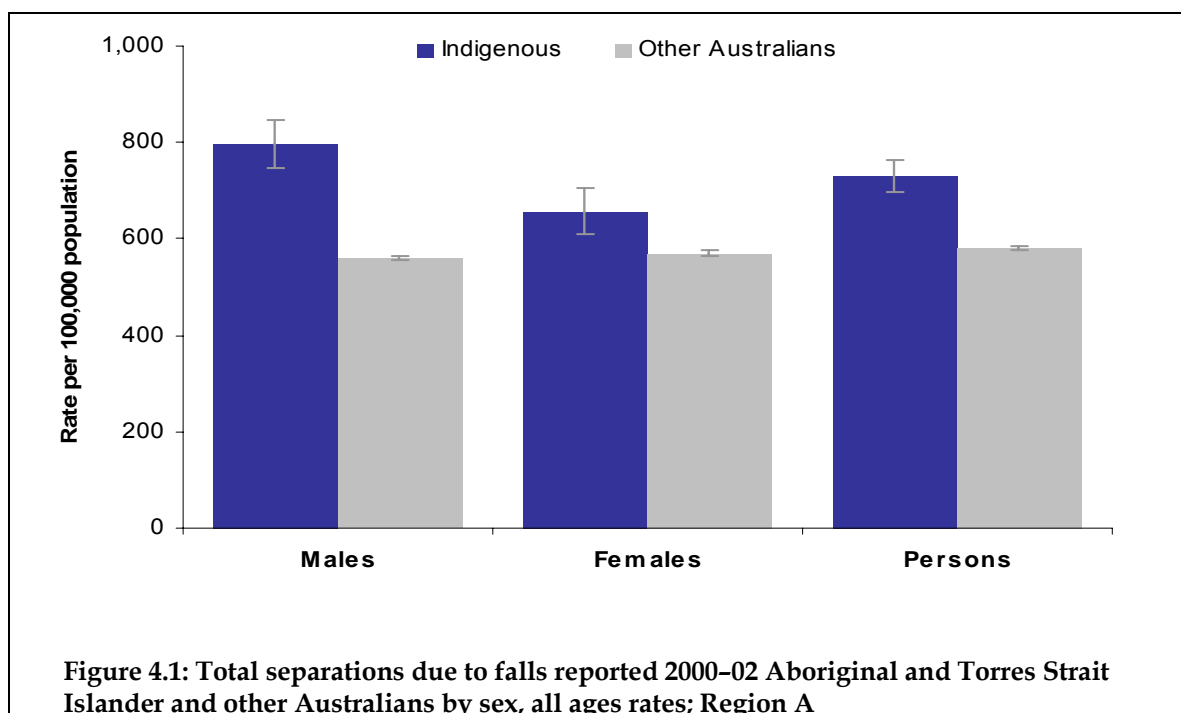
Indigenous males were hospitalised for falls about 1.5 times more frequently than Indigenous females, and rates of falls hospitalisations were higher for Indigenous patients than for non-Indigenous patients (Table 4.1). The rate ratios for falls are the lowest of all external cause categories described separately in this report. Falls separations made up 16% of all injury separations in Region A for the reporting period.

Table 4.1: Aboriginal and Torres Strait Islander separations due to falls reported 2000–02, selected indicators; Region A

Indicators	Reported Indigenous separations			Ratio m:f	All reported Indigenous external cause injury
	Males	Females	Persons		
Number of separations	1,956	1,349	3,305	1.4	
Proportion of all Indigenous injury separations in region	16.8%	14.9%	16.0%	1.1	
Crude rate/100,000 population ^a	721.8	486.1	602.5		
Age standardised (direct) rate/100,000 population	796.3	656.4	730.7	1.2	
Ratio of age standardised (dir) rates: Indigenous:other	1.4	1.2	1.3		

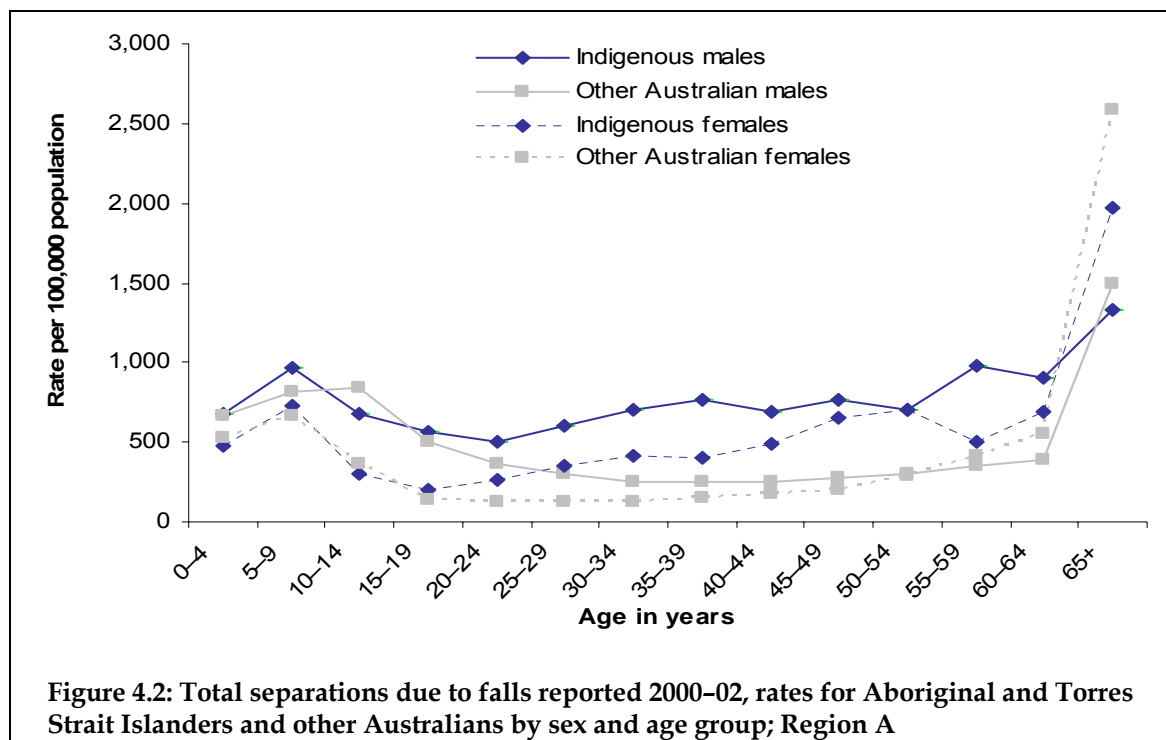
^aRates are annual averages over the two years 2000–2002, separation numbers are two-year totals
Region A aggregates SA, NT, WA, Qld

Rates were higher for Indigenous males, females and persons, compared to other Australians. Rates were significantly higher for Indigenous males and persons than for non-Indigenous males and persons, and there was a smaller, but still significantly higher difference between rates for females (Figure 4.1).



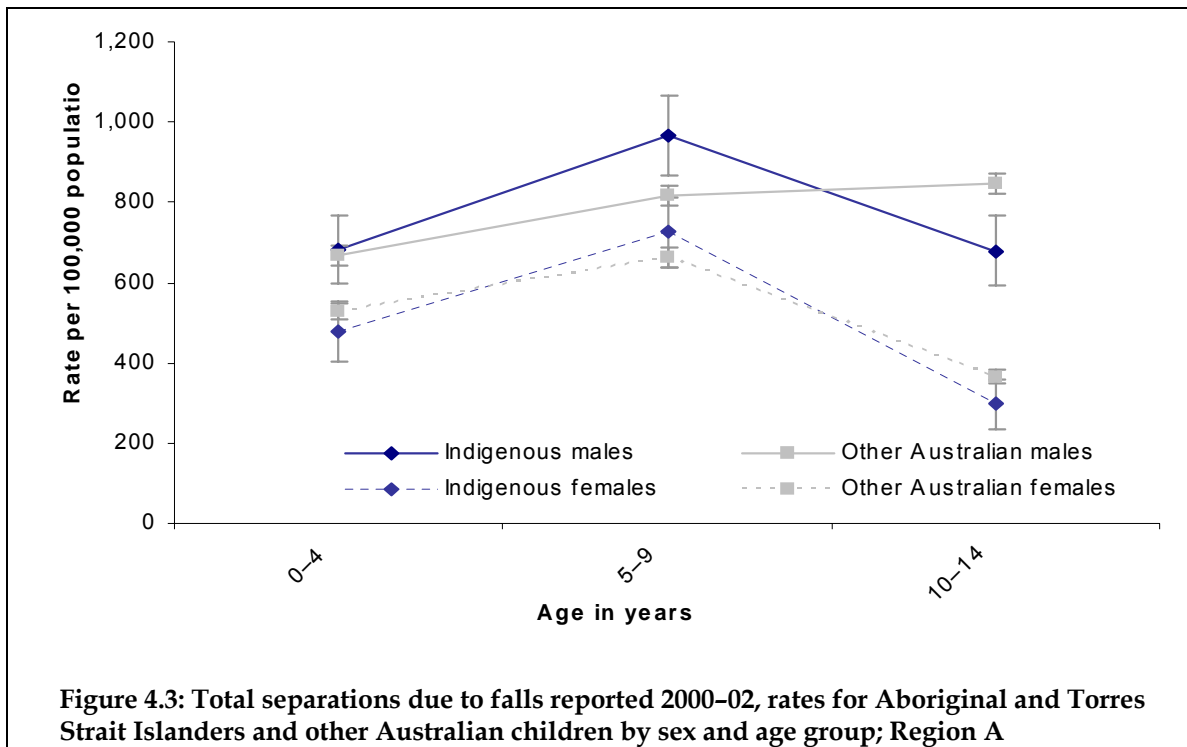
Fall rates for Aboriginal and Torres Strait Islander and other Australians followed the same general pattern up to young adulthood, fluctuating somewhat in middle age (Figure 4.2). In the 10–14 years age group, the rate for Aboriginal males was lower than the rate for their other Australian male counterparts. Rates for Aboriginal and Torres Strait Islander men were higher than for other Australian men from age 25–64 years, and higher than rates for other Australian women for all ages except 65+. Rates for Indigenous males were higher than rates for Indigenous females from age 10 to age 39. Rates for all groups were highest in the 65+ age group. Case numbers in the 65+ age for Indigenous women group ($n=163$) were nearly double that of Indigenous males ($n=84$). The excess between rates for Indigenous males and other Australian males and females was large, and was significant from age 25 to age 64.

For older Indigenous males and females, rates rose rather than declined (as was the case for other Australian males and females), from 30 years to old age. In older age, rates rose markedly for all groups, with rates for other Australian males and females being higher than for Indigenous males and females. This is likely to reflect the higher proportion of very old other Australians who are at increased risk of falling, compared to the much smaller proportion of the Indigenous population aged 65+. Of falls resulting in femur fractures (including neck of femur) for all ages, 34% of cases for Indigenous males, and 56% of cases for Indigenous females occurred in the 65+ age bracket.



Of all falls cases requiring hospitalisation, 41.4% were reported for the 0–14 years age group. Mobility and cognitive functions undergo rapid development in this age period, but maturity, risk perception and judgement skills do not always develop in pace with physical ability. While risk taking can build experience and confidence, the potential for injury is increased, and the condition of the physical environment also has an effect (Mercy et al 2003).

Rates for all children aged 0–4, 5–9 and 10–14 were high, and rates for males at these age points were higher than rates for females (Figure 4.3). Rates of fall related hospitalisations for children aged 0–14 were highest for Indigenous males and females, and non-Indigenous females in the 5–9 years age bracket. Rates for Indigenous males and females, and other Australian females followed the same pattern. The rate for other Australian males did not follow the same downward trend in the 10–14 years age bracket as the other groups.



Mechanism

From types of fall specified, Indigenous boy infants suffered most falls involving *Wheelchairs, beds or other furniture, Stairs and steps*, and some cases involved *Other people*. Infants and young children are often accidentally dropped while being carried by siblings, and the result is unintentional injury (Mercy, Sleet 2003).

Main types of mechanism for injury differed between Indigenous boys and girls in the 0–14 year age group. For Indigenous male children, 47% of injuries were sustained from falling from *Playground equipment* (23.4%) or *Trees* (23.7%). For Indigenous female children, 36.6% of injuries were gained from falling from *Wheelchairs, beds or other furniture*, and 14% from *Jumping or diving into water*. For Indigenous boys aged 5–9 years, a large number of falls were from *Playground equipment* ($n=86$) or from *Trees* ($n=87$). For Indigenous girls of the same age, the largest number of falls were from a *Wheelchair, bed, other furniture* ($n=94$), and a number were from *Diving or jumping into water* ($n=36$). Of the 7% ($n=96$) of *Femur* fracture cases for Indigenous females, *Slip, trip, stumble* incidents were the mechanism of injury for 29%, and *Same level falls* accounted for 17% of cases of that fracture type.

Table 4.2: Total separations due to falls by nature of fall reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Males		Females		Persons	
	Count	%	Count	%	Count	%
Slip, trip, stumble	282	14.4	264	19.6	546	16.5
Stairs and steps	77	3.9	76	5.6	153	4.6
Playground equipment	137	7.0	136	10.1	273	8.3
Involving wheelchair, bed, other furniture	127	6.5	86	6.4	213	6.4
Involving ice/snow	36	1.8	15	1.1	51	1.5
Ladders and scaffolding	16	0.8	..	0.2	19	0.6
Building or structure	127	6.5	53	3.9	180	5.4
Tree	139	7.1	57	4.2	196	5.9
Diving/jumping into water	12	0.6	5	0.4	17	0.5
Other from another level	151	7.7	109	8.1	260	7.9
Other same level fall	243	12.4	177	13.1	420	12.7
Involving other person	206	10.5	56	4.2	262	7.9
Unspecified falls	403	20.6	312	23.1	715	21.6
Total	1,956	100	1,349^a	100	3,305^a	100

a Indicates total includes cases where a cell count was less than four.

Shaded areas indicate highest count and proportion of cases by specified mechanism of injury.

Count totals include cases resulting in death while in hospital (persons $n=10$).

Remoteness

For most fall types, case numbers were highest in the Outer regional to Very remote zones for both males and females (Table 4.3). Of *Slip, trip, stumble* falls, 74% were for people usually resident in the Outer regional to Very remote zones. High proportions of cases in these zones were also seen for falls from *Trees* (82%), *Playground equipment* (75%), and involving *Other people* (68%).

Table 4.3: Total separations due to falls by mechanism of injury by remoteness of place of usual residence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Slip, trip, stumble	55	40	28	20	87	83	40	48	72	73
Stairs and steps	25	12	8	10	24	30	7	11	13	13
Playground equipment	26	19	11	13	32	36	18	29	50	39
Involving wheelchair, bed, other furniture	30	22	17	10	40	13	16	17	24	24
Involving ice/snow	13	8	8	..	4	4	8	..	..	..
Ladders and scaffolding	5	..	..	0	6	0	..	..	..	..
Building or structure	21	9	13	7	34	15	27	6	32	16
Tree	11	7	12	5	34	15	24	9	58	21
Diving/jumping into water	..	..	4	0	4	..	0	..	..	..
Other from another level	19	12	19	12	41	29	25	20	47	36
Other same level fall	20	19	22	9	65	34	51	53	85	62
Involving other person	42	9	29	4	65	16	25	9	45	18
Unspecified falls	45	35	33	26	96	70	95	73	134	108
Total	314^a	194^a	206^a	117^a	532	346^a	338^a	279^a	566^a	413^a

a Indicates total includes cases where a cell count was less than four.
Shaded areas indicate highest count, by sex, of cases by type of fall.

In general, the pattern of rates for all groups was similar; increasing from the Major cities zone to the Remote zone, and decreasing in the Very remote zone (Figure 4.4). The extent of the increase in rates with degree of remoteness was much smaller than was seen for other external causes described separately in this report. Rates of separations due to falls were similar between Indigenous and other Australian males and females in the Major cities zone. The rate for Indigenous males was higher than for any other group in the Inner regional zone, but the difference was not statistically significant. In the Outer regional zone, the rate for Indigenous males was significantly higher than the rates for other Australian males and females, but although higher, was not significantly different from the rate for Indigenous females. All groups recorded their highest rate in the Remote zone, where the rates for Indigenous males and females were similar, and significantly higher than the rates for other Australian males and females. Rates for all groups except other Australian males in the Very remote zone were lower than rates in the Remote zone, with no statistical difference between groups. The rate for other Australian males was closely similar to the corresponding rate in the Remote zone. Although case counts for Indigenous males and females were larger than $n=100$ in all zones, CIs were wide in some remoteness zones.

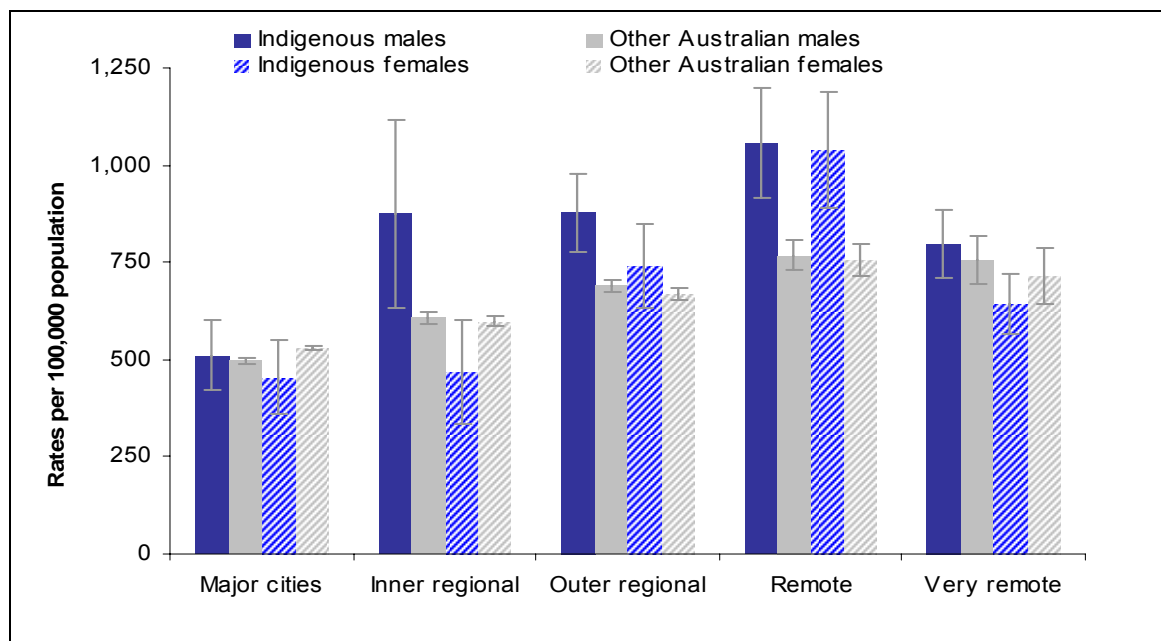


Figure 4.4: Total separations due to falls reported 2000-02, by remoteness of usual residence, Aboriginal and Torres Strait Islanders and other Australians by sex; Region A

Place of occurrence

Around 45% of falls cases for Aboriginal and Torres Strait Islander males and females did not record a specified *Place of occurrence*. The proportion of unspecified or non-reporting for Australian other males was 31%, and for other Australian females, 33%. The majority of remaining Falls cases for Indigenous people were reported as occurring within the home (Table 4.4), a higher proportion of those cases were female (31.5%) than for male (25.9%). Falls occurring on *Sports and athletics areas* were frequent for Indigenous males (12% of cases). Of the 239 reports of falls for males that were recorded in sporting areas, 132 were sustained whilst playing rugby, and 58 whilst playing Australian Rules football.

Table 4.4: Total separations due to falls by place of injury occurrence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Place of occurrence	Males		Females		Persons	
	Count	%	Count	%	Count	%
Home (includes farmhouse)	506	25.9	425	31.5	931	28.2
Residential institution	27	1.4	14	1.0	41	1.2
School, other institutions & public administration area including hospitals	72	3.7	81	6.0	153	4.6
Sport and athletics area	239	12.2	35	2.6	274	8.3
Street and highway	62	3.2	43	3.2	105	3.2
Trade and service area	35	1.8	40	3.0	75	2.3
Industrial and construction area	9	0.5	..	0.2	12	0.4
Farm (excludes farmhouse)	6	0.3	..	0.1	8	0.2
Other specified places	147	7.5	102	7.6	249	7.5
Unspecified place	847	43.3	600	44.5	1,447	43.8
No place code reported	6	0.3	4	0.3	10	0.3
All places	1,956	100	1,349^a	100	3,305	100

a Indicates total includes cases where a cell count was less than four.

Shaded areas indicate three most common identified Places of occurrence of injury Range W00–Y34, excluding Y06, Y07.

Activity

Most cases were coded to Other specified, or to Unspecified activity, and do not offer insight into possibilities for prevention and intervention measures (Table 4.5). There is no direct correlation between falls sustained *While engaged in sports* (see above), and those sustained in a place reported as a *Sports and athletics area*. Some valid sport activity may occur outside that place designation.

Table 4.5: Total separations due to falls by activity at time of injury reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Activity	Males		Females		Persons	
	Count	%	Count	%	Count	%
While engaged in sports activity	297	15.2	42	3.1	339	10.3
While engaged in leisure activity	165	8.4	110	8.2	275	8.3
While working for income	20	1.0	..	0.2	23	0.7
While engaged in other types of work	11	0.6	20	1.5	31	0.9
While resting, sleeping, eating, etc	68	3.5	73	5.4	141	4.3
While engaged in other specified activities	452	23.1	350	25.9	802	24.3
During unspecified activity	937	47.9	747	55.4	1,684	51.0
No activity code reported	6	0.3	4	0.3	10	0.3
All activities	1,956	100	1,349^a	100	3,305	100

a Indicates total includes cases where a cell count was less than four.

Includes cases having external cause codes in the range V01–Y34.

Length of stay

For all ages, Indigenous males, females and persons had slightly higher rates of bed days, but had shorter ALOS compared to other Australians (Table 4.6).

Table 4.6: Length of hospital stay due to falls for all ages reported 2000–02, Aboriginal and Torres Strait Islander and other Australians by sex; Region A

		Indigenous	Other Australian	Ratio
	bed days	5,949	171,762	
Males	ALOS	3.0	4.7	0.6
	adjusted bed rate	3,162.1	2,920.0	1.1
	bed days	5,549	312,020	
Females	ALOS	4.1	7.2	0.6
	adjusted bed rate	4,339.3	3,856.7	1.1
	bed days	11,498	483,783 ^a	
Persons	ALOS	3.5	6.1	0.6
	adjusted bed rate	3,877.5	3,537.6	1.1

a Sex of patient not stated for 1 bed day.

In the 0–14 childhood years age bracket (Indigenous males $n=847$ and Indigenous females $n=522$), 43% of falls cases for Indigenous boys and 46% for Indigenous girls occurred between ages 5–9. While the bed stay rate was lower for Indigenous girls than for Indigenous boys in this age bracket, it was twice the rate for other Australian girls (Table 4.7).

Table 4.7: Length of hospital stay due to falls for children 5–9 years reported 2000–02, Aboriginal and Torres Strait Islander and other Australians by sex; Region A

		Indigenous	Other Australian	Ratio
	bed days	851	6,073	
Male children	ALOS	2.3	1.5	1.5
	adjusted bed rate	2,237.2	1,235.4	1.8
	bed days	643	4,017	
Female children	ALOS	2.5	1.3	1.9
	adjusted bed rate	1,813.1	862.9	2.1
	bed days	1,494	10,090	
Total children	ALOS	2.4	1.4	1.7
	adjusted bed rate	2,032.6	1,054.2	1.9

Body region

About 39% of falls cases for Indigenous males were for injuries to the *Shoulder and upper limbs* (Table 4.8). Injuries to the *Head* were second highest with 32% of cases, and while *Hip and lower limb* injuries made up 20% of cases, injuries to that body region had the highest proportion of bed days. The highest rate of bed days was for injuries to the *Hip and lower limb* (1,368.2), the bed day rate for *Head* injuries was second highest (685.0). *Hip and lower limb* fractures have been shown to account for the largest proportion of hospital bed days over all for all fracture groups, and most are sustained in fall incidents (Bradley & Harrison 2004). Of total bed days for *Fracture* injuries, 45% for Indigenous males were for *Hip and lower limb*, and for Indigenous females, 60%. Of the 85 cases of *Hip and lower limb* fractures in the 0–14 childhood years bracket, 35% occurred in the youngest age group (0–4 years), 31% in the more mobile and risk taking age group (5–9), and 34% in the age group where risk perception and action to ability matching is more refined (10–14 years), where two thirds of *Hip and lower limb* fractures were for Indigenous boys. Indigenous boys sustained 60% of all *Hip and lower limb* fractures in the 0–14 years group. For Indigenous boys and girls, 16% of cases in the 0–4 year bracket were fall injuries to infants under 12 months of age. Of falls occurring to Indigenous males of all ages, approximately 52% of injuries were fractures, the largest proportion being Forearm fractures (42% of all fractures). For Indigenous males 3.5% ($n=68$) resulted in *Femur* fractures. Of those 68 cases, about 18% were recorded as *Same level falls*, and about 15% resulted from a *Slip, trip or stumble*. Of the total of 162 *Femur* fracture hospitalisations, 5 cases resulted in death.

Table 4.8: Length of hospital stay due to falls injury by body region reported 2000–02, all ages, Aboriginal and Torres Strait Islander and other Australian males; Region A

Principal diagnosis by body region		Proportion Indigenous total	Indigenous	Other Australian	Rate ratio
Head	cases	32%	627	8,463	
	bed days	20.8%	1,235	24,815	
	adjusted bed rate		685.0	405.7	1.7
Trunk (neck, thorax, abdomen)	cases	7.2%	141	4,495	
	bed days	12.9%	766	36,216	
	adjusted bed rate		512.3	616.5	0.8
Shoulder and upper limb	cases	38.9%	761	12,771	
	bed days	27.8%	1,656	29,017	
	adjusted bed rate		560.3	463.1	1.2
Hip and lower limb	cases	20.3%	397	10,417	
	bed days	37.2%	2,213	80,241	
	adjusted bed rate		1,368.2	1,409.9	1.0
Other injuries, body region not specified	cases	1.5%	30	284	
	bed days	1.3%	79	1,473	
	adjusted bed rate		36.3	24.9	1.5

For Indigenous women, the body region sustaining the highest proportion of injuries was the *Shoulder and upper limbs*, (35.1%), followed by *Hip and lower limb* (29.8%) and *Head* (24.7% Table 4.9). The highest proportion of bed days was for *Hip and lower limb* (53.6%), followed by *Shoulder and upper limbs*, (23.1%). Indigenous females also sustained a high proportion of fractures (54% of cases), with most being Forearm fractures. Rate of bed days was highest for *Hip and lower limb* (2,809.5).

Table 4.9: Length of hospital stay due to falls injury by body region reported 2000–02, all ages, Aboriginal and Torres Strait Islander and other Australian females; Region A

Principal diagnosis by body region		Proportion Indigenous total	Indigenous	Other Australian	Rate ratio
Head	cases	24.7%	333	6,781	
	bed days	10.9%	604	23,818	
	adjusted bed rate		324.2	299.7	1.1
Trunk (neck, thorax, abdomen)	cases	8.9%	120	5,489	
	bed days	11.0%	613	57,435	
	adjusted bed rate		586.6	697.4	0.8
Shoulder and upper limb	cases	35.1%	474	13,766	
	bed days	23.1%	1,284	54,280	
	adjusted bed rate		583.1	690.7	0.8
Hip and lower limb	cases	29.8%	402	17,065	
	bed days	53.6%	2,976	174,245	
	adjusted bed rate		2,809.5	2,141.2	1.3
Other injuries, body region not specified	cases	1.5%	20	296	
	bed days	1.3%	72	2,242	
	adjusted bed rate		35.9	27.6	1.3

Nearly 64% of falls (all ages) required a one day stay in hospital, and a substantial proportion reported in the one day category were discharged the same day (that is, 30% of cases for males, and approximately 26% of cases for females, did not require a night in hospital, Table 4.9). The longest bed stays (50+ days) were reported for 5 cases caused by a *Slip, trip, stumble*, all of which were injuries to females.

5 Transport

Transport accidents in this report are the ICD-10-AM range V01-V99. This includes:

- accidents involving devices conveying persons or goods;
- traffic accidents occurring on public highways, and non-traffic accidents occurring in any place other than a public highway;
- pedestrians (includes persons changing tyres or making adjustments to motor of vehicle);
- user of a pedestrian conveyance (e.g. baby carriage, power wheelchair, skateboard);
- passenger or driver occupants of vehicles;
- persons travelling on outside of vehicle;
- pedal and motor cyclists/vehiclists; cars, pickup trucks or vans, heavy transports, buses, trains, streetcars, special purpose vehicles (including self-propelling farm vehicles and industrial vehicles), special all-terrain vehicles; and
- watercrafts (V90-94) and aircrafts (V95-V97).

Several exclusions from this category should be noted:

- assault by crashing of motor vehicle (Y03.-);
- event of undetermined intent (Y32-Y33);
- intentional self-harm (X82-X83); and
- transport accidents due to cataclysm (X34-X38).

(National Centre for Classification in Health 2000)

Overview

In Region A, Land transport accidents were the third largest cause of identifiable injury for Indigenous people, amounting to 2,007 separations, and accounting for 9.7% of all hospitalisations. Water and air transport accidents accounted for 36 cases (Indigenous males n=28 and females n=8) included in total transport cases for Region A.

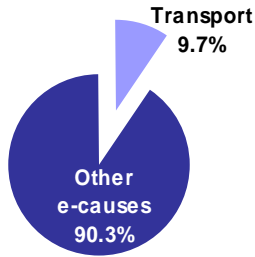
Transport accounted for around 12% of separations for males, and around 7% for females. Rates for separations due to transport-related injury for Aboriginal and Torres Strait Islanders males and females were about 1.5 times higher than rates for other Australian males and females. Of the 1,104 hospitalisations for injuries to occupants of Cars, 638 were reported for people usually resident in the Remote/Very remote areas. Of the 28 records for people injured in pickup trucks or vans, 22 were for people from Remote/Very Remote areas.

Access to safe, reliable and timely transport is an ongoing problem in many rural and urban areas, with many negative and harmful effects. Some, as reported here, result in hospitalised injury. A range of other negative impacts on wellbeing exist, including:

- **Lack** of suitable road access to communities to provide and maintain infrastructure necessary for healthy living,
- **Poverty** conditions restrict access to safe private vehicles, and can lead to;
- **Resorting** to use of lower standard and overcrowded private vehicles,
- **Restricted** accessibility to primary and specialist health services,
- **Little** co-ordination of services to travel home from treatment,
- **Isolation** from employment services and potential places of employment,
- **Inability** to travel to social, ceremonial and sorry business at required times, and
- **Barriers** in conducting day to day business matters.

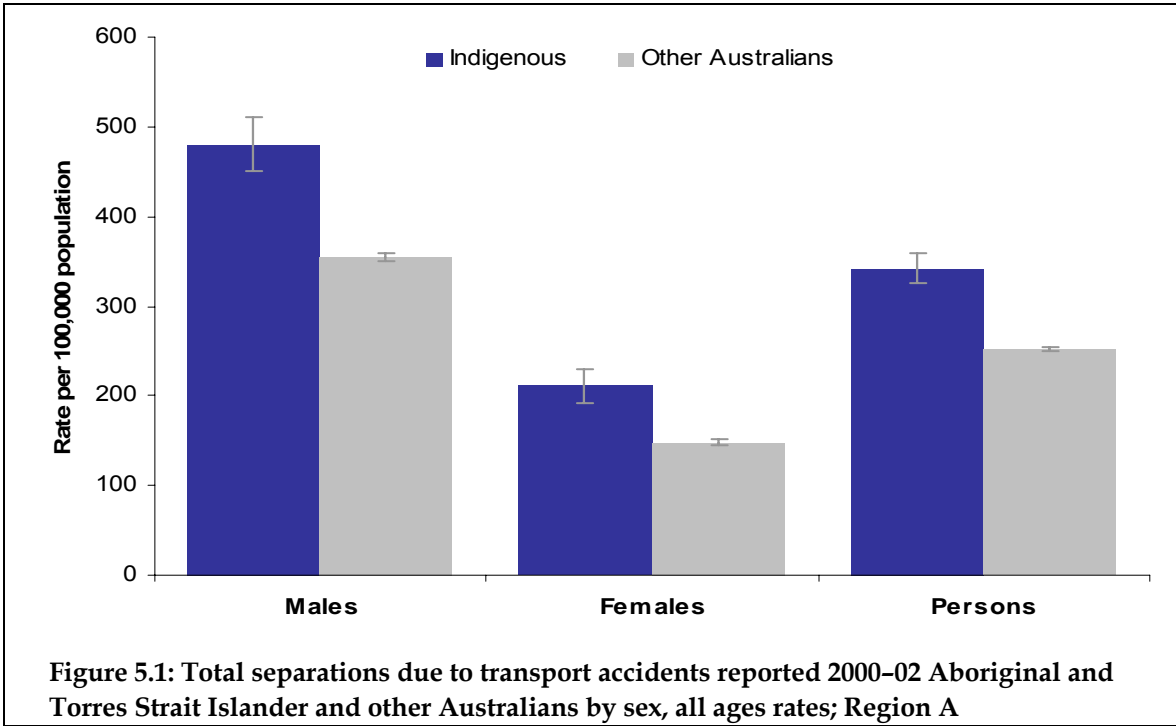
Transport accidents were responsible for the third highest proportion (9.7%) of external cause hospitalisations for Indigenous people in Region A (Table 5.1). Indigenous males were hospitalised at nearly two and a half times the rate of Indigenous females, and both sexes were hospitalised at one and a half times the rate of non-Indigenous males and females. Included in the counts for Indigenous people were 36 cases of hospitalisation for injury from *Water or air transport* injury (males $n=28$, females $n=8$), all other cases were due to *Land transport* accidents.

Table 5.1: Aboriginal and Torres Strait Islander separations due to transport accidents reported 2000–02, selected indicators; Region A

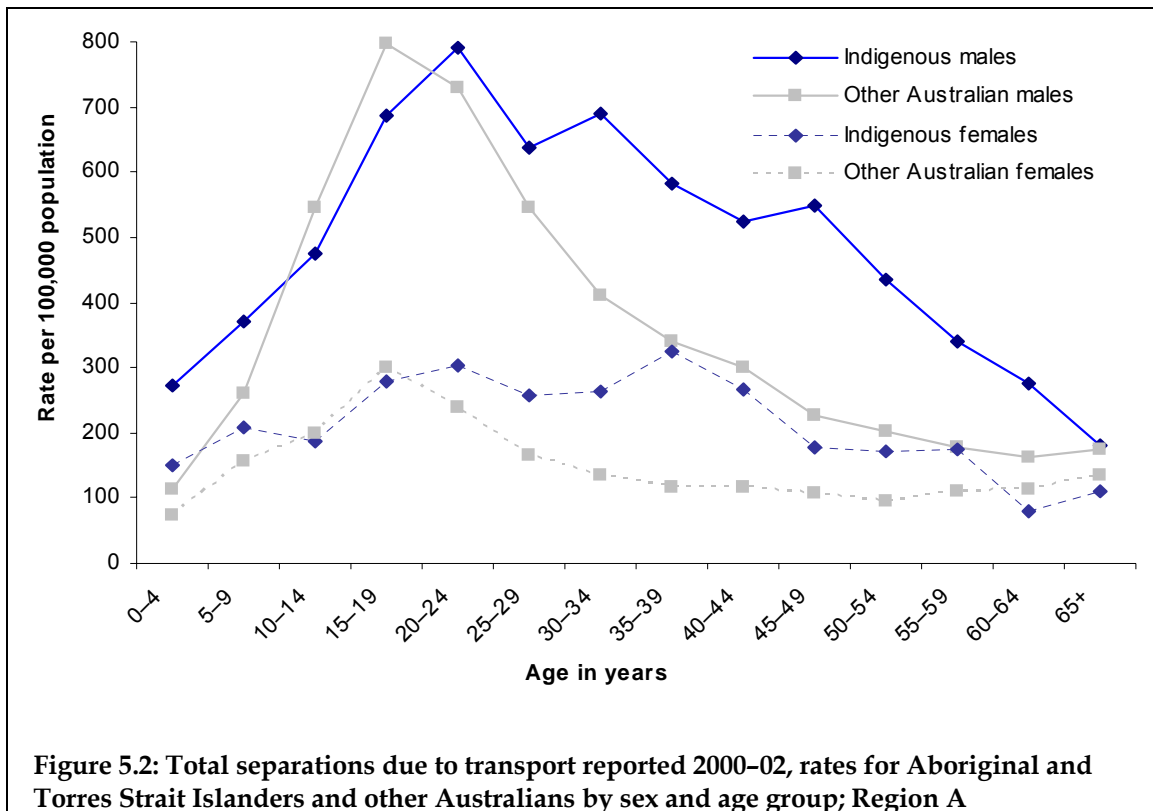
Indicators	Reported Indigenous separations			Ratio m:f	All reported Indigenous external cause injury
	Males	Females	Persons		
Number of separations	1,384	623	2,007	2.2	
Proportion of all Indigenous injury separations in region	11.9%	6.9%	9.7%	1.7	
Crude rate/100,000 population	510.7	224.5	365.9		
Age standardised (direct) rate/100,000 population ^a	480.2	211.1	342.2	2.3	
Ratio of age standardised (dir) rates:Indigenous:other	1.4	1.4	1.4		

^a Rates are annual averages over the two years 2000–2002, separation numbers are two-year totals. Region A aggregates SA, NT, WA, Qld.

The all ages standardised rates for Indigenous and other Australian males were significantly higher than rates for females in both groups (Figure 5.1). Rates for Indigenous males, females and persons were significantly higher than rates for other Australian males, females and persons.



Rates of Transport injury were higher for Indigenous males and females than for other Australian males and females from teens to late thirties (Figure 5.2). Rates for Indigenous males remained much higher than all other groups from the late twenties onwards. The difference between Transport injury rates was highest for Indigenous males aged 45–49 years, and for Indigenous females, at ages 35–39. Rates for Indigenous males and females were lower than rates for other Australian males and females from ages 10–19, but were not statistically significant.



Mechanism

Analysis of road user type revealed that the highest number of cases for passenger motor vehicles (cars, pickups, vans) were for the 15–29 year age-group (Table 5.2). The largest proportion of pedestrian injury occurred to Indigenous people aged 15–44 years. Most bicycle (pedal cycle) injuries occurred in the 0–14 age group, and most motor cycle injuries in the 15–29 years age-group.

Table 5.2: Total separations due to transport by road user type reported 2000–02, Aboriginal and Torres Strait Islander persons, in life stage age groups; Region A

Road user type	Age group											
	0–14		15–29		30–44		45–64		65+		Total	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Pedestrian (V01–V09)	95	16.1	104	14.3	107	22.2	38	20.7	9	37.5	353	17.6
Pedal cyclist (V10–V19)	222	37.6	55	7.6	15	3.1	11	6.0	..	4.2	304	15.1
Motor cyclist (V20–V29)	42	7.1	76	10.5	31	6.4	9	4.9	..	4.2	159	7.9
Occupant of car/pickup/van (V40–V59)	165	27.9	406	55.9	274	56.8	102	55.4	11	45.8	958	47.7
Other specified/unspecified transport (V30–V39, V60–V89, V98, V99)	67	11.3	85	11.7	55	11.4	24	13.0	..	8.3	233	11.6
Total	591	100	726	100	482	100	184	100	24^a	100	2007	100

a Indicates total includes cases where a cell count was less than four.

Road user type and body region

The major parts of the body affected by road traffic accidents differ between road user category types. The most commonly reported injuries within the identified body region groups, were *Trunk* conditions for car, pickup truck and van occupants at 65.8% ($n=368$), *Head* injuries at 51.2% ($n=352$) for car occupants and 32.3% for pedestrians ($n=222$), and 41% of other injuries to pedestrians occurred to the *Hip and lower limb* area (Table 5.3).

Of the 353 pedestrian records, 7 cases resulted in death from *Head* or *Trunk* injuries. Three deaths resulted from *Head* or *Trunk* injuries that were sustained in cars, pickup trucks or vans.

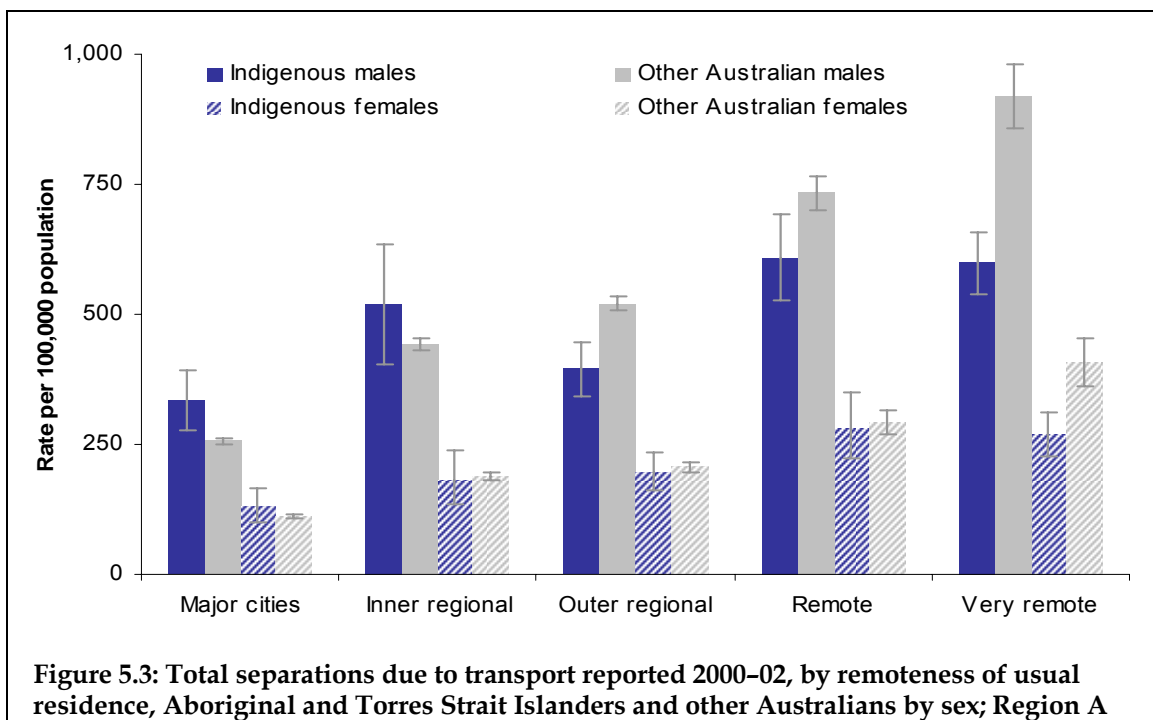
Table 5.3: Total separations due to transport by road user type reported 2000–02, Aboriginal and Torres Strait Islander persons, injury by body region; Region A

Principal diagnosis by body region	Road user type									
	Pedestrian		Pedal cyclist		Motor cyclist		Car/van/pickup		Other specified & unspecified	
	Count	%	Count	%	Count	%	Count	%	Count	%
Head	111	31.4	94	30.9	33	20.8	319	33.3	72	30.9
Shoulder/upper limb	48	13.6	96	31.6	40	25.2	155	16.2	52	22.3
Trunk	67	19.0	30	9.9	18	11.3	287	30.0	46	19.7
Hip/lower limb	120	34.0	73	24.0	64	40.3	162	16.9	50	21.5
Body region not spec	7	2.0	11	3.6	4	2.5	35	3.7	13	5.6
Total	353	100	304	100	159	100	958	100	233	100

Shaded areas indicate highest count and proportion of cases by body region of injury for each specified road user type.

Remoteness

Rates of transport separations generally rose with degree of remoteness of living (Figure 5.3). Rates for Indigenous and other Australian males were much higher than rates for females in all remoteness zones, and the differences were also statistically significant. Rates of transport injury were significantly higher for non-Indigenous males than for all other groups in the Outer regional, Remote and Very remote zones. Indigenous and other Australian females reported very similar rates in closely similar pattern from the Major cities zone to the Remote zone, with no significant difference between groups. The rate for other Australian females was significantly higher than the rate for Indigenous females in the Very remote zone.



Almost half of all cases of hospitalisation of Indigenous people due to transport injury involved motor vehicle occupants (Table 5.4). This proportion did not vary greatly with remoteness of place of residence, though it was a little lower in major cities and regional zones (40% to 43%), and a little higher in the very remote zone (56%). Pedestrians made up a larger proportion of the total (28%) among residents of Major Cities than among residents of other zones. Pedal cyclists made up 8% of cases involving residents of the Very Remote zone, compared with 15% overall and over 20% for residents of Major Cities and Inner Regional areas. The proportion of transport injury admissions involving motorcyclists was 8% overall and did not vary greatly with remoteness.

Table 5.4: Total separations due to transport by road user type and remoteness zone by Place of usual residence reported 2000–02, Aboriginal and Torres Strait Islander persons; Region A

Remoteness of place of usual residence	Road user type										Total	
	Pedestrian		Pedal cyclist		Motor cyclist		Car/van/p-up		Other specified & unspecified		Count	%
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Major cities	86	27.6	63	20.2	15	4.8	133	42.6	15	4.8	312	100
Inner regional	23	10.4	56	25.2	27	12.1	93	41.9	23	10.4	222	100
Outer regional	81	18.7	83	19.1	42	9.7	175	40.3	53	12.2	434	100
Remote	56	16.4	48	14.0	27	7.9	164	48.0	47	13.7	342	100
Very remote	107	15.4	54	7.7	48	6.96	393	56.4	95	13.6	697	100
Total	353	17.6	304	15.1	159	7.9	958	47.7	233	11.6	2007	100

Not surprisingly, most types of transport injury were reported as occurring on a *Street or highway*, although some cases were reported around the *Home* (Table 5.5).

Table 5.5: Total separations due to transport by road user type and major specified place of occurrence reported 2000–02, Aboriginal and Torres Strait Islander persons; Region A

Place of injury	Road user type									
	Pedestrian		Pedal cyclist		Motor cyclist		Car/van/pickup		Other specified & unspecified	
	Count	%	Count	%	Count	Count	%	Count	%	Count
Home	17	4.2	27	8.4	5	2.8	4	0.4	5	2.2
Sports and athletics area	..	0.2	8	2.5	6	3.3	..	0.1	15	6.5
Street and highway	291	71.9	99	30.9	63	34.8	972	85.9	50	21.6
Farm	..	0.2	..	0.3	12	6.6	6	0.5	34	14.7
Total specified places of occurrence	310^a	76.5	135^a	42.2	86	47.5	983^a	86.9	104	44.8

a Indicates total includes cases where a cell count was less than four.

Length of stay

While the bed-day rate for transport injury was 1.6 times higher for Indigenous persons than for other Australian persons, the ALOS for both groups was similar (Table 5.6). Indigenous females were nearly twice as likely to be hospitalised for transport injury as non-Indigenous females.

Table 5.6: Length of hospital stay due to transport for all ages reported 2000–02, Aboriginal and Torres Strait Islander and other Australians by sex; Region A

		Indigenous	Other Australian	Ratio
Males	bed days	7,064	116,973	
	ALOS	5.1	4.7	1.1
	adjusted bed rate	2,642.0	1,695.0	1.6
Females	bed days	3,474	51,442	
	ALOS	5.6	5.0	1.1
	adjusted bed rate	1,276.0	726.5	1.8
Persons	bed days	10,538	168,469 ^a	
	ALOS	5.3	4.8	1.1
	adjusted bed rate	1,938.0	1,209.4	1.6

a Sex of patient not stated for 54 bed days.

Body region

About 32% of transport cases for Indigenous males were for injuries to the *Head* and accounted for about 23% of bed days (Table 5.7). Injuries to the *Hip and lower limb* were second highest with 24% of cases, and *Trunk* injuries made up about 21% of cases. The highest rate of bed days was for injuries to the *Hip and lower limbs* (865.6), the bed day rate for *Trunk* injuries was second highest (827.6). Rates for bed days for Indigenous men were about 1.5 times higher than for other Australian men for all specified body regions.

Table 5.7: Length of hospital stay due to transport injury by body region reported 2000–02, all ages, Aboriginal and Torres Strait Islander and other Australian males; Region A

Principal diagnosis by body region		Proportion Indigenous total	Indigenous	Other Australian	Rate ratio
Head	cases	32.4%	448	6,258	
	bed days	23.3%	1,648	25,505	
	adjusted bed rate		541.0	365.8	1.5
Trunk (neck, thorax, abdomen)	cases	21.3%	295	5,220	
	bed days	29.6%	2,090	35,375	
	adjusted bed rate		827.6	515.4	1.6
Shoulder and upper limb	cases	19.0%	263	6,541	
	bed days	12.9%	912	16,546	
	adjusted bed rate		347.3	237.9	1.5
Hip and lower limb	cases	24.0%	332	6,358	
	bed days	32.0%	2,258	37,469	
	adjusted bed rate		865.6	546.0	1.6
Other injuries, body region not specified	cases	3.3%	46	476	
	bed days	2.2%	156	2,078	
	adjusted bed rate		60.5	29.7	2.0

For Indigenous women, the highest proportion of injuries to a body region were to the *Head* (32.4%) followed by *Hip and lower limb* (24%) and *Trunk* (about 23%, Table 5.8). The highest proportion of bed days was for *Hip and lower limb* (32%), followed by *Trunk*, (29.6%). Rate of bed days were highest for *Hip and lower limb* (865.6), and *Trunk* (827.6). Rates for bed days for Indigenous women were about 1.5 times higher than for other Australian women for all specified body regions.

Table 5.8: Length of hospital stay due to transport injury by body region reported 2000–02, all ages, Aboriginal and Torres Strait Islander and other Australian females; Region A

Principal diagnosis by body region		Proportion Indigenous total	Indigenous	Other Australian	Rate ratio
Head	cases	32.4%	448	6,258	
	bed days	23.3%	1,648	25,505	
	adjusted bed rate		541.0	365.8	1.5
Trunk (neck, thorax, abdomen)	cases	21.3%	295	5,220	
	bed days	29.6%	2,090	35,375	
	adjusted bed rate		827.6	515.4	1.6
Shoulder and upper limb	cases	19.0%	263	6,541	
	bed days	12.9%	912	16,546	
	adjusted bed rate		347.3	237.9	1.5
Hip and lower limb	cases	24.0%	332	6,358	
	bed days	32.0%	2,258	37,469	
	adjusted bed rate		865.6	546.0	1.6
Other injuries, body region not specified	cases	3.3%	46	476	
	bed days	2.2%	156	2,078	
	adjusted bed rate		60.5	29.7	2.0

6 Intentional self-harm

Intentional self-harm is covered by the ICD-10-AM range X60-X84. The following forms of self-harm are described by this range:

- deliberate exposure to, or self-poisoning by a large range of drugs, medicaments, biological substances, alcohol;
- gases and vapours (including carbon monoxide poisoning);
- pesticides, chemicals and noxious substances (including petrol and glue sniffing);
- hanging, strangulation and suffocation;
- drowning and submersion;
- firearms discharge, explosives;
- harm originating from a heat source;
- sharp or blunt objects;
- deliberate falls;
- motor vehicles; and
- other specified and unspecified means.

Sequelae of intentional self-harm, assault and events of undetermined intent (Y87.0) is included in the definition used in this report.

(National Centre for Classification in Health 2000)

Overview

Self-harm accounted for around 6% of all injury-related hospitalisations for Indigenous people in Region A, and Indigenous females were hospitalised at a slightly higher rate than Indigenous males. There was no significant difference in rates between groups across remoteness zones. This is in contrast to a previous study of fatal injury (Helps & Harrison 2004), where it was reported that over a four year period, suicide accounted for over 28% of all injury deaths, and Indigenous males completed suicide at a rate nearly six times higher than that of Indigenous females. It was also reported that over half the completed suicides in that period were for usual residents of the more remote areas. Poisoning was the most common mechanism of self-harm for Indigenous females (69.7% of cases), and also for males (42.2% of cases). Cutting and piercing injuries were the second largest mode of injury, with a larger proportion of cases for Indigenous males (38.6%) than for Indigenous females (29.1%). Hanging/suffocation had lower proportions of injury for Indigenous males (12.6%) and females (9.2%), but was responsible for four of the six hospitalised cases of self-harm that resulted in death. Indigenous males were treated for self-inflicted injury at over twice the rate of non-Indigenous males, and the rate for Indigenous females was nearly twice that for non-Indigenous females. Although the bed day rate was higher for Indigenous males than for non-Indigenous males, the ALOS was lower for Indigenous males.

Indigenous females were hospitalised for self-inflicted injuries at a slightly higher rate than Indigenous males (Table 6.1). Indigenous males were hospitalised at 2.3 times the rate of non-Indigenous males, and Indigenous females at 1.8 times the rate of non-Indigenous females.

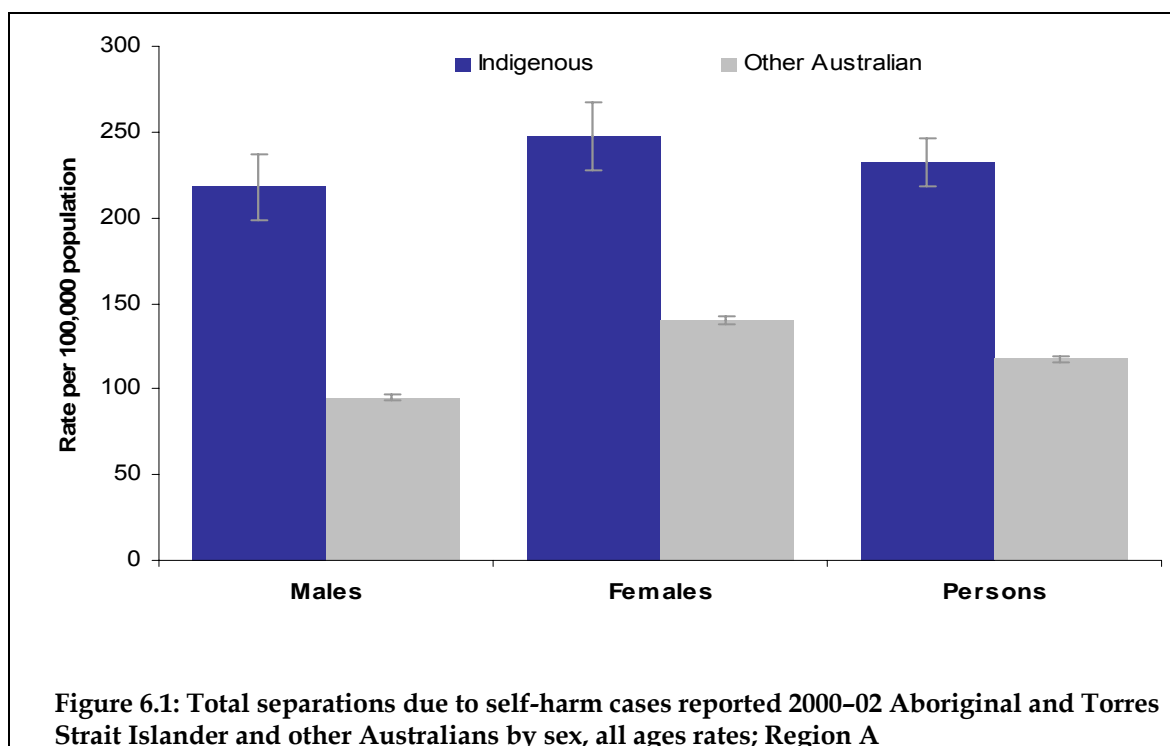
Table 6.1: Aboriginal and Torres Strait Islander separations due to self-harm reported 2000–02, selected indicators; Region A

Indicators	Reported Indigenous separations Region A				All reported Indigenous external cause injury Region A
	Males	Females	Persons	Ratio m:f	
Number of separations	562	691	1,253	0.8	
Proportion of all Indigenous injury separations in region	4.8%	7.6%	6.1%	0.6	
Crude rate/100,000 population	207.4	249.0	228.4		
Age standardised (direct) rate/100,000 population ^a	217.8	247.5	232.4	0.9	
Ratio of age standardised (dir) rates: Indigenous:other	2.3	1.8	2.0		

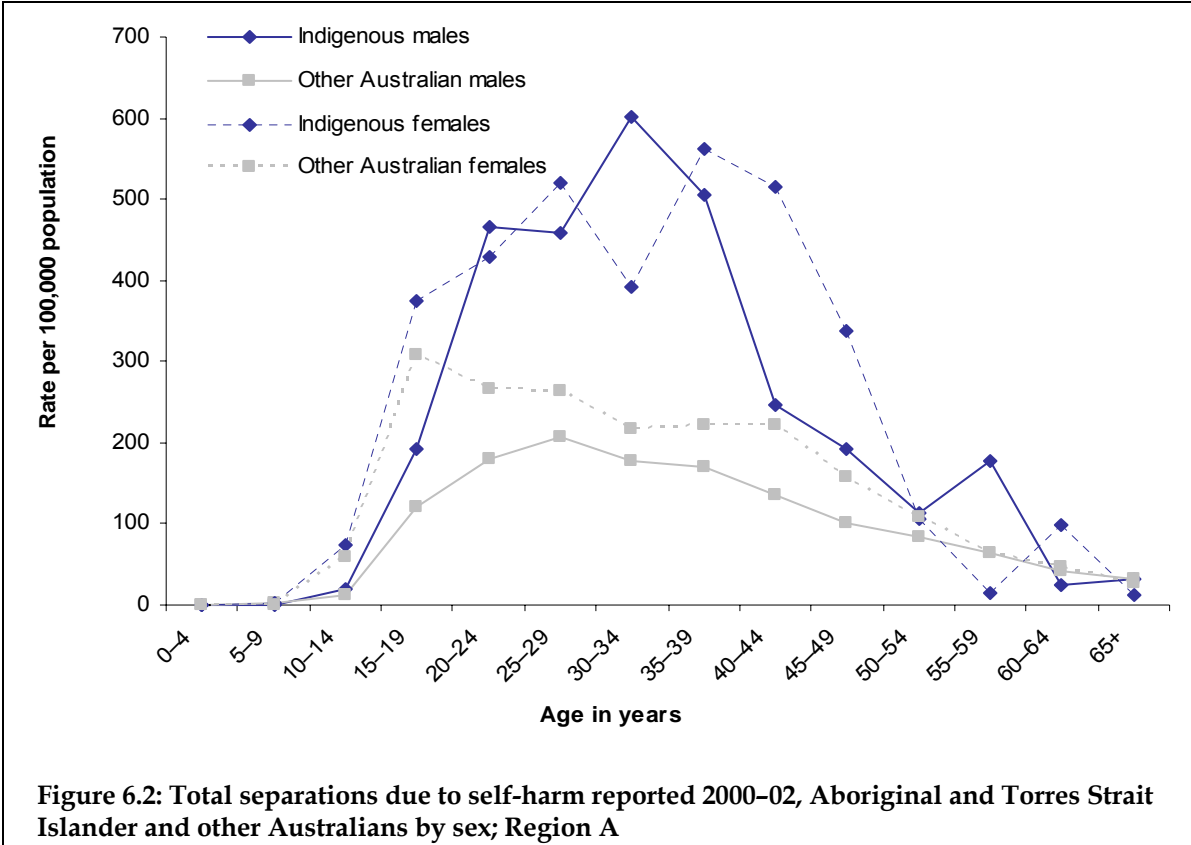
Region A aggregates SA, NT, WA, Qld.

^a Rates are annual averages over the two years 2000–2002, separation numbers are two-year totals.

All-ages standardised rates for Indigenous males, female and persons were significantly higher than rates for their other Australian counterparts (Figure 6.1). Rates were higher for Indigenous females than for males, but not significantly so. The rate for other Australian females was significantly higher than the rate for other Australian males.



Rates for self-inflicted injuries evidenced a similar pattern for all groups, but rates were much higher for Indigenous males and females from young adulthood (20–24 years) through to mature adulthood for males (45–49 years), and through to older age for females (55–59 years) than for other Australians (Figure 6.2). The rate for Indigenous males was significantly higher than for Indigenous females at ages 30–34, and the rates for Indigenous females were significantly higher than rates for Indigenous males at ages 15–19 and also 40–44 years. The excess between rates for Indigenous and other Australians was apparent from age 15 years, and was greatest between ages 30–39 for females, and 35–39 for males.



Mechanism

As a means of inflicting harm to oneself, poisoning resulted in the highest proportion of hospitalisations, with more females (around 70%) affected using this method than males (about 40% (Table 6.2)). *Cutting and piercing* injuries accounted for a similar proportion (about 39%) of separations for males, but the proportion for females (around 21%) was much lower.

Table 6.2: Total separations due to self-harm by mechanism of injury reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Males		Females		Persons	
	Count	%	Count	%	Count	%
Poisoning	237 ^b	42.2	481 ^b	69.7	718 ^b	57.3
Hanging/strangling/suffocation	71 ^b	12.6	44 ^b	6.4	115 ^b	9.2
Smoke/fire/flame	4	0.7	..	0.3	6	0.5
Cutting/piercing	217	38.6	147	21.3	364	29.1
Blunt object	4	0.7	0	0.0	4	0.3
Fall	..	0.6	..	0.3	5	0.4
Other specified and unspecified	26	4.6	14	2.0	40	3.2
Total	562^{bc}	100	691^{bc}	100	1,253^{ab}	100

a Includes mechanism not reported for one case.

b Counts and totals include cases resulting in death (persons $n=6$).

c Indicates total includes cases where a cell count was less than four.

Shaded areas indicate highest count and proportion of cases by mechanism of injury.

Remoteness

Approximately 40% of *Poisoning* cases for Indigenous males, and approximately 30% for females, were for residents of Major cities (Table 6.3). A large proportion of *Hanging* injuries were recorded for males (about 54%) and females (about 46%) living in the Very remote zone. Around 10% of *Hanging* cases were reported for residents of Major cities of Inner regional zones. Proportions of injuries due to *Cutting or piercing* were lowest in the Inner regional zone for males (about 9%) and females (5.5%), and highest in the Very remote zone (about 37% for males, about 27% for females).

Table 6.3: Total separations due to self-harm by mechanism of injury and remoteness of Place of usual residence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

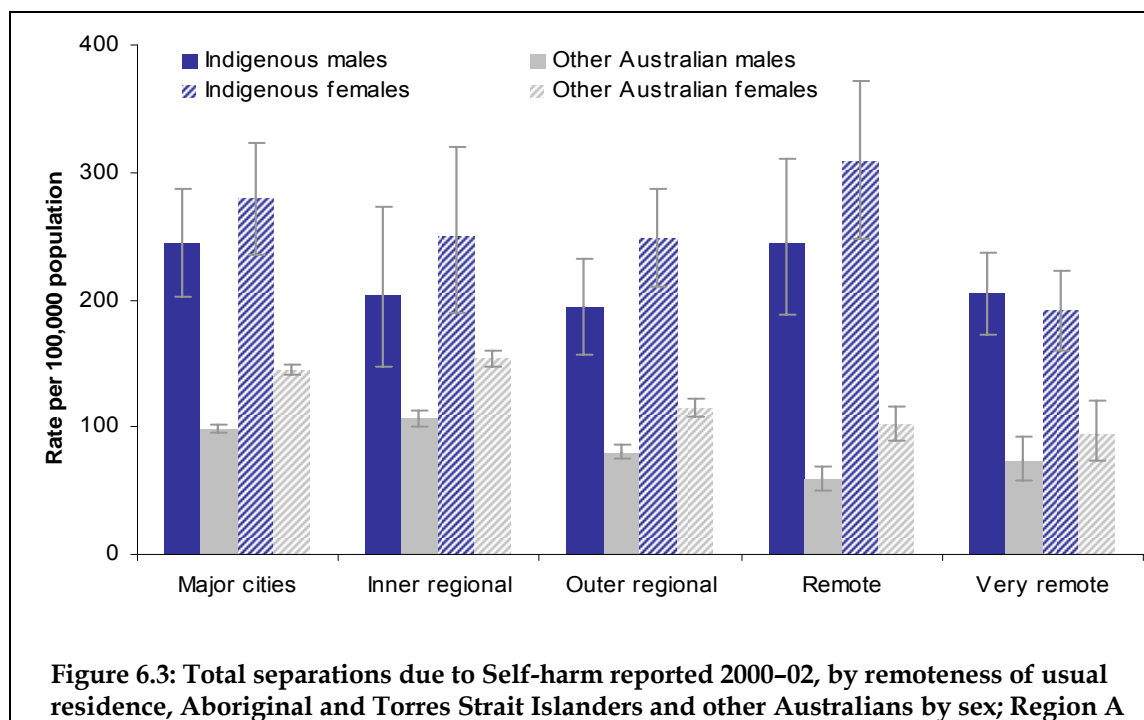
Mechanism of injury	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Poisoning	93	144	29	54	56	129	24	64	35	90
Hanging/strangulation/suffocation	5	..	..	..	13	9	12	12	38	20
Cutting/piercing	40	34	19	12	41	34	36	27	81	40
Other specified and unspecified	5	4	..	..	8	4	9	4	14	6
Total	143	184^b	52^b	67^b	118	177^a	81	107	168	156

a Includes mechanism not reported for one case.

b Indicates total includes cases where a cell count was less than four.

Shaded areas indicate highest count and proportion of cases by mechanism of injury.

Rates of self-harm were significantly higher for Indigenous males and females than for other Australian males and females in all remoteness zones (Figure 6.3). Rates for Indigenous females were higher than those for their male counterparts in all but the Very remote zone, but were not significantly different. Rates for Indigenous males and females were highest in the Major cities zone and in the Remote zone.



Place of occurrence

The majority of self-harm injuries that were specified in terms of place of occurrence occurred within the *Home*, especially for females (Table 6.4). Very few hospitalised cases of self-harm occurred in places of work or in educational facilities. *Residential institutions* recorded 3% of cases for males, and about 2.5% for females.

Table 6.4: Total separations due to self-harm by place of injury occurrence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Place of occurrence	Males		Females		Persons	
	Count	%	Count	%	Count	%
Home (includes farmhouse)	223	39.7	363	52.5	586	46.8
Residential institution	17	3.0	10	1.4	27	2.2
School, other institutions & public administration area (inc hospitals)	9	1.6	..	0.4	12	1.0
Sport and athletics area	..	0.2	0	0.0	..	0.1
Street and highway	8	1.4	7	1.0	15	1.2
Trade and service area	7	1.2	..	0.4	10	0.8
Industrial and construction area	..	0.2	..	0.3	..	0.2
Farm (excludes farmhouse)	0	0.0	0	0.0	0	0.0
Other specified places	18	3.2	17	2.5	35	2.8
Unspecified place	269	47.9	279	40.4	548	43.7
No place code reported	9	1.6	7	1.0	16	1.3
All places	562^a	100	691^a	100	1,253^a	100

a Indicates total includes cases where a cell count was less than four.

Shaded areas indicate three most common identified places of occurrence of injury Range W00–Y34, excluding Y06, Y07.

Activity

A specific activity was rarely reported for this group of cases.

Length of stay

For Indigenous males, females and persons, the bed day rate was higher than that for other Australian patients, but the ALOS for Indigenous patients was lower than that for other Australian patients (Table 6.5). The bed day rate and ALOS were similar, but slightly higher for Indigenous males than for females.

Table 6.5: Length of hospital stay due to self-harm for all ages reported 2000–02, Aboriginal and Torres Strait Islander and other Australians by sex; Region A

		Indigenous	Other Australian	Ratio
Males	bed days	1,561	21,559	
	ALOS	2.8	3.2	0.9
	adjusted bed rate	673.3	311.4	2.2
Females	bed days	1,614	26,747	
	ALOS	2.3	2.7	0.9
	adjusted bed rate	585.8	381.5	1.5
Persons	bed days	3,175	48,306	
	ALOS	2.5	2.9	0.9
	adjusted bed rate	625.4	345.6	1.8

Body region

For Indigenous males, 18% of self-harm cases were for injuries to the *Shoulder and upper arm* (Table 6.6). *Trunk* was the second highest affected body region with around 14% of cases. Over 90% of cases reported for *Shoulder and upper limb*, and over 95% to the *Hip and lower limb* were the result of *Cutting or piercing* injuries. Of cases reported in *Other injuries*, 76% were caused by *Poisoning*, which is a systemic effect for which body region is not specified. *Trunk* injuries were the third most common injuries, however, they were associated with the highest proportion of bed days (18%), and also the highest bed day rate (101.2). Differences in bed day rate between Indigenous and other Australian males were largest for *Hip and lower limb* (6.1:1) and for *Head* (5.4:1) injuries.

Table 6.6: Length of hospital stay due to self-harm injury by body region reported 2000–02, all ages, Aboriginal and Torres Strait Islander and other Australian males; Region A

Principal diagnosis by body region		Proportion Indigenous total	Indigenous	Other Australian	Rate ratio
Head	cases	4.1%	23	77	
	bed days	8.5%	133	835	
	adjusted bed rate		64.9	12.0	5.4
Trunk (neck, thorax, abdomen)	cases	14.4%	81	251	
	bed days	17.9%	279	1,449	
	adjusted bed rate		101.2	0.9	4.8
Shoulder and upper limb	cases	18.0%	101	649	
	bed days	12.2%	191	2,026	
	adjusted bed rate		72.3	29.1	2.5
Hip and lower limb	cases	8.0%	45	38	
	bed days	7.1%	111	475	
	adjusted bed rate		41.7	6.8	6.1
Other injuries, body region not specified	cases	55.5%	312	5,626	
	bed days	54.3%	847	16,774	
	adjusted bed rate		393.2	242.5	1.6

For Indigenous women, the highest proportion of injuries to a specified Body region were to the *Shoulder and upper limb*, (about 16%), followed by *Trunk* (around 4% Table 6.7). The higher proportion of cases in *Other injuries, body region not specified* (compared to males) is a result of the high proportion (about 70% of total mechanisms of injury, Table 6.2) of cases for females reported for *Poisoning*. About 91% of cases recorded in *Other injuries* are for *Poisoning*. The highest proportion of bed days was for *Other injuries* (about 76%), followed by *Shoulder and upper limb*, (11.5%). Rate of bed days was highest for *Other injuries* (450.3), followed by *Shoulder* (64.6) and *Trunk* (44.1). The rate ratio of bed days was greatest between Indigenous and other Australian females for *Hip and lower limb* cases (6.2:1), followed by *Shoulder and upper limb* (3.7:1).

Table 6.7: Length of hospital stay due to self-harm injury by body region reported 2000–02, all ages, Aboriginal and Torres Strait Islander and other Australian females; Region A

Principal diagnosis by body region		Proportion Indigenous total	Indigenous	Other Australian	Rate ratio
Head	cases	0.7%	5	25	
	bed days	0.6%	10	116	
	adjusted bed rate		4.4	1.7	2.6
Trunk (neck, thorax, abdomen)	cases	4.1%	28	133	
	bed days	8.4%	136	1,069	
	adjusted bed rate		44.1	15.3	2.9
Shoulder and upper limb	cases	15.6%	108	494	
	bed days	11.5%	185	1,236	
	adjusted bed rate		64.6	17.5	3.7
Hip and lower limb	cases	2.7%	19	43	
	bed days	3.8%	62	252	
	adjusted bed rate		22.3	3.6	6.2
Other injuries, body region not specified	cases	76.8%	531	9,062	
	bed days	75.7%	1,221	24,074	
	adjusted bed rate		450.3	343.5	1.3

7 Burns

For this report, exposure to smoke, fire and flames (Burns), is defined by the ICD-10-AM classification range X00–X19. This includes:

- exposure to smoke, fire and flames (X00–X09);
- contact with heat and hot substances (X10–X19); and
- fire caused by lightning.

This does not include:

- arson (X97);
- secondary fire resulting from explosion (W35–W40); or
- transport accidents (V01–V99).

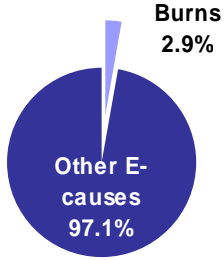
(National Centre for Classification in Health 2000)

Overview

Indigenous persons were hospitalised because of burns, scalds or other consequences of exposure to fire, flame and hot objects or substances at a rate nearly four times higher than the rate for other Australian persons. Although constituting only around 3% of all injury separations for Indigenous people in Region A, ALOS was nearly double that for non-Indigenous persons, and the rate of bed days was over 7 times the rate for non-Indigenous persons. The ALOS for Indigenous infants (0–4 years) was several times higher than that for non-Indigenous infants, and the rate of hospitalisation for non-Indigenous children was also very high for the 0–4 years age group. Burns from Scalds were the cause of hospitalisation for just over half of all Burns for infants aged 0–4 years, and Scalds were responsible for one third of all ages Burns hospitalisation for Indigenous persons. Injury at this early stage in life can influence later development, and burn injuries in particular can result in disfigurement that may produce psychological damage in addition to the physical injury (Cassell et al 2004) and can inhibit social integration and the development of healthy relationships (Esselman et al 2001). Severity of burn injuries, timely and appropriate treatment, and subsequent therapy can impact on continuation of education, and the ability to carry out employment (Royal Children's Hospital Australia 2003; Brych SB et al 2001; Brych et al 2001).

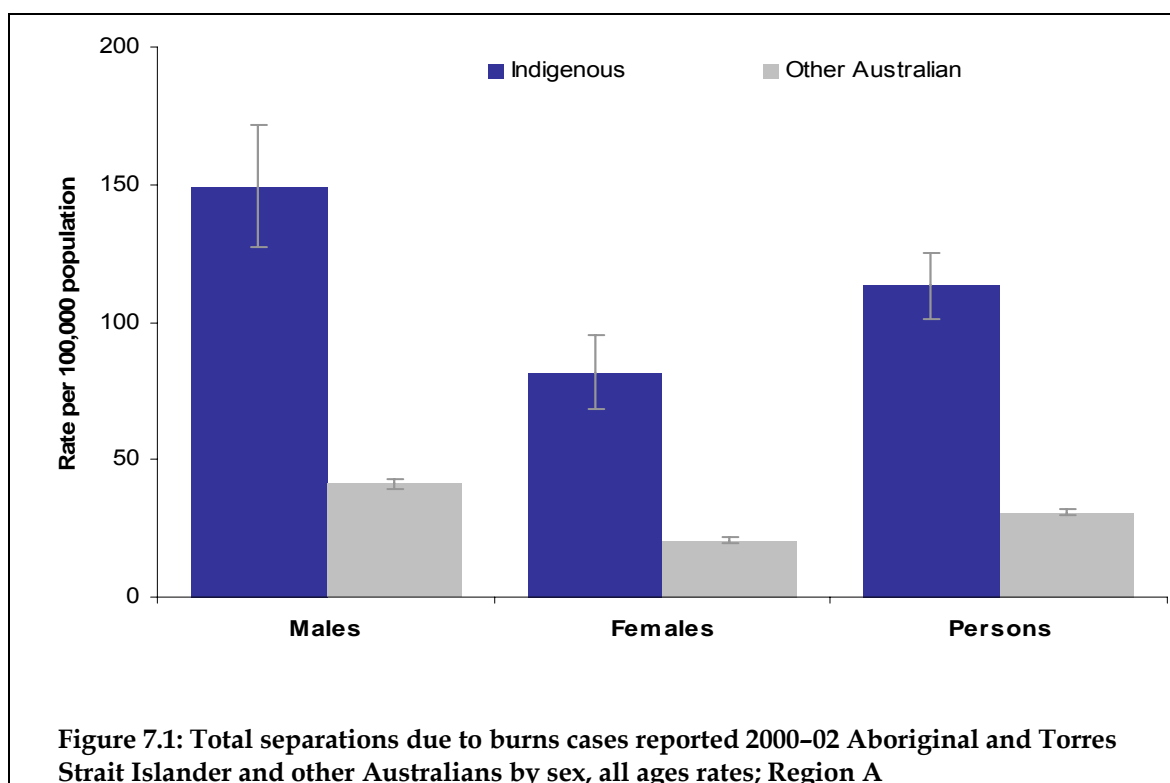
Indigenous males were hospitalised for burns at a rate 1.8 times higher than the rate for Indigenous females, and 3.6 times higher than for non-Indigenous males (Table 7.1). Indigenous females received treatment in hospital at a rate 4 times higher than that for non-Indigenous females.

Table: 7.1: Aboriginal and Torres Strait Islander separations due to burns reported 2000–02, selected indicators; Region A

Indicators	Reported Indigenous separations Region A				All reported Indigenous external cause injury Region A
	Males	Females	Persons	Ratio m:f	
Number of separations	373	217	590	1.7	
Proportion of all Indigenous injury separations in region	3.2	2.4	2.9	1.3	
Crude rate/100,000 population	137.6	78.2	107.6		
Age standardised (direct) rate/100,000 population ^a	149.3	81.6	113.2	1.8	
Ratio of age standardised (dir) rates: Indigenous:other	3.6	4.0	3.7		

^a Rates are annual averages over the two years 2000–2002, separation numbers are two-year totals. Region A aggregates SA, NT, WA, Qld.

For all ages, rates of burn injury for Indigenous males, females and persons were considerably higher than for other Australians, and although CIs were wide for Indigenous rates, differences were statistically significant from rates of other Australians (Figure 7.1).



Rates were very high for all children in the 0–4 years age group, and highest for Indigenous boys (Figure 7.2). Differences between Indigenous and other Australians were markedly higher in early childhood, and from adulthood to old age. The excess in Indigenous rates was large during adulthood, and rates for Indigenous males exceeded rates for Indigenous females in all but the 45–49 years age group.

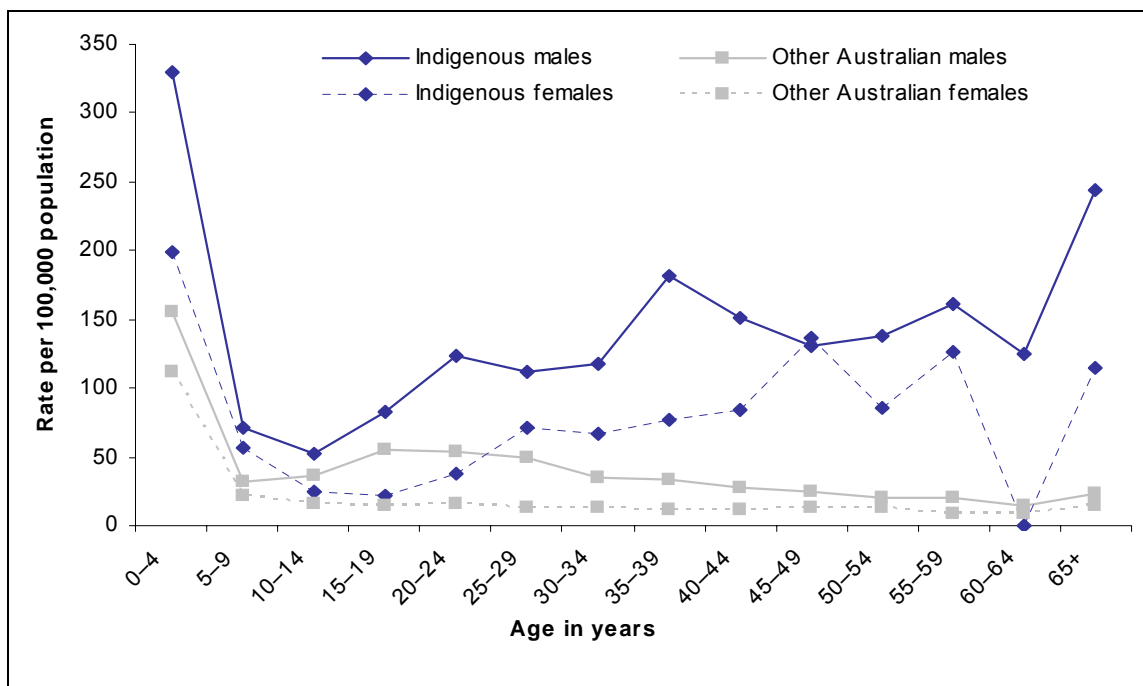


Figure 7.2: Total separations due to burns reported 2000-02, rates for Aboriginal and Torres Strait Islanders and other Australians by sex and age group; Region A

Rates of hospitalisation for children were high for both Indigenous and other Australians, but were significantly higher in the 0-4 years age group (Figure 7.3). In this age bracket, the rate for Indigenous male infants was also significantly higher than the rate for Indigenous female infants.

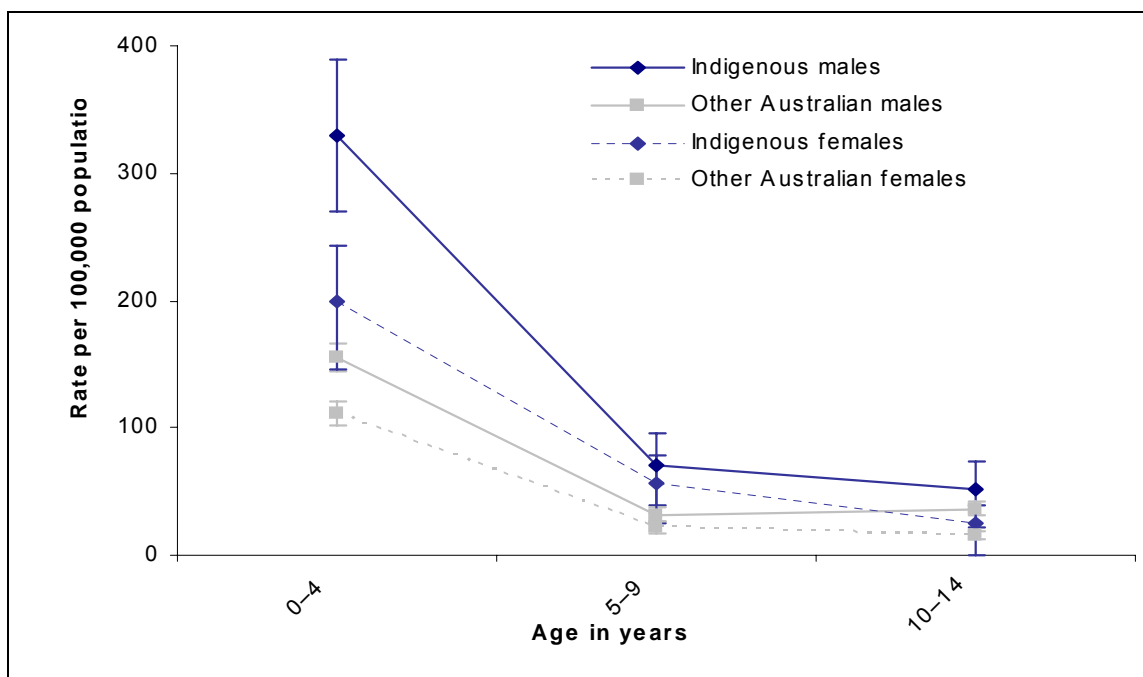


Figure 7.3: Total separations due to burns reported 2000-02, rates for Aboriginal and Torres Strait Islanders and other Australian children by sex and age group; Region A

Mechanism

Of all reported burns hospitalisations, 32% of cases were Indigenous infants aged 0–4 years. *Scalds* (combining those caused by *hot tap water* and *other hot fluids*) were responsible for a little over 50% of all burns in that age group. Only one scald case due to *steam, hot air, vapours, gases* was reported in this age group. In comparison, approximately 41% of burns for non-Indigenous infants in the 0–4 year age-group were for *Scalds from hot tap water and other hot fluids*.

Scalds accounted for about one third of all ages burns to Indigenous persons (Table 7.2). Of all scalds to Indigenous persons, 80% were caused by *Other hot fluids*, and 20% by *Hot tap water*. Approximately 41% of all ages burns to non-Indigenous persons were due to *Scalds*.

Burns to Indigenous persons sustained at *Outdoor controlled fires* (including camp fires) made up 22% of hospitalisations, with 18.5% of this burn type occurring to infants aged 0–4 years. Although there were some injuries due to ignited clothing, none were reported for *Nightwear*, and only a small number ($n=6$) were for Indigenous infants.

Of remaining all ages cases for non-Indigenous persons, 13% were reported *Involving highly flammable material*. Only 4% of all cases for non-Indigenous persons were reported as involving *Outdoor controlled fires* ($n=172$).

Table 7.2: Total separations due to burns by mechanism of injury reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Males		Females		Persons	
	Count	%	Count	%	Count	%
Uncontrolled structure/building fire	9	2.4	..	0.5	10	1.7
Outdoor uncontrolled fire	5	1.3	..	0.5	6	1.0
Controlled fire in structure/building (e.g. fireplace/wood stove)	..	0.8	..	1.4	6	1.0
Outdoor controlled fire (e.g. camp fire)	68	18.2	62	28.6	130	22.0
Exposure to ignition of highly flammable material	41	11.0	10	4.6	51	8.6
Exposure to ignition or melting of nightwear	0	0.0	0	0.0	0	0.0
Exposure to ignition or melting of other clothing	14	3.8	11	5.1	25	4.2
Exposure to other spec and unspec smoke, fire, flames	65	17.4	29	13.4	94	15.9
Contact with other hot fluids (scalds)	84	22.5	63	29.0	147	24.9
Contact with hot tap water (scalds)	24	6.4	13	6.0	37	6.3
Contact with steam, hot air, vapours, gases (scalds)	5	1.3	..	0.5	6	1.0
Contact with hot household or heating appliances	23	6.2	12	5.5	35	5.9
Exposure to other and unspecified heat and hot substances	32	8.6	11	5.1	43	7.3
Total	373^a	100	217^a	100	590	100

a Indicates total includes cases where a cell count was less than four.

Shaded areas indicate highest count and proportion of cases by mechanism of injury.

Count totals include cases resulting in death while in hospital (persons $n=4$).

Remoteness

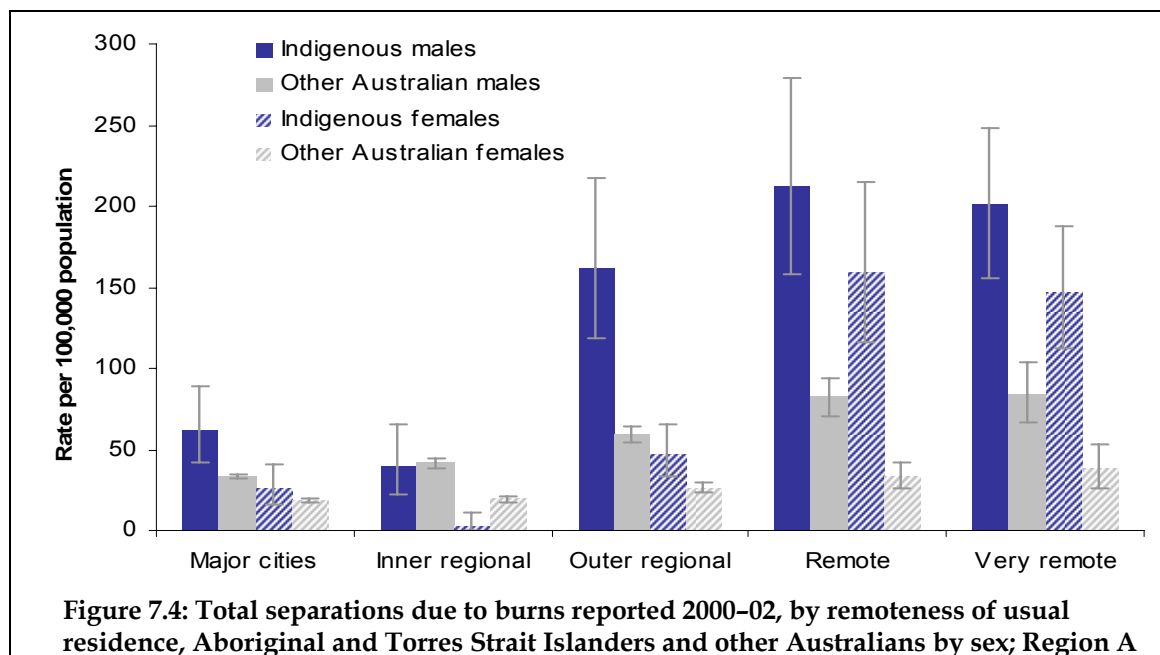
The major proportion of burns accidents occurred in the Outer regional to Very remote zones (Table 7.3). The highest case numbers were reported for males and females usually resident in the Very remote zone, most cases being burns sustained at *Outdoor controlled fires*, or involving scalds from *Hot water and other fluids* and *Flammable materials*. Case numbers were much lower in the Major cities and Inner regional zones, where the majority of cases were for injuries from scalds categories, *Hot household or heating appliances* and *Highly flammable materials*.

Table 7.3: Total separations due to burns by mechanism of injury by remoteness of usual place of residence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Outdoor/camp fire (n=130)	0	..	0	0	15	7	20	22	33	32
Involving flammable material (n=51)	6	..	..	0	8	..	8	..	17	..
Other clothing ignition or melting (n=25)	..	..	..	0	4	..	4	..	..	6
Other specified/unspecified smoke, fire, flames (n=94)	7	..	..	0	17	6	17	12	38	15
Scalds from hot water/fluids (n=184)	14	14	7	..	33	19	21	14	33	27
Hot household or heating appliances (n=35)	9	4	..	0	7	..	..	..	..	..
Other/unspecified heat and hot subs (n=43)	7	..	..	0	11	..	4	..	14	7
Total	44^a	25^a	17^a	2	95	41^a	76^a	56^a	141^a	93^a

a Indicates total includes cases where a cell count was less than four.

Rates for burns injury across all groups rose with degree of remoteness of usual place of residence (Figure 7.4). For all mechanisms of burns, rates for Indigenous males and females were highest in the Outer regional to Very remote zones. In the Remote and Very remote zones, rates for Indigenous males were about 2.5 times the rates for other Australian males. For Indigenous females, the Remote zone rate was 4.8 times, and the Very remote zone rate 3.8 times that of other Australian females. Case numbers underlying rates for Indigenous males and females were small, as indicated by the wide CIs. The rate for Indigenous males was significantly higher than all other groups in the Outer regional zone, and the rates for Indigenous males and females were significantly higher than the rates for other Australian males and females in the Remote and Very remote zones. The rates for other Australian males and females were significantly higher than the rate for Indigenous females in the Inner regional zone.



Place of occurrence

The majority of burns injuries with an identified place of occurrence were sustained at a home, with similar proportions for males and females (Table 7.4). This category has been defined in a way that includes the garden or yard of a home, so it can include some cases where a burn was sustained outdoors. There did not appear to be a relationship with likely places of work, care homes or educational institutions.

Table 7.4: Total separations due to burns by place of injury occurrence reported 2000–02, Aboriginal and Torres Strait Islander males and females; Region A

Place of occurrence	Males		Females		Persons	
	Count	%	Count	%	Count	%
Home (includes farmhouse)	153	41.0	86	39.6	239	40.5
Residential institution	..	0.5	0	0.0	..	0.3
School, other institutions & public administration area (includes hospitals)	..	0.3	..	1.4	4	0.7
Sport and athletics area	0	0.0	0	0.0	0	0.0
Street and highway	..	0.3	..	0.5	..	0.3
Trade and service area	0	0.0	0	0.0	0	0.0
Industrial and construction area	..	0.5	0	0.0	..	0.3
Farm (excludes farmhouse)	..	0.5	0	0.0	..	0.3
Other specified places	32	8.6	20	9.2	52	8.8
Unspecified place	179	48.0	104	47.9	283	48.0
No place code reported	..	0.3	..	1.4	4	0.7
All places	373^a	100	217^a	100	590^a	100

^a Indicates total includes cases where a cell count was less than four.

Shaded areas indicate three most common identified places of occurrence of injury range W00–Y34, excluding Y06, Y07.

Activity

A small number of burns were reported as occurring through involvement in *Work*, *Leisure*, or *Vital* activities. Activity at the time of injury was not specified for most cases in this group.

Table 7.5: Total separations due to burns by activity at time of injury reported 2000–02, Aboriginal and Torres Strait Islander males and females; Region A

Activity	Males		Females		Persons	
	Count	%	Count	%	Count	%
While engaged in sports activity	0	0.0	0	0.0	0	0
While engaged in leisure activity	9	2.4	..	0.9	11	1.9
While working for income	..	0.5	0	0.0	..	0.3
While engaged in other types of work	16	4.3	10	4.6	26	4.4
While resting, sleeping, eating, etc	33	8.8	16	7.4	49	8.3
While engaged in other specified activities	112	30.0	46	21.2	158	26.8
During unspecified activity	200	53.6	138	63.6	338	57.3
No activity code reported	..	0.3	5	2.3	6	1.0
All activities	373^a	100	217^a	100	590^a	100

a Indicates total includes cases where a cell count was less than four.
Includes cases having external cause codes in the range V01–Y34.

Length of stay

For Indigenous males and females, the ALOS was over one and a half times that of other Australian males and females (Table 7.6). The bed day rate for Indigenous males was nearly seven times higher, for Indigenous females over eight and a half times higher than the rates for their respective other Australian counterparts.

Table 7.6: Length of hospital stay due to burns for all ages reported 2000–02, Aboriginal and Torres Strait Islander and other Australian males and females; Region A

		Indigenous	Other Australian	Ratio
Males	bed days	3,678	15,674	
	ALOS	9.9	5.5	1.8
	adjusted bed rate	1,572	228.6	6.9
Females	bed days	1,990	7,397	
	ALOS	9.2	5.3	1.7
	adjusted bed rate	913.0	104.7	8.7
Persons	bed days	5,668	23,078	
	ALOS	9.6	5.4	1.8
	adjusted bed rate	1,234	166.6	7.4

a Sex of patient not stated for 7 bed days.

The rate of bed days for burn injuries for Indigenous male infants and young children was very high, and nearly five and a half times the rate for other Australian male infants, and ALOS was three times higher (Table 7.7). The rate for Indigenous female infants was nearly four and a half times higher than the rate for other Australian female infants. The average length of stay was nearly two and a half times higher than for other Australian female infants.

Table 7.7: Length of hospital stay due to burns for infants and young children 0–4 years reported 2000–02, Aboriginal and Torres Strait Islander and other Australian males and females; Region A

		Indigenous	Other Australian	Ratio
Male infants	bed days	1,039	2,458	
	ALOS	2.8	0.9	3.1
	adjusted bed rate	2,875.4	534.9	5.4
Female infants	bed days	599	1,719	
	ALOS	2.8	1.2	2.3
	adjusted bed rate	1,699.7	393.7	4.3
Total infants	bed days	1,638	4,177	
	ALOS	2.8	1.0	2.8
	adjusted bed rate	2,294.9	466.1	4.9

Body region

Many burns, and typically, *Scalds*, cover multiple body regions, particularly for cases involving children (Barker et al 2005). The grouping of injuries into broad body regions used in this report assigns burns to the residual category 'other injuries, body region not specified'.

8 Poisoning—pharmaceuticals

For this report, poisoning by pharmaceuticals is defined by the ICD-10-AM classification range X40–X44. This includes:

- accidental overdose, wrong drug given, taken in error or inadvertently
- accidents in the use of drugs, medicaments and biological substances in medical and surgical procedures; and
- poisoning where intent is unknown.

This does not include:

- intentional self-poisoning (classifiable to X60–X69) or intentional administration by another person to cause death or other harm (X85–X90, Y10–Y19); or
- adverse effects of properly administered drugs, medicaments or biological substances (Y40–Y59).

The grouping includes a variety of illicit, as well as pharmaceutical drugs. A full list of drugs in this range is available in Volume 3 of the ICD-10-AM.

(National Centre for Classification in Health 2000)

Overview

Indigenous females were hospitalised for the effects of poisoning at a higher rate than Indigenous males, and Indigenous males and females were hospitalised at 1.6 times the rate of admissions for other Australian males and females.

The all ages rates for Indigenous males, females and persons were significantly higher than the rates for their non-Indigenous counterparts. Hospitalisation rates for accidental poisoning were particularly high for male and female infants (0–4 years) in both the Indigenous and other Australian groups.

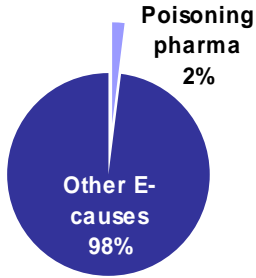
The majority (40%) of cases reported use of Antiepileptics, sedative hypnotics, antiparkinsonisms, psychotropics drugs. Analysis of patterns of type of drug use in regard to remoteness of area of residence were inconclusive, with small case numbers across categories of drug and remoteness zones. Although CIs were wide, the all ages rates for Indigenous females was significantly higher than the rates for non-Indigenous males and females in the Major cities and Outer regional zones, and higher than the rate for non-Indigenous males in the Remote zone.

Most cases of poisoning occurred in the home. The bed day rate for Indigenous males, females and persons was twice that of non-Indigenous males, females and persons.

Indigenous females were hospitalised for the effects of poisoning slightly more frequently, and at a higher rate than Indigenous males (Table 8.1). Indigenous males and females were hospitalised at 1.6 times the rate of non-Indigenous males and females. Whilst constituting a small proportion of all injury hospitalisations, poisoning effects can be potentially life threatening, and are systemic rather than contained to a specific body region. The potential exists for long term adverse effects.

Table 8.1: Aboriginal and Torres Strait Islander separations due to poisoning reported 2000–02, selected indicators; Region A

Indicators	Reported Indigenous separations				Ratios m:f
	Males	Females	Persons		
Number of separations	194	224	418		0.9
Proportion of all Indigenous injury separations in region	1.7%	2.5%	2.0%		0.7
Crude rate/100,000 population	71.9	80.7	76.2		
Age standardised (direct) rate/100,000 population ^a	67.3	75.0	70.9		0.9
Ratio of age standardised (dir) rates: Indigenous:other	1.6	1.6	1.6		



^a Rates are annual averages over the two years 2000–2002, separation numbers are two-year totals. Region A aggregates SA, NT, WA, Qld.

For all ages, rates for accidental poisoning were higher for Indigenous males, females and persons, but differences in rates were not statistically significant (Figure 8.1).

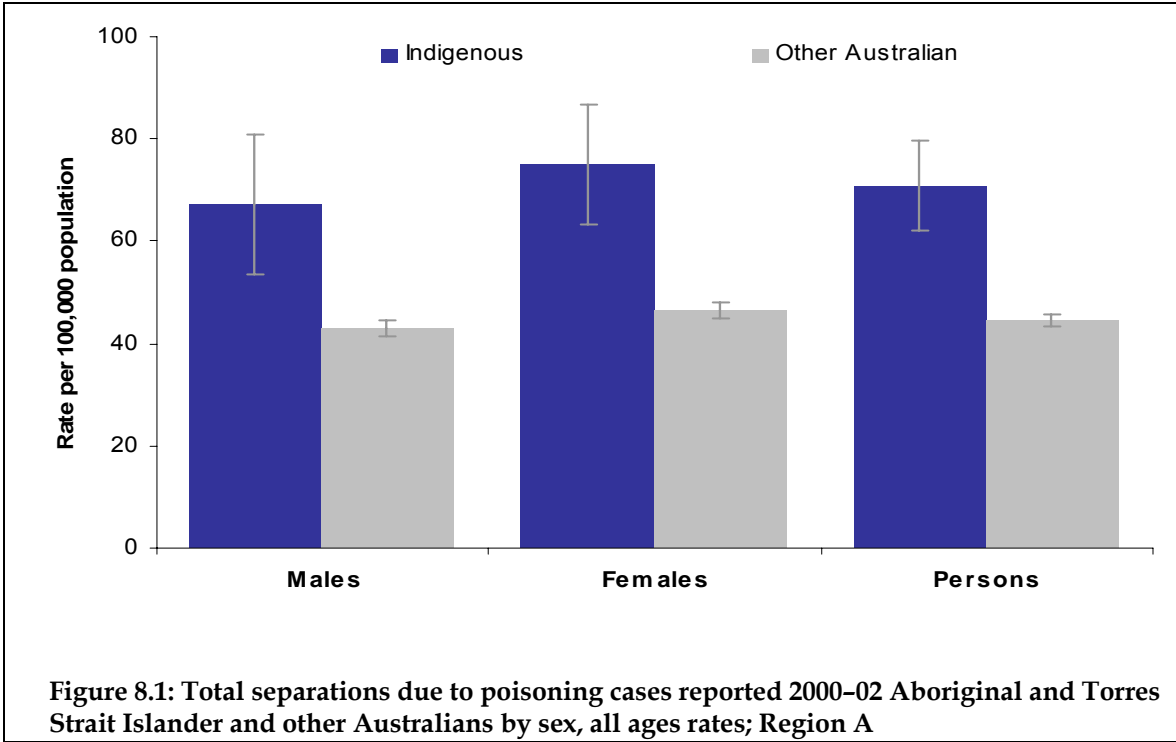
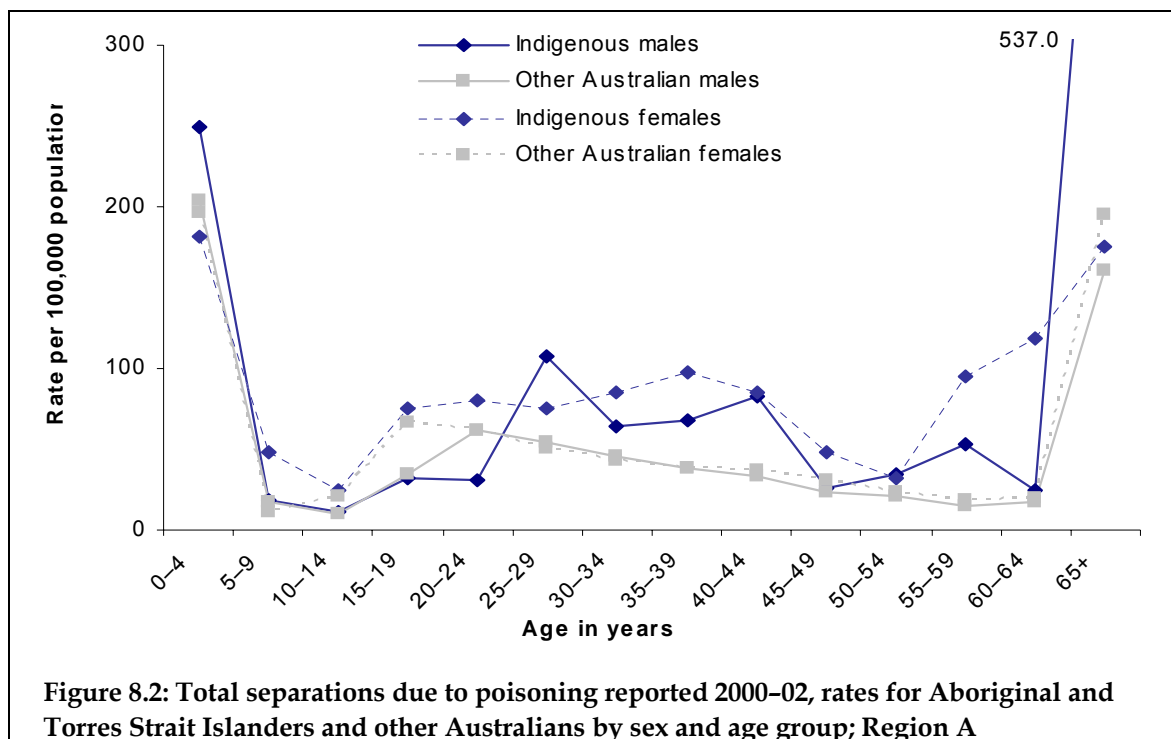


Figure 8.1: Total separations due to poisoning cases reported 2000–02 Aboriginal and Torres Strait Islander and other Australians by sex, all ages rates; Region A

Rates for both Indigenous and other Australian infants (0–4 years) were significantly higher than other rates up to age 64 years (Figure 8.2). Developmental stage, storage habits, child proof containers and degree of supervision may be factors for consideration (Kidsafe WA 2005). In the latter stages of life, the rate for Indigenous males aged 65+ was significantly higher than for Indigenous females and for other Australian males and females in that age group. This very high rate was influenced by a very small case count in the 80–84 years age bracket, and the low population denominator in that age group. Rates for Indigenous females were higher than rates for Indigenous males between 19 years and 36 years, and were higher than rates for other Australian males and females in this age range. Rates fluctuated somewhat for Indigenous males, particularly in the 60–64 year age bracket, and increased sharply at ages 65+.



Mechanism

For both Indigenous males and females, about 40% of poisoning hospitalisations were due to the effects of *Antiepileptics, sedative hypnotics, antiparkinsonisms, psychotropics* drugs. Around 17% of cases for males and females were caused by *Nonopioid analgesics, antipyretics, antirheumatic* drugs (Table 8.2).

Table 8.2: Total separations due to poisoning by mechanism of injury reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Males		Females		Persons	
	Count	%	Count	%	Count	%
Nonopioid analgesics, antipyretics, antirheumatics	32	16.5	39	17.4	71	17.0
Antiepileptics, sedative hypnotics, antiparkinsonisms, psychotropics	78	40.2	89	39.7	167	40.0
Narcotics, psychodysleptics [hallucinogens] nec	17	8.8	25	11.2	42	10.0
Other drugs acting on the autonomic nervous system	10	5.2	7	3.1	17	4.1
Other and unspecified drugs, medicaments, biological substances	57	29.4	64	28.6	121	28.9
Total	194	100	224	100	418	100

Shaded areas indicate highest count and proportion of cases by mechanism of injury.
Count totals include cases resulting in death while in hospital (persons n=4).

Case numbers over the range of categories of poison were low in each remoteness zone, and insufficient to support meaningful interpretation (Table 8.3). Overall, drug episodes were highest in the Major cities and Outer regional zones, but again, there is insufficient information to explain the differences between remoteness zones.

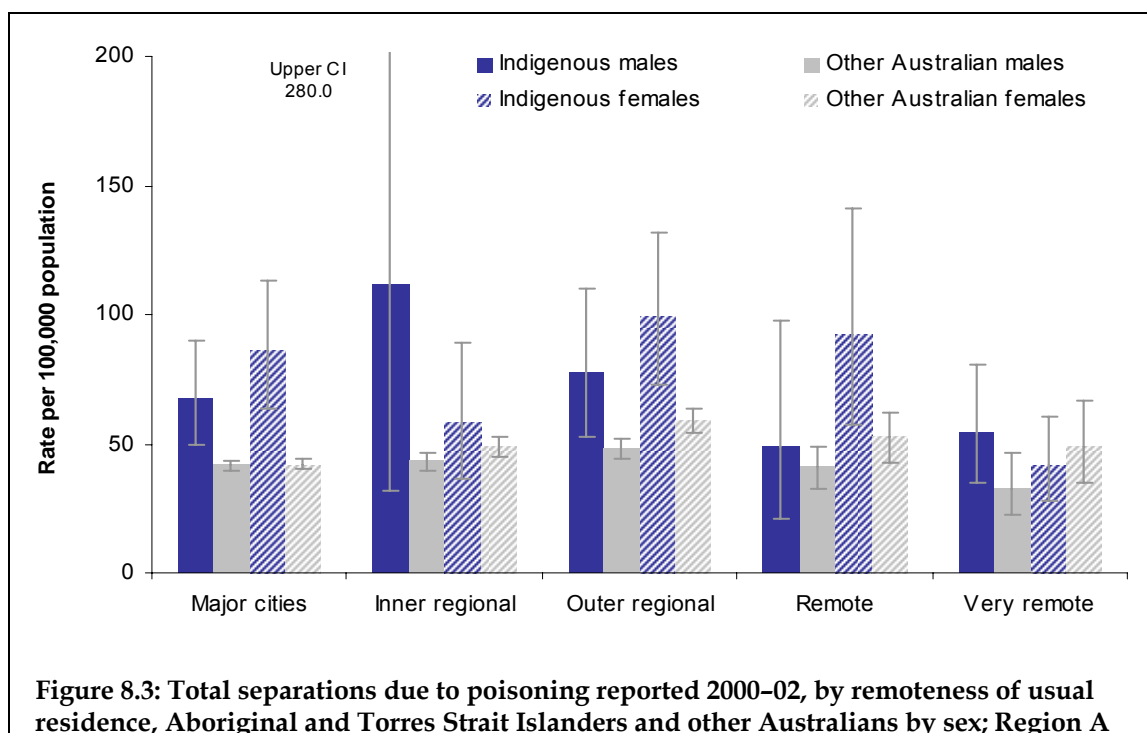
Table 8.3: Total separations due to poisoning by mechanism of injury by remoteness of usual place of residence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Mechanism of injury	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Nonopioid analgesics, antipyretics, antirheumatics	6	12	4	4	8	13	..	4	12	6
Antiepileptics, sedative hypnotics, antiparkinsonisms, psychotropics	27	28	11	12	22	24	4	16	14	9
Narcotics, psychodysleptics [hallucinogens] nec	6	14	5	..	5	8	0	..	..	0
Other drugs acting on the autonomic nervous system	..	..	..	..	5	..	..	..	..	..
Other and unspecified drugs, medicaments, biological substances	17	11	5	6	12	18	8	10	15	19
Total	57^a	66^a	26^a	25^a	52	65^a	16^a	32^a	43^a	36^a

a Indicates total includes cases where a cell count was less than four.
Count totals include cases resulting in death while in hospital (persons n=4).

Remoteness

With low case counts ranging from $n=16$ to $n=66$, CIs for Indigenous males and females were wide (Figure 8.3). However, the pattern of rates was higher for Indigenous males and females than for other Australian males and females up to the Very remote zone, where the rate for other Australian females was higher than that for Indigenous females, but not significantly so. Significant differences in rates were observed in the Major cities and Outer regional zones, where the rate for Indigenous females was significantly higher than the rates for other Australian males and females, and the Remote zone, where the rate for Indigenous females was significantly higher than the rate for other Australian males.



Place of occurrence

The majority of unintentional poisonings occurred within the *Home* (Table 8.4). In comparison, very few cases were recorded in *Residential institutions*.

Table 8.4: Total separations due to poisoning by place of injury occurrence reported 2000–02, Aboriginal and Torres Strait Islanders by sex; Region A

Place of occurrence	Males		Females		Persons	
	Count	%	Count	%	Count	%
Home (includes farmhouse)	114	58.8	123	54.9	237	56.7
Residential institution	..	1.5	..	1.3	6	1.4
School, other institutions & public administration area (inc hospitals)	..	1.5	7	3.1	10	2.4
Sport and athletics area	..	0.5	0	0.0	..	0.2
Street and highway	..	0.5	..	0.4	..	0.5
Trade and service area	..	1.5	0	0.0	..	0.7
Industrial and construction area	0	0.0	..	0.4	..	0.2
Farm (excludes farmhouse)	0	0.0	0	0.0	0	0.0
Other specified places	7	3.6	..	1.3	10	2.4
Unspecified place	57	29.4	85	37.9	142	34.0
No place code reported	5	2.6	..	0.4	6	1.4
All places	194^a	100	224^a	100	418^a	100

a Indicates total includes cases where a cell count was less than four.

Shaded areas indicate three most common identified places of occurrence of injury.

Range W00–Y34, excluding Y06, Y07.

Activity

Data relating to activity at time of accidental poisoning does not offer helpful insight into this external cause, as most cases (93%) were not coded to a specified Activity. A small number of cases were noted as vital activities (While resting, sleeping, eating etc), and even fewer were coded to Leisure activities.

Length of stay

For all ages, there was no substantial difference in ALOS between Indigenous and other Australian males and females (Table 8.5). The bed day rate for Indigenous men and women was twice that for other Australian men and women.

Table 8.5: Length of hospital stay due to poisoning for all ages reported 2000–02, Aboriginal and Torres Strait Islander and other Australians by sex; Region A

		Indigenous	Other Australian	Ratio
Males	bed days	425	6,349	
	ALOS	2.2	2.1	1.0
	adjusted bed rate	187.7	94.2	2.0
Females	bed days	404	6,664	
	ALOS	1.8	2.1	0.9
	adjusted bed rate	184.5	92.9	2.0
Persons	bed days	829	13,013	
	ALOS	2.0	2.1	0.9
	adjusted bed rate	185.4	94.2	2.0

While the rate of poisoning for Indigenous male infants (0–4) was significantly higher than for all other infants in that age group (Figure 8.2), ALOS was only slightly higher than for the other groups (Table 8.6). The bed day rate was 1.4 times higher for Indigenous children than for other Australian infants.

Table 8.6: Length of hospital stay due to poisoning for children 0–4 years reported 2000–02, Aboriginal and Torres Strait Islander and other Australians by sex; Region A

		Indigenous	Other Australian	Ratio
Male infants	bed days	116	993	
	ALOS	1.3	1.1	1.2
	adjusted bed rate	321.0	216.1	1.5
Female infants	bed days	75	902	
	ALOS	1.2	1.1	1.1
	adjusted bed rate	212.8	206.6	1.0
All infants	bed days	191	1,895	
	ALOS	1.2	1.1	1.1
	adjusted bed rate	267.6	211.5	1.3

Body region

The effects of poisoning are most likely to be systemic, and are generally not confined to a particular body region.

9 Appendices

Table A9.1: Separations due to injury and poisoning, Aboriginal and Torres Strait Islander Australians and other Australians by sex; Australia 2000–02

Indicator	Indigenous Males	Other Males	Indigenous Females	Other Females	Indigenous Persons	Other Persons	Total seps
All causes hospital separations ^d	157,755	5,661,567	210,652	6,502,692	368,485 ^a	12,164,408 ^b	12,532,896 ^c
Hospital separations due to injury ^e	15,816	379,837	11,981	266,199	27,800 ^f	646,044 ^g	673,844 ^h
Injury separations as % of all separations	10.0	6.7	6.7	4.1	7.5	5.3	5.4
Injury separations crude rate per 100,000 population	3,475.6	2,019.7	2,593.4	1,393.5	3,031.5	1,704.2	
Injury seps age-standardised rate per 100,000 population	3,609.4	2,048.2	2,757.8	1,319.7	3,179.3	1,702.2	

a Includes 78 separations for which sex was not reported

c Includes 227 separations for which sex was not reported

e Total cases includes adverse effects and sequelae cases.

g Includes 8 separations for which sex was not reported.

b Includes 149 separations for which sex was not reported.

d Australian Institute of Health and Welfare 2002.

f Includes 3 separations for which sex was not reported.

h Includes 11 separations for which sex was not reported.

Table A9.2: Aboriginal and Torres Strait Islander separations due to all external causes reported 2000–02, selected indicators; Region B

Indicators	Reported Indigenous separations				Ratio m:f	All reported external cause separations
	Males	Females	Persons			
Number of separations	3,972	2,775	6,749 ^b		1.4	<p>Indigenous 1.7%</p> <p>non-Indigenous 98.3%</p>
Proportion of all hospital separations in Region B	c	c				
Crude rate/100,000 population	2,160.7	1,506.3	1,833.7			
Age standardised (direct) rate/100,000 population ^a	2,221.4	1,657.8	1,945.6		1.3	
Ratio of age standardised (dir) rates: Indigenous:other	1.2	1.3	1.2			

a Rates are annual averages over the two years 2000–2002, separation numbers are two-year totals.

b Includes 2 cases sex not reported.

c Derived from separations data, case numbers available for persons only (Australian Institute of Health and Welfare (AIHW) 2002).

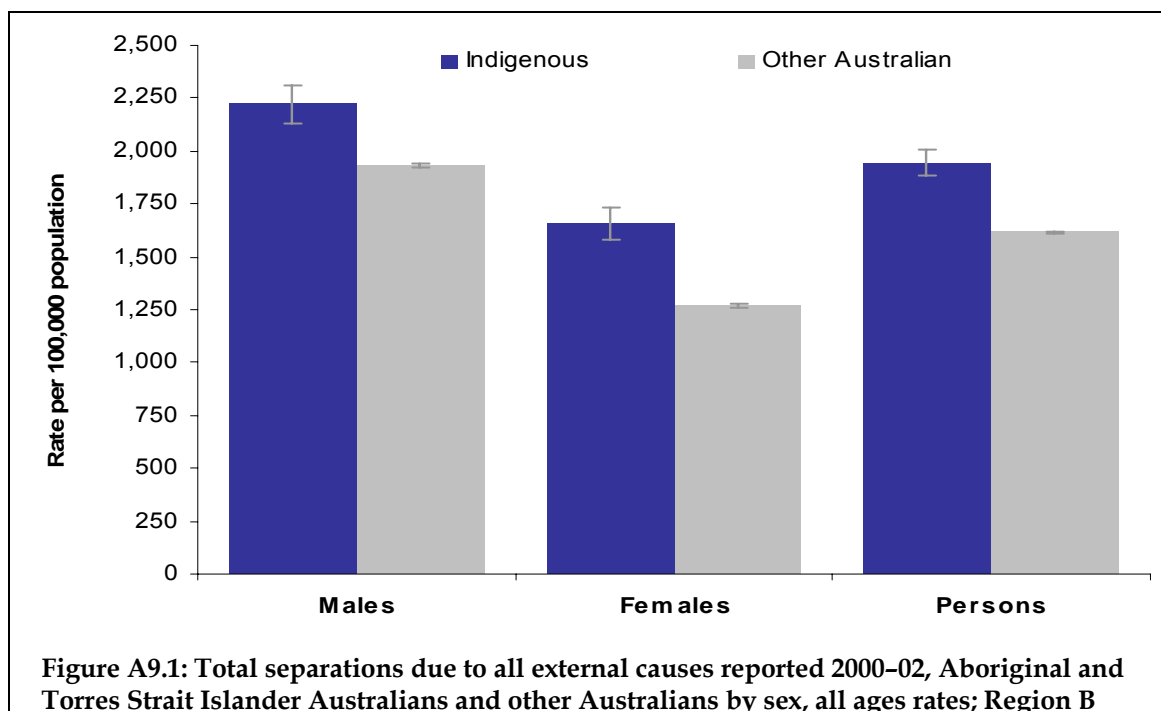
Region B comprises NSW, Vic, the ACT and Tas.

Table A9.3: Separations due to injury and poisoning, Aboriginal, Torres Strait Islander and Aboriginal and Torres Strait Islander Australians, cases by sex; Region B 2000-02

Hospital separations due to injury and poisoning [†]	Males	Females	Persons	Person injury proportion of all Indigenous separations
Aboriginal	3,801	2,688	6,491	7.3%
Torres Strait Islander	71	32	103	0.1%
Aboriginal and Torres Strait Islander	100	55	155	0.2%
Total cases	3,972	2,775	6,749^b	7.6%
All Indigenous hospital separations ^a			90,133	

a Australian Institute of Health and Welfare 2002.

b Includes 2 separations for which sex was not reported.



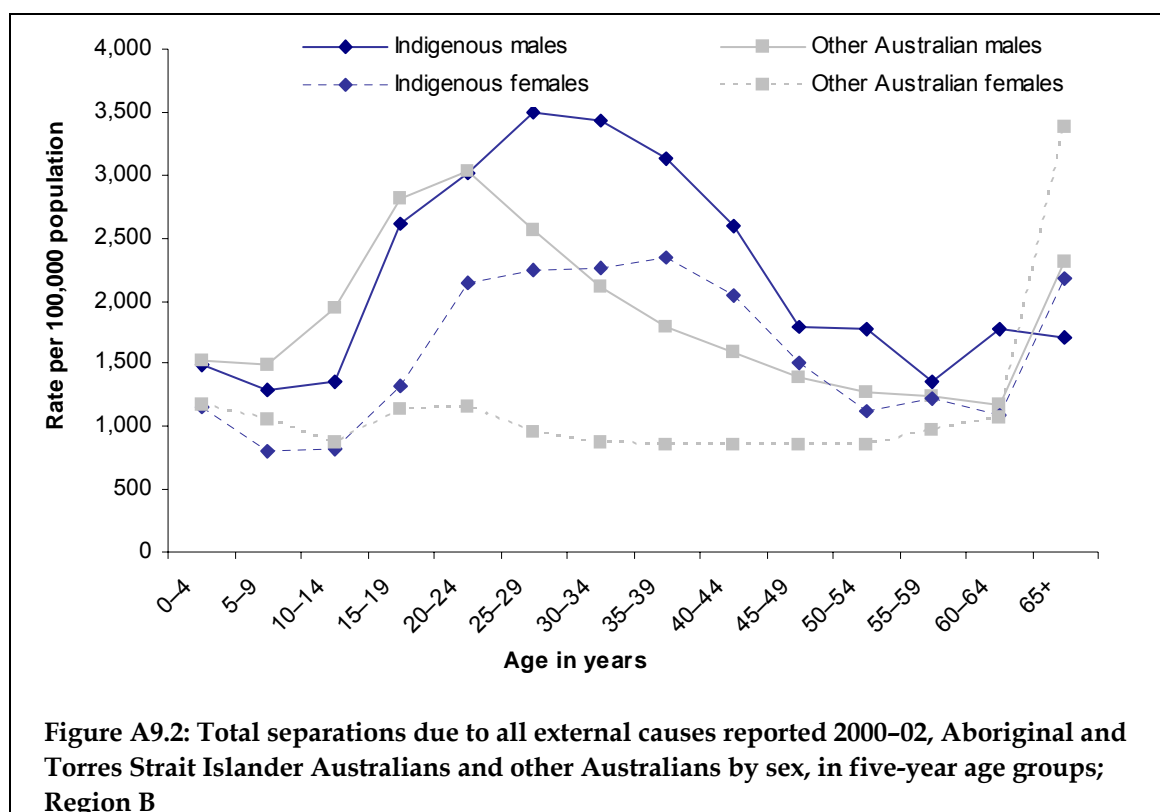


Table A9.4: Separations reported as being of Aboriginal or Torres Strait Islander persons; Region B; 2000-02: case counts, proportion of cases and rate ratios by external cause

External cause	Cases	Proportion of all External causes	Proportion resulted in death	Indigenous:other rate ratio
Assault	1,463	21.7%	0.07%	4.9
Falls	1,475	21.9%	0.01%	0.9
Transport	776	11.5%	0.6%	0.8
Self-harm	678	10.0%	1.5%	1.8
Burns	180	2.7%	1.7%	1.6
Poisoning	243	3.6%	0.8%	1.6

Table A9.5: Separations reported as being of Aboriginal or Torres Strait Islander persons; Region B; 2000–02: case counts, rates and rate ratios by type of external cause and sex

External cause of injury	Males			Females			Persons		
	Count	Rate	Ratio	Count	Rate	Ratio	Count	Rate	Ratio
Unintentional injury									
Transport	521	243.4	0.8	255	134.7	0.9	776	188.8	0.8
Drowning	6	2.2	0.7	3	0.8	0.8	9	1.5	0.7
Poisoning-pharmaceuticals	103	53.3	1.4	140	67.8	1.7	243	60.4	1.6
Poisoning-other substances	41	20.4	1.3	32	14.7	1.6	73	17.5	1.4
Falls	877	557.8	1.0	598	490.1	0.8	1,475	534.0	0.9
Fire, burns, scalds	111	45.3	1.5	69	29.1	1.8	180	37.1	1.6
Other unintentional	1,191	646.4	0.9	561	288.2	1.0	1,754 ^a	463.9	0.9
Other injury									
Intentional self harm	263	151.1	1.7	415	240.6	1.8	678	196.3	1.8
Intentional, inflicted by other (Assault)	802	470.4	3.4	661	367.2	11.9	1,463	418.2	4.9
Intentional injury-undetermined intent	57	31.3	2.4	41	24.5	1.6	98	27.8	1.9
Total external causes	3,972	2,221.4	1.2	2,775	1,657.8	1.3	6,749^a	1,945.6	1.2

Annual average rates per 100,000 population, age-standardised (direct method).

Ratio of age-standardised rate for Indigenous separations to the equivalent rate for separations recorded as not Indigenous.

Shaded areas indicate three highest rates for specified injury (i.e. excludes 'Other unintentional injury').

^a Includes 2 cases where sex was not reported.

Region B aggregates NSW, Vic, the ACT and Tas.

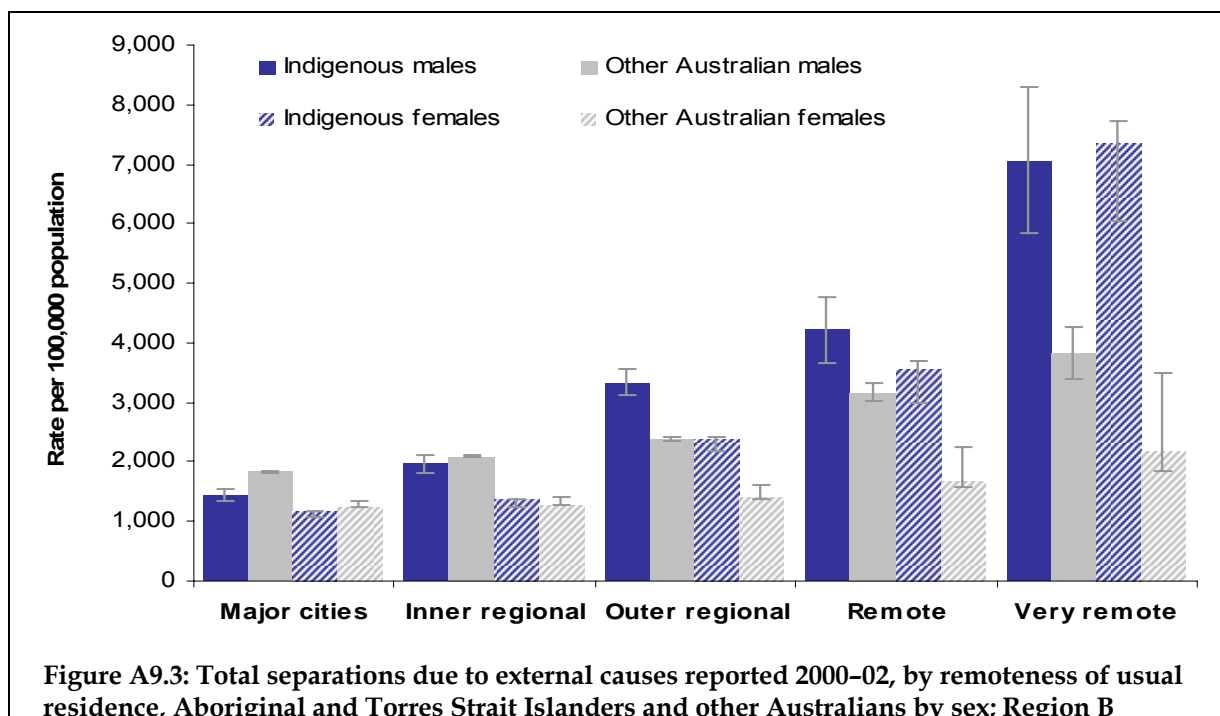


Table A9.6: Place of occurrence of injury hospitalisations from external causes: case counts and proportions for Torres Strait Islander Australians by sex; Region B, 2000–02

Place of occurrence	Males		Females		Persons	
	Count	%	Count	%	Count	%
Home (includes farmhouse)	943	23.7	1,076	38.8	2,019	29.9
Residential institution	56	1.4	25	0.9	81	1.2
School, other institutions & public administration area including hospitals	98	2.5	53	1.9	151	2.2
Sport and athletics area	234	5.9	45	1.6	279	4.1
Street and highway	429	10.8	241	8.7	670	9.9
Trade and service area	104	2.6	48	1.7	152	2.3
Industrial and construction area	48	1.2	7	0.3	55	0.8
Farm (excludes farmhouse)	41	1.0	8	0.3	49	0.7
Other specified places	194	4.9	89	3.2	283	4.2
Unspecified place	1,750	44.1	1,108	39.9	2,858	42.4
No place code reported	75	1.9	75	2.7	152 ^a	2.2
All places	3,972	100	2,775	100	6,749^a	100

Shaded areas indicate three most common identified places of occurrence of injury.

Range W00–Y34, excluding Y06, Y07.

^a Includes 2 cases, sex not stated.

Table A9.7: Activity reported for injury hospitalisations from external causes: case counts and proportions for Aboriginal and Torres Strait Islander Australians by sex; Region B 2000–02

Activity	Males		Females		Persons	
	Count	%	Count	%	Count	%
While engaged in sports activity	262	6.6	62	2.2	324	4.8
While engaged in leisure activity	148	3.7	86	3.1	234	3.5
While working for income	82	2.1	17	0.6	99	1.5
While engaged in other types of work	43	1.1	21	0.8	64	0.9
While resting, sleeping, eating, etc	68	1.7	57	2.1	125	1.9
While engaged in other specified activities	663	16.7	499	18.0	1,162	17.2
During unspecified activity	1,705	42.9	1,281	46.2	2,986	44.2
No activity code reported	1,001	25.2	752	27.1	1,755 ^a	26.0
All activities	3,972	100	2,775	100	6,749^a	100

Includes cases having external cause codes in the range V01–Y34.

^a Includes 2 cases, sex not stated.

Table A9.8: Length of hospital stay due to all external causes for all ages reported 2000-02 Aboriginal and Torres Strait Islanders by sex; Region B

		Indigenous	Other	Ratio
Males	bed days	11,320	766,220	
	ALOS	2.9	4.0	0.7
	adjusted bed rate	7,913.9	6,865.7	1.2
Females	bed days	7,275	855,261	
	ALOS	2.6	5.2	0.5
	adjusted bed rate	5,616.6	6,016.1	0.9
Persons	bed days	18,598 ^a	1,621,485 ^b	
	ALOS	2.8	4.2	0.7
	adjusted bed rate	6,739.7	6,622.0	1.0

a Sex of patient not stated for 3 bed days.

b Sex of patient not stated for 4 bed days.

Table A9.9: Injury hospitalisations: case counts and proportions for Aboriginal and Torres Strait Islander Australians by body region and sex; Region B 2000-02

Principal diagnosis by body region	Males		Females		Persons	
	Count	Per cent	Count	Per cent	Count	Per cent
Head	1,137	28.6	741	26.7	1,879	27.8
Trunk (neck, thorax, abdomen, lower back, lumbar spine and pelvis)	392	9.9	271	9.8	664	9.8
Shoulder and upper limb	1,166	29.4	564	20.3	1,730	25.6
Hip and lower limb	594	15.0	378	13.6	972	14.4
Other injuries not specified by body region	683	17.2	821	29.6	1,504	22.3
All body regions	3,972	100	2,775	100	6,749^a	100

a Includes 2 cases sex not stated.

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