

**Injury of Aboriginal and Torres Strait
Islander people due to transport,
2001–02 to 2005–06**

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Injury of Aboriginal and Torres Strait Islander people due to transport, 2001–02 to 2005–06

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and

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Executive summary

This publication provides a summary of injury, both fatal and non-fatal, of Indigenous people in Northern Territory, Western Australia, South Australia and Queensland due to land transport accidents in the five-year period 2001–02 to 2005–06. Sixty per cent of the Indigenous population of Australia and 38% of the total Australian population reside in these four jurisdictions. The main findings of the report are presented below.

All transport injury

- Transport accidents accounted for over a quarter (28%) of Indigenous deaths and 9% of Indigenous persons admitted to hospital (seriously injured) due to all external causes of injury. Transport accidents accounted for 24% of non-Indigenous deaths and 12% of non-Indigenous persons seriously injured due to all external causes of injury.
- On a population basis, Indigenous persons had an age-standardised rate of fatal injury due to transport accidents that was 2.9 times as high as non-Indigenous persons (30 compared to 10 per 100,000 population).
- Indigenous persons had an age-standardised rate of serious injury due to transport accidents that was 1.4 times as high as non-Indigenous persons (346 compared to 256 per 100,000 population).
- More than half (55%) of Indigenous persons fatally injured in a transport accident were car occupants. Similarly, 55% of non-Indigenous persons fatally injured were car occupants. However, there were significant differences for other modes of transport:
 - 34% of Indigenous persons were pedestrians compared with 12% of non-Indigenous persons;
 - 2% of Indigenous persons were motorcyclists compared with 14% of non-Indigenous persons.
- Among persons seriously injured in transport accidents, there were also significant differences in the mode of transport according to Indigenous status:
 - 47% of Indigenous persons were car occupants compared with 33% of non-Indigenous persons;
 - 16% of Indigenous persons were pedestrians compared with 6% of non-Indigenous persons;
 - 9% of Indigenous persons were motorcyclists compared with 26% of non-Indigenous persons.
- Two-thirds of Indigenous transport-related fatalities (66%) and serious injury cases (68%) were male. Four-fifths of non-Indigenous fatalities (70%) and serious injury cases (71%) were male.
- Accidents involving road vehicles accounted for almost all transport-related injury among Indigenous persons (99% of fatal injury and 99% of serious injury) and most transport-related injury among non-Indigenous persons (94% of fatal injury and 97% of serious injury) in this period.

Land transport

Focusing on land transport accidents, i.e. those involving road vehicles but also including the smaller number involving trains, it was observed that:

- There were 3.0 times more fatalities and 1.4 times more hospitalisations due to land transport accidents among Indigenous persons compared to non-Indigenous persons (based on age-standardised rates).
- Fatal and serious injury rates, on an age-specific population basis, for non-Indigenous males and females were highest for the 15–19 and 20–24 year age groups, declining thereafter until the 60+ age groups. For Indigenous males and females, on the other hand, fatal and serious injury rates rose in early adulthood and remained elevated through middle age.
- There were 3.1 times more fatalities and 2.5 times more hospitalisations among Indigenous children aged 0–4 years compared to their non-Indigenous counterparts.
- The three most common mechanisms accounting for 68% of fatalities and 56% of persons seriously injured in Indigenous land transport crashes were 1) a car occupant injured in a non-collision transport accident (26% of deaths and 26% of hospitalisations), 2) a pedestrian injured in a collision with a car, pick-up truck or van (25% of deaths and 13% of hospitalisations), and 3) a car occupant injured in a collision of the car with a fixed or stationary object (17% of deaths and 9% of hospitalisations).
- The incidence (age-standardised) of car occupant deaths was 2.8 times as high for Indigenous persons as for non-Indigenous persons (16 compared to 6 per 100,000) and 2.1 times as high for hospitalisations (177 compared to 84 per 100,000). A higher proportion of car passengers relative to car drivers were killed or hospitalised among Indigenous persons, whereas the inverse was observed for non-Indigenous people.
- The incidence of pedestrians being killed was 9.3 times as high for Indigenous persons as for non-Indigenous pedestrians (11 compared to 1 per 100,000) and 3.9 times as high for hospitalisations (61 compared to 16 per 100,000).
- Age-standardised rates of fatal and serious injury increased according to remoteness of usual residence from an urban centre for both Indigenous and non-Indigenous persons. Three-quarters of Indigenous persons fatally (75%) and seriously (74%) injured in land transport accidents resided in outer regional, remote or very remote areas. By contrast, over two-thirds of non-Indigenous persons fatally (69%) and seriously injured (69%) resided in major cities or inner regional areas.
- Most Indigenous (90%) and non-Indigenous (91%) land transport fatalities occurred in traffic conditions (i.e. on a public road). Taking into account the Indigenous and non-Indigenous populations in each of the remoteness areas, Indigenous persons living in major cities and inner regional areas had fatality rates that were 2.3 times and 1.9 times greater, respectively, than for non-Indigenous persons. In outer regional Australia, the fatality rates were similar. In remote and very remote areas, the fatality rates for Indigenous persons were 2.5 times and 2.3 times greater, respectively, than for non-Indigenous persons.
- Two-thirds of Indigenous serious injury cases (65%) and more than half (57%) of non-Indigenous serious injury cases occurred on a public road. Indigenous persons living in major cities had serious injury rates that were 1.2 times greater than for non-Indigenous persons. In inner regional Australia, the serious injury rates were similar. Non-Indigenous persons had higher rates of serious injury than Indigenous persons in outer regional Australia, (1.3 times), remote areas (1.1 times) and in very remote areas (1.3 times). This latter observation is largely due to the fact that non-Indigenous persons had higher rates of serious injury in land transport accidents in non-traffic conditions, many of them off-road motorcycle accidents, and both traffic and non-traffic motorcyclist serious injury rates for non-Indigenous persons increased according to remoteness of usual residence from an urban centre.

- The higher proportion of car passengers relative to car drivers being killed or seriously injured among Indigenous persons, suggests a higher average number of passengers per vehicle compared to non-Indigenous persons, resulting in more persons injured per crash. National surveys have determined that Indigenous people are more likely than non-Indigenous people to have difficulty getting to places, due to a lack of access to a motor vehicle or public transport, and that the Indigenous households most likely to be without a vehicle were those in remote and very remote areas.

Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographical Classification
ATSB	Australian Transport Safety Bureau
GISCA	National Key Centre for Social Applications of Geographic Information Systems
ICD	International Classification of Diseases
ICD-10	International Classification of Diseases, 10th Revision
ICD-10-AM	International Classification of Diseases, 10th Revision, Australian Modification
NISU	National Injury Surveillance Unit
NCIS	National Coroners Information System
NHMD	National Hospital Morbidity Database
NT	Northern Territory
MFCD	Monthly Fatality Crash Database
Qld	Queensland
SA	South Australia
SLA	Statistical Local Area
UCoD	Underlying Cause of Death
WA	Western Australia

1 Introduction

Transport accidents are a leading cause of injury, both fatal and non-fatal. The primary purpose of this publication is to provide a broad overview of mortality and morbidity among Aboriginal and Torres Strait Islander people involved in transport accidents in Australia in 2001–02 to 2005–06. For the purpose of brevity, Aboriginal and Torres Strait Islander people will be referred to as Indigenous people throughout the report, except when quoting other publications.

The geographic scope of this report is the four jurisdictions, the Northern Territory, Western Australia, South Australia and Queensland. This is because identification of Indigenous cases in the data sources used for this project is considered to be of acceptable quality for these jurisdictions (see Data Issues 'Ascertainment of Indigenous Status', p. 43).

Due to small case numbers, transport accident data for these jurisdictions have been combined for a five-year observational period from 2001–02 to 2005–06 (Table 1.1). The data are likely to underestimate the actual mortality and morbidity burden of Indigenous people, due to the less than complete identification of Indigenous people in hospital and deaths data collections.

Under-ascertainment of Indigenous status will necessarily mean over-estimating non-Indigenous deaths and hospitalisations. This is because some people who could correctly be recorded as Aboriginal and Torres Strait Islander will in fact be recorded as non-Indigenous or Indigenous status 'not stated'.

Table 1.1: Transport injury by Indigenous status; NT, WA, SA and Qld, 2001–02 to 2005–06

Case numbers	Indigenous	Non-Indigenous*	Total
Deaths	348	3,530	3,878
Persons seriously injured†	4,991	89,247	94,238

* The terms 'non-Indigenous' used throughout the report refers to a combined category of persons identified as non-Indigenous and persons for whom Indigenous or non-Indigenous status has not been stated (deaths n=106, serious injury n=3,364).

† In this report 'seriously injured' means admitted to hospital due to injury (see Data Issues 'Serious injury', p. 41).

2 Injury of Indigenous people due to transport, 2001–02 to 2005–06

Transport injury comprises fatal and non-fatal injury due to road transport, railway, water and air transport. Road and rail transport includes traffic (occurring on a public road), non-traffic and unspecified as to whether traffic or non-traffic. This definition of transport injury excludes injury recorded as being due to intentional self harm, assault or undetermined intent.

From 2001–02 to 2005–06, transport was the second leading cause of fatal injury for Indigenous people (28.5%) and non-Indigenous people (24.2%) in the study area. Suicide was the leading cause of fatal injury for Indigenous (29.5%) and non-Indigenous (29.0%) people in the study area (Table 2.1).

From 2001–02 to 2005–06, the four leading causes^(a) of serious injury for Indigenous people were assault (31.3%), fall injuries (15.1%), complications of surgical and medical care (10.2%) and transport (8.4%), whereas for non-Indigenous people, transport was ranked third^(a) (11.9%) after falls (27.3%) and complications of surgical and medical care (17.8%).

Transport accidents accounted for 8.9% of all injury hospital separations for Indigenous people and 12.4% for non-Indigenous people. The number of persons seriously injured is shown in Table 2.1 and is estimated by omitting inward transfers from one hospital to another. On a population basis, Indigenous persons had 2.9 times the rate of fatal injury in transport accidents and 1.4 times the rate of serious injury compared to non-Indigenous persons.

There were 27,740 total patient days for Indigenous people and 434,952 total patient days for non-Indigenous people due to transport accidents. From 2001–02 to 2005–06 in the four jurisdictions, there were 208,510 injury-related Indigenous patient days in hospital, with a mean length of stay of 3.5. Transport injury accounted for 13% (n=27,740) of these patient days, with a mean length of stay of 5.6 days. There were 3,268,464 injury-related non-Indigenous patient days in hospital for the same period, with a mean length of stay of 4.4. Transport injury accounted for 13% (n=434,952) of these patient days, with a mean length of stay of 4.9 days.

(a) Other unintentional injury was not included in the ranking, as it comprised a diverse group of injury types that did not fit within the other specified injury groupings.

Table 2.1: Fatal injury and serious injury due to external causes of injury and poisoning; NT, WA, SA and Qld, 2001–02 to 2005–06

External cause of injury	Fatally injured*						Seriously injured† (b)					
	Indigenous			Non-Indigenous			Indigenous			Non-Indigenous		
	Count	Per cent	Rate‡	Count	Per cent	Rate‡	Count	Per cent	Rate‡	Count	Per cent	Rate‡
Unintentional												
Transportation	348	28.5	29.5	3,530	24.2	10.1	4,991 (c)	8.4	346.2	89,247	11.9	256.1
Drowning & immersion	42	3.4	3.3	388	2.7	1.1	69	0.1	2.9	835	0.1	2.4
Poisoning, pharmaceuticals	41	3.4	3.3	881	6.1	2.5	979	1.6	69.0	13,856	1.8	40.1
Poisoning, other substances	16	1.3	1.3	143	1.0	0.4	390	0.7	26.7	6,180	0.8	17.9
Falls	60	4.9	13.0	2,701	18.6	7.9	8,999	15.1	814.3	204,812	27.3	594.8
Fires/burns/scalds	23	1.9	2.7	157	1.1	0.5	1,380	2.3	98.5	10,565	1.4	30.5
Other unintentional (d)	176	14.4	16.4	1,577	10.8	4.6	14,206	23.8	1,023.7	215,551	28.7	619.1
Intentional												
Self inflicted	361	29.5	25.5	4,219	29.0	12.1	3,179	5.3	237.6	41,260	5.5	118.0
Assault	125	10.2	9.5	369	2.5	1.1	18,683	31.3	1,444.5	29,805	4.0	85.5
Undetermined intent	13	1.1	1.1	178	1.2	0.5	682	1.1	53.1	4,087	0.5	11.7
Complications of surg & med care												
No external cause	18	1.5	4.1	417	2.9	1.2	6,072	10.2	738.2	133,346	17.8	383.8
	0	0.0	0.0	0	0.0	0	101	0.2	9.2	561	0.1	1.6
Total	1,223	100.0	109.8	14,560	100.0	42.0	59,731	100.0	4,863.9	750,105	100.0	2,161.5

Note:

(b) The number of persons seriously injured is estimated by omitting inward transfers from one hospital to another.

(c) In total, there were 106,412 admissions (5,760 Indigenous and 100,652 non-Indigenous) to hospital for transport injury for an estimated 94,882 people (5,026 Indigenous and 89,856 non-Indigenous), of whom 644 persons (35 Indigenous) died while in hospital (0.7%). These deaths are represented in the national mortality data collection and thus are omitted from the seriously injured counts in Table 3.1 and throughout the report.

(d) Other unintentional injury was not included in the ranking, as it comprised a heterogeneous group of injury types that did not fit within the other specified injury groupings.

* Cases are five-year totals for 2001–02 to 2005–06, for which an 'external cause' was coded as the Underlying Cause of Death, with ICD-10 External Causes codes aggregated as in (Henley et al. 2007).

† Cases are five-year totals for 2001–02 to 2005–06, for which the Principal Diagnosis was coded to ICD-10-AM S00–T98 and the first reported ICD-10-AM External Cause codes were aggregated as in (Berry & Harrison 2007).

‡ Rates are averages of annual rates over the five years 2001–02 to 2005–06, expressed as per 100,000 population, and adjusted by direct standardisation to the Australian population in June 2001.

In 2001–02 to 2005–06, 54.6% of Indigenous persons fatally injured in a transport accident were occupants of a car. Another 34% were pedestrians and only 2% were motorcyclists (Table 2.2). For non-Indigenous persons fatally injured in a transport accident, 55% were car occupants, 14% were motorcyclists and 12% were pedestrians.

Of Indigenous persons seriously injured in a transport accident, 47% were occupants of a car. Another 16% were pedestrians, 15% were pedal cyclists and 9% were motorcyclists (Table 2.3). The profile for non-Indigenous persons showed some differences for serious injury; 33% of non-Indigenous persons were occupants of a car, 26% were motorcyclists, 17% were pedal cyclists, 7% were animal riders or occupants of an animal-drawn vehicle and 6% were pedestrians.

Table 2.2: Mode of transport for fatal injury; NT, WA, SA and Qld, 2001–02 to 2005–06

Fatally injured person	Indigenous			Non-Indigenous			Rate Ratio: Indig: non-Indig [†]
	Count	Per cent	Rate [‡]	Count	Per cent	Rate [‡]	
Car occupant	190	54.6	15.9	1,950	55.2	5.6	2.8
traffic	177	50.9	15.1	1,917	54.3	5.5	2.7
non-traffic	9	2.6	0.5	29	0.8	0.1	6.5
Motorcyclist	8	2.3	0.6	500	14.2	1.4	0.4
traffic	7	2.0	0.5	449	12.7	1.3	0.4
non-traffic	0	0.0	0.0	50	1.4	0.1	0.0
Pedal cyclist	5	1.4	0.2	75	2.1	0.2	1.1
traffic	5	1.4	0.2	72	2.0	0.2	1.1
non-traffic	0	0.0	0.0	*	*	*	0.0
Pedestrian	117	33.6	10.9	408	11.6	1.2	9.3
traffic	99	28.4	9.2	323	9.2	0.9	9.9
non-traffic	15	4.3	1.4	48	1.4	0.1	10.1
Occupant of pick-up truck or van	6	1.7	0.4	81	2.3	0.2	1.7
Occupant of heavy transport vehicle	0	0.0	0.0	77	2.2	0.2	0.0
Bus occupant	*	*	*	7	0.2	0.0	*
Animal rider or occupant of animal-drawn vehicle	0	0.0	0.0	22	0.6	0.1	0.0
Occupant of a special all-terrain or off-road motor vehicle	*	*	*	36	1.0	0.1	*
Occupant of three-wheeled motor vehicle	0	0.0	0.0	*	*	*	0.0
Occupant of a tram	0	0.0	0.0	0	0.0	0.0	–
Occupant of a train	*	*	*	*	*	*	*
Occupant of a special industrial vehicle	*	*	*	15	0.4	0.0	*
Occupant of a special agricultural vehicle	0	0.0	0.0	34	1.0	0.1	0.0
Occupant of a special construction vehicle	0	0.0	0.0	8	0.2	0.0	0.0
Occupant of watercraft	*	*	*	83	2.4	0.2	*
Occupant of aircraft	*	*	*	115	3.3	0.3	0.8
Other and unspecified	11	3.2	0.8	117	3.3	0.3	2.4
Total	348	100.0	29.5	3,530	100.0	10.1	2.9

Note: Shading denotes the 2 or 3 highest figures for a column.

* Small counts are omitted.

'Mode of transport' here means the vehicle the person was travelling in at the time of being injured in a transport accident. 'Other and unspecified' includes V87, V88, V89, V98, and V99 for ICD-10 (deaths).

A traffic accident is any vehicle accident occurring on a public road (i.e. originating on, terminating on, or involving a vehicle partially on the road). A non-traffic accident is any vehicle accident that occurs entirely on any place other than a public road. For a certain proportion of cases, whether an accident was traffic or non-traffic was unknown. These cases are included in the totals for each mode of transport and this is the reason the sum of traffic and non-traffic cases is sometimes less than the total for each mode.

[†] Ratio of age-standardised rate for persons specified as Indigenous to the equivalent rate for all other persons (i.e. non-Indigenous or not stated).

[‡] Per 100,000 population, adjusted by direct standardisation to the Australian population in June 2001.

Table 2.3: Mode of transport for serious injury; NT, WA, SA and Qld, 2001–02 to 2005–06

Seriously injured person	Indigenous			Non-Indigenous			Rate Ratio: Indig: non-Indig†
	Count	Per cent	Rate‡	Count	Per cent	Rate‡	
Car occupant	2,362	47.3	176.8	29,231	32.8	83.9	2.1
traffic	1,934	38.7	147	24,918	27.9	71.5	2.0
non-traffic	347	7.0	24.5	3,426	3.8	9.8	2.5
Motorcyclist	466	9.3	28.2	22,851	25.6	65.5	0.4
traffic	223	4.5	14.5	11,438	12.8	32.8	0.4
non-traffic	230	4.6	13.1	10,659	11.9	30.6	0.4
Pedal cyclist	756	15.1	36.6	15,207	17.0	43.7	0.8
traffic	308	6.2	15.9	6,656	7.5	19.1	0.8
non-traffic	412	8.3	19.2	7,987	8.9	23.0	0.8
Pedestrian	776	15.5	61.1	5,470	6.1	15.8	3.8
traffic	557	11.2	45.5	3,409	3.8	9.8	4.6
non-traffic	115	2.3	7.7	1,476	1.7	4.3	1.8
Occupant of pick-up truck or van	100	2.0	7.4	1,036	1.2	3.0	2.4
Occupant of heavy transport vehicle	15	0.3	1.8	1,434	1.6	4.1	0.4
Bus occupant	25	0.5	2.2	605	0.7	1.8	1.2
Animal rider or occupant of animal-drawn vehicle	243	4.9	15.3	6,610	7.4	18.9	0.8
Occupant of a special all-terrain or off-road motor vehicle	44	0.9	2.7	1,426	1.6	4.1	0.6
Occupant of three-wheeled motor vehicle	11	0.2	0.8	209	0.2	0.6	1.5
Occupant of a tram	*	*	*	56	0.1	0.2	2.6
Occupant of a train	9	0.2	0.4	121	0.1	0.3	1.2
Occupant of a special industrial vehicle	8	0.2	0.5	292	0.3	0.8	0.6
Occupant of a special agricultural vehicle	11	0.2	0.6	442	0.5	1.3	0.5
Occupant of a special construction vehicle	*	*	*	160	0.2	0.5	0.3
Occupant of watercraft	34	0.7	2.9	1,761	2.0	5.0	0.5
Occupant of aircraft	0	0.0	0.0	361	0.4	1.0	0.0
Other and unspecified	125	2.5	8.2	1,975	2.2	5.7	1.4
Total	4,991	100.0	346.2	89,247	100.0	256.1	1.4

Note: Shading denotes the 3 highest figures for a column.

* Small counts are omitted.

'Mode of transport' here means the vehicle the person was travelling in at the time of being injured in a transport accident. 'Other and unspecified' includes V87, V88, V89, V98, and V99 for ICD-10-AM (hospitals).

A traffic accident is any vehicle accident occurring on a public road (i.e. originating on, terminating on, or involving a vehicle partially on the road). A non-traffic accident is any vehicle accident that occurs entirely on any place other than a public road. For a certain proportion of cases, whether an accident was traffic or non-traffic was unknown. These cases are included in the totals for each mode of transport and this is the reason the sum of traffic and non-traffic cases is sometimes less than the total for each mode.

† Ratio of age-standardised rate for persons specified as Indigenous to the equivalent rate for all other persons (i.e. non-Indigenous or not stated).

‡ Per 100,000 population, adjusted by direct standardisation to the Australian population in June 2001.

Rates of fatal injury by mode of transport

Rates of fatal injury were highest among car occupants for both Indigenous (16 fatally injured per 100,000 population) and non-Indigenous persons (6 per 100,000) (Table 2.2). The age-standardised rate ratio was 2.8 indicating that the Indigenous fatality rate was almost three times that of non-Indigenous persons after accounting for any differences in age composition of the two groups. Most Indigenous (93%) and non-Indigenous (98%) fatalities among car occupants occurred in traffic conditions (i.e. on public roads).

The second most common mode of transport injury was being a pedestrian for Indigenous persons (11 fatally injured per 100,000) and a motorcyclist for non-Indigenous persons (1.4 per 100,000). Overall, the age-standardised rate ratio for pedestrians indicates that there was a nine-fold greater fatality rate among Indigenous people compared to non-Indigenous people after accounting for any differences in age (Table 2.2). The majority of Indigenous (85%) and non-Indigenous (79%) pedestrian fatalities occurred in traffic conditions (i.e. on public roads). The fatality rate among motorcyclists was much lower for Indigenous people than for non-Indigenous people (age-standardised rate ratio of 0.4).

Rates of serious injury by mode of transport

Rates of serious injury were highest among car occupants for both Indigenous (177 seriously injured per 100,000) and non-Indigenous persons (84 per 100,000) (Table 2.3). The age-standardised rate ratio was 2.1, indicating that the Indigenous hospitalisation rate was twice that of non-Indigenous persons after accounting for any differences in age composition of the two groups. The seriously injured Indigenous (82%) and non-Indigenous (85%) car occupants were mostly in traffic conditions (i.e. on public roads) when injured.

The second most common mode of transport injury for Indigenous persons was being a pedestrian (61 seriously injured per 100,000), but pedestrian injuries were fifth most common among non-Indigenous persons (16 per 100,000). The age-standardised rate ratio indicated an almost four-fold greater hospitalisation rate of Indigenous pedestrians compared to non-Indigenous pedestrians after accounting for any differences in age (Table 2.3). As for occupants, the serious injuries sustained by Indigenous (72%) and non-Indigenous (62%) pedestrians usually occurred while they were in traffic conditions (i.e. on public roads).

The second most common mode of transport for non-Indigenous persons was being a motorcyclist (66 seriously injured per 100,000), but motorcyclist injuries were fourth most common among Indigenous persons (28 injuries per 100,000) with an age-standardised rate ratio of 0.4. The ratio for traffic:non-traffic conditions was almost even for seriously injured Indigenous motorcyclists (48%:49%) and non-Indigenous motorcyclists (50%:47%).

The third most common mode of transport for seriously injured persons was being a pedal cyclist, for both Indigenous people (37 seriously injured per 100,000) and non-Indigenous people (44 per 100,000), although the hospitalisation rate was lower for Indigenous people than for non-Indigenous people (rate ratio=0.8). Over half of Indigenous (54%) and non-Indigenous (53%) pedal cyclists sustained their serious injuries while in non-traffic conditions.

The fifth most common mode of transport for serious injury among Indigenous persons was being an animal rider or occupant of an animal-drawn vehicle (15 per 100,000), whereas it was the fourth most common mode of transport for non-Indigenous persons (19 per 100,000) (Table 2.3).

3 Indigenous land transport injury, 2001–02 to 2005–06

This section examines the fatal and non-fatal injury of Indigenous people due to road transport, including traffic (occurring on a public road), non-traffic, unspecified as to whether traffic or non-traffic and railway. This definition of land transport injury excludes injury given an external cause of intentional self harm, assault or undetermined intent.

Most Indigenous transport deaths (99%) and serious injury cases (99%) were known to have involved land transport. Ninety-five per cent of non-Indigenous transport deaths (n=3,331) and 97% of serious injury cases (n=86,225) were known to have involved land transport. The great majority of Indigenous land transport cases involved road vehicles, or vehicles that can be driven on roads (e.g. off-road motor vehicles). An exception is the small number of cases in which the injured person was a train occupant (see Tables 2.2 and 2.3). A partial further exception is the small number of occupants of special vehicles for use in industry, agriculture or construction, some of which may not have been road vehicles (see Tables 2.2 and 2.3). Injury resulting from collisions between trains and pedestrians or road vehicles was not uncommon (see Tables 3.7 and 3.8). For this reason, and to avoid an arbitrary distinction between 'road accidents' and 'rail accidents', the two are here considered together as land transport accidents. This definition also includes special industry, agriculture or construction vehicles.

From 2001–02 to 2005–06, land transport accidents accounted for 28% of fatal injury cases for Indigenous people and 8.8% of all injury hospitalisations for Indigenous people (Table 3.1). The age-standardised rate of land transport injury was 29 deaths per 100,000 Indigenous persons and 342 admissions to hospital per 100,000 Indigenous persons.

There were 3.0 times more fatalities and 40% more serious injury cases from land transport accidents among Indigenous people compared to non-Indigenous people (based on age-standardised rates). There were 2.7 times more fatalities and 30% more hospitalisations occurring among Indigenous males compared to non-Indigenous males. There were 4.1 times more fatalities and 50% more hospitalisations occurring among Indigenous females compared to non-Indigenous females.

Most Indigenous land transport fatalities (90%) and nearly two-thirds of serious injury cases (65%) occurred in traffic conditions. The mean length of stay was higher for injuries that occurred in traffic conditions (6.6 days) compared with those occurring in non-traffic conditions (3.4 days). In 31% of serious injury cases, the injured person was discharged on the same day as they were admitted (30% for traffic and 32% for non-traffic conditions). Most non-Indigenous land transport fatalities (91%, n=3,040) and more than half of serious injury cases (57%, n=48,930) occurred in traffic conditions.

Table 3.1: Key indicators for land transport injury; NT, WA, SA and Qld, 2001–02 to 2005–06

Indicator	Indigenous Males	Indigenous Females	Indigenous Persons**		
			Traffic	Non-traffic	Total§
Fatally injured*					
Deaths	227	116	307	27	343
Percentage of all deaths due to injury	26.7	31.1	25.1	2.2	28.1
Crude rate per 100,000 population***	33.5	16.7	22.4	2.0	25.0
Adjusted rate per 100,000 population****	39.2	19.8	26.3	2.2	29.1
Ratio of age-standardised rates: Indigenous: non-Indigenous‡	2.7	4.1	3.0	3.6	3.0
Seriously injured† (e)					
Persons admitted to hospital (f)	3,338	1,600	3,192	1,212	4,938
Percentage of all Indigenous hospital separations due to injury	10.8	6.3	5.8	2.1	8.8
Same day hospitalisations	1,027	495	956	389	1,522
Mean length of stay in hospital (days)€	5.4	5.9	6.6	3.4	5.6
Total patient days (including same day and deaths in hospital)	18,124	9,472	21,182	4,149	27,596
Crude rate/100,000 population***	492.7	230.6	232.8	88.4	360.1
Age-standardised rate/100,000 population****	469.8	220.8	234.4	71.9	341.7
Ratio of age-standardised rates: Indigenous: non-Indigenous‡	1.3	1.5	1.7	0.9	1.4

Note:

(e) The term seriously injured and hospitalisation are used interchangeably and represent a person being admitted to hospital for injury and subsequently discharged alive, either on the same day or after one or more nights stay in a hospital bed (i.e. deaths are excluded). Discharge from hospital can include transfer to home, to another acute care hospital and to another form of care (e.g. rehabilitation). In this report, a method has been used to reduce over-counting of injury cases by omitting separations in which the mode of admission is recorded as being by transfer from another acute-care hospital, on the grounds that such cases are likely to result in two or more separation records for the same injury.

(f) In total, there were 102,975 (5,698 Indigenous and 97,277 non-Indigenous) admissions to hospital for land transport injury for an estimated 91,795 persons (4,973 Indigenous and 86,822 non-Indigenous), of which 632 persons (35 Indigenous) died while in hospital (0.7%). These deaths are represented in the national mortality data collection, and are therefore omitted from the serious injury case counts in Table 4.1 and throughout the report. The estimate of total patient days includes separations in which the person died in hospital.

§ This includes 9 deaths, 534 hospital cases (177 were same day) and 2,265 patient days where it is unspecified as to whether the crash occurred in traffic or non-traffic conditions.

* Deaths are five-year totals for 2001–02 to 2005–06, for which an 'external cause' was coded as the Underlying Cause of Death (ICD-10 V01–V89.9).

† Cases are five-year totals for 2001–02 to 2005–06, for which the Principal Diagnosis was coded to ICD-10-AM S00–T98 and the first reported external cause is in the range V01–V89.9.

** Includes cases where sex is missing or indeterminate.

*** Rates are averages of annual rates over the five years 2001–02 to 2005–06.

**** Adjusted by direct standardisation to the Australian population in June 2001.

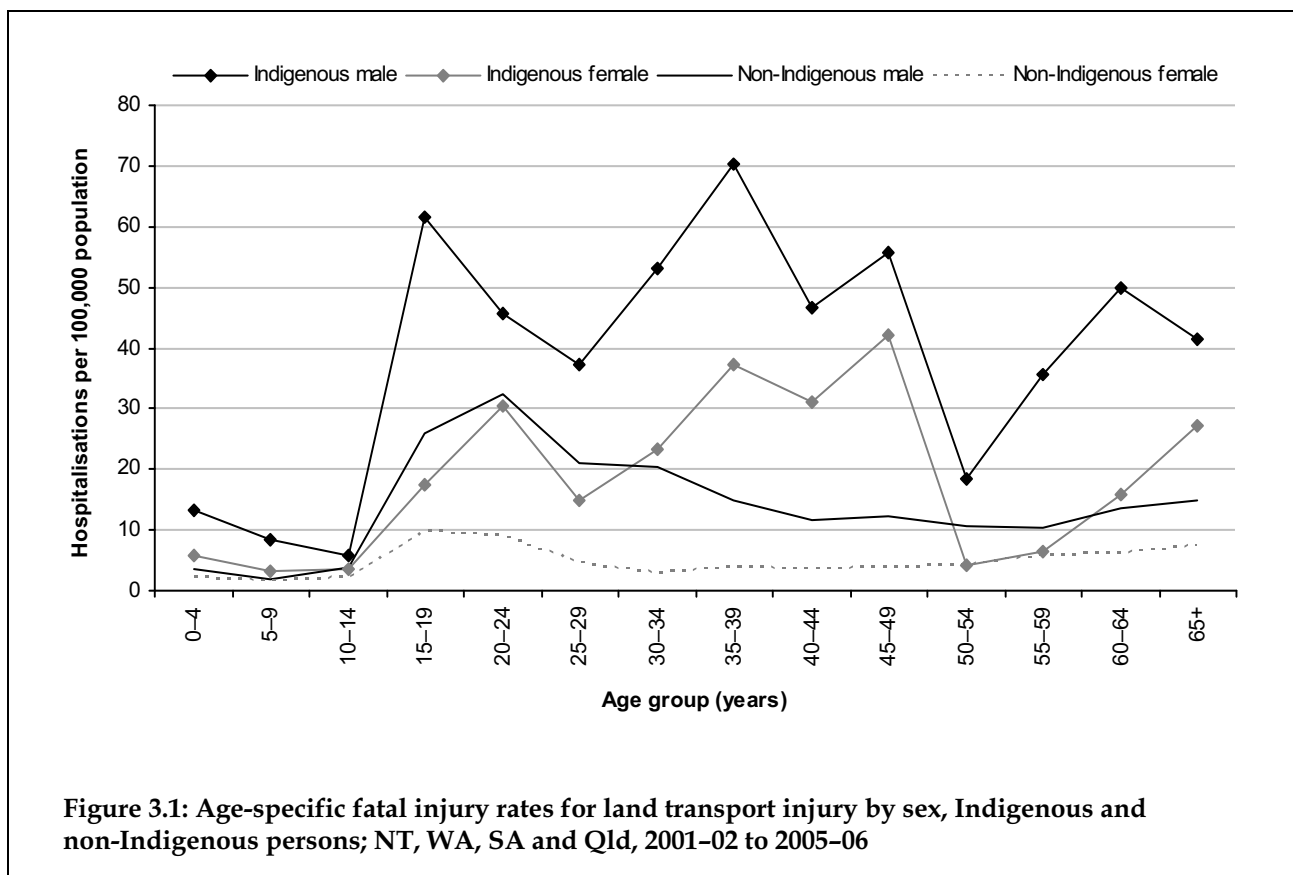
‡ Ratio of age-standardised rate for Indigenous to the equivalent rate for non-Indigenous and Indigenous status not stated.

€ This is the average number of days a person is likely to stay in hospital when seriously injured.

Age and sex distribution

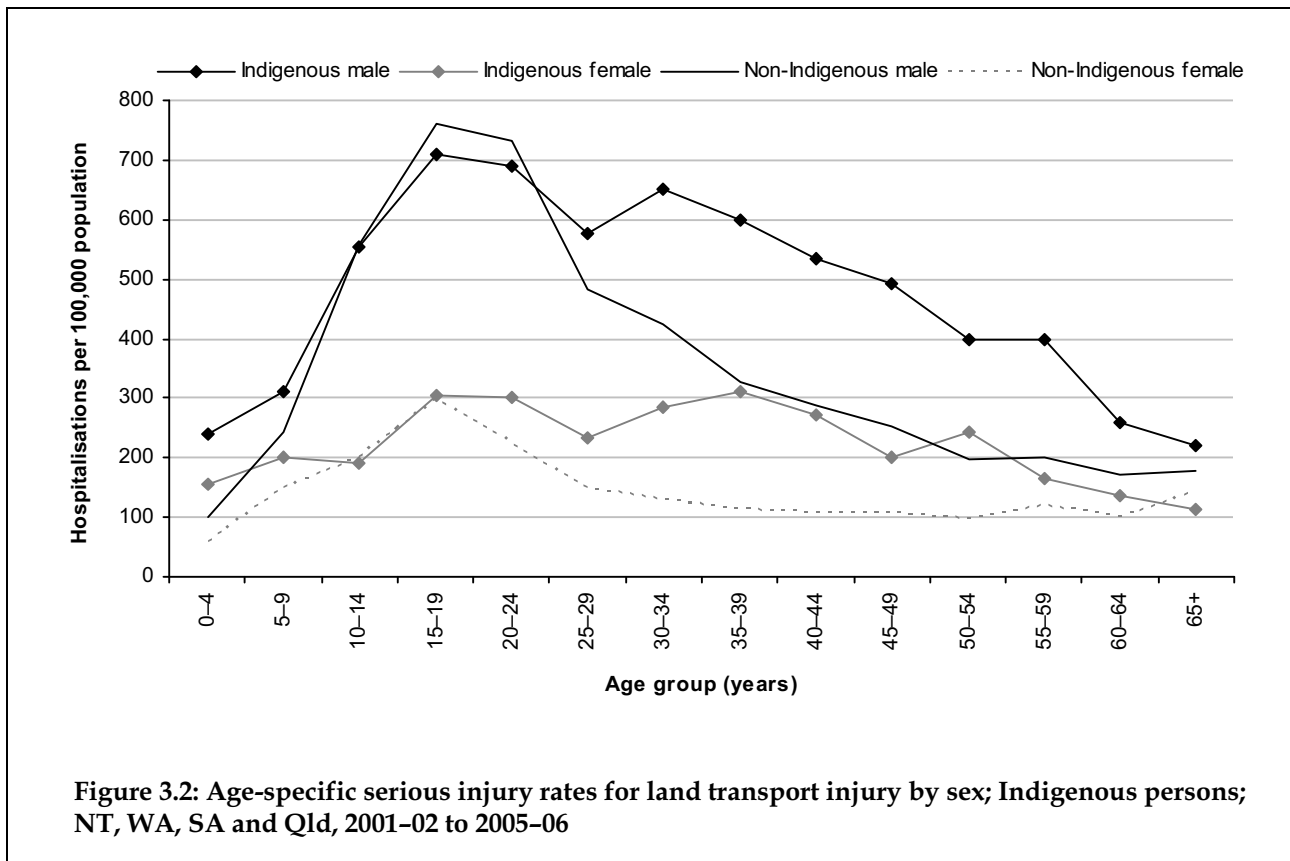
Indigenous males accounted for two-thirds (66%; n=227) of Indigenous land transport injury deaths in 2001–02 to 2005–06 with a M:F rate ratio of 2.0:1.0 (Figure 3.1).

Figure 3.1 shows that for non-Indigenous males and females, fatal injury rates were highest for the 15–19 and 20–24 year age groups, declining thereafter until the age groups older than 54 years and above age groups. For Indigenous males and females however, fatal injury rates rose in early adulthood and remained elevated through middle age, although age-specific rates were variable due to small case numbers in each age band. There were 3.1 times more fatalities from land transport accidents among Indigenous children aged 0–4 years compared to non-Indigenous children.



Indigenous males accounted for two-thirds (68%; n=3,338) of Indigenous land transport serious injury in 2001–02 to 2005–06 with a M:F rate ratio of 2.1:1.0.

Figure 3.2 shows that for non-Indigenous males and females, serious injury rates were highest for the 15–19 and 20–24 year age groups, declining thereafter until the 60 years and above age groups. For Indigenous males and females however, serious injury rates rose in early adulthood and remained elevated through middle age. There were 2.5 times more serious injuries from land transport accidents among Indigenous children aged 0–4 years compared to non-Indigenous children.



The land transport fatal and serious injury rates differed by gender for both Indigenous and non-Indigenous persons (Table 3.2). The age-standardised rates of fatal injury for Indigenous and non-Indigenous males were two times and three times greater, respectively, than the corresponding rates for females. The age-standardised rates of serious injury for Indigenous and non-Indigenous males were over two times greater than the corresponding rates for females.

For fatal injury, the age-specific rate for Indigenous males was high at ages 15–19 years at 62 deaths per 100,000 and at ages 35–39 years with 70 deaths per 100,000. The age-specific rate for Indigenous female rates was high at 35–39 years at 37 deaths per 100,000 and at 45–49 years with 42 deaths per 100,000. For non-Indigenous males and females, fatality rates were high at ages 15–24 years (males: 26 per 100,000 among 15–19 years olds and 33 per 100,000 among 20–24 year olds, females: 10 per 100,000 among 15–19 years olds and 9 per 100,000 among 20–24 year olds).

For serious injury, the age-specific rate for Indigenous males was high at ages 15–24 years (Table 3.2). For Indigenous females, the age-specific rate of serious injury was high at ages 15–24 years and 35–39 years. For non-Indigenous males and females, rates were high at ages 15–24 years.

Table 3.2: Age-specific and age-standardised rates due to fatal and serious land transport injury; NT, WA, SA and Qld, 2001–02 to 2005–06

Indicator	Age group (years)											All ages (crude)	Age Std*			
	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54			55–59	60–64	65+
Fatal injury																
Indigenous male	13.3	8.4	5.8	61.5	45.6	37.4	53.2	70.2	46.8	55.9	18.3	35.7	49.9	41.5	33.5	39.2
Non-Indigenous male	3.7	2.0	3.9	25.9	32.5	20.9	20.4	15.1	11.6	12.3	10.7	10.5	13.5	14.9	14.3	14.3
<i>Male rate ratio: Indigenous: non-Indigenous</i>	3.6	4.3	1.5	2.4	1.4	1.8	2.6	4.7	4.0	4.5	1.7	3.4	3.7	2.8	2.3	2.7
Indigenous female	5.7	3.4	3.7	17.3	30.3	15.0	23.2	37.2	31.2	41.9	4.3	6.3	15.9	27.1	16.7	19.8
Non-Indigenous female	2.4	1.5	2.1	9.6	9.2	4.6	3.0	4.0	3.5	3.9	4.3	5.7	6.0	7.3	4.9	4.9
<i>Female rate ratio: Indigenous: non-Indigenous</i>	2.4	2.3	1.8	1.8	3.3	3.2	7.7	9.3	9.0	10.8	1.0	1.1	2.6	3.7	3.4	4.1
<i>Rate ratio: Indigenous: non-Indigenous</i>	3.1	3.5	1.6	2.2	1.8	2.0	3.2	5.6	5.2	6.0	1.5	2.5	3.1	3.1	2.6	3.0
Serious injury																
Indigenous male	239.1	311.3	552.5	707.8	691.3	575.0	651.6	600.5	533.7	492.3	398.4	399.9	259.6	219.2	492.7	469.8
Non-Indigenous male	99.7	244.5	557.8	762.6	730.8	483.3	423.1	325.6	286.7	251.0	196.2	200.3	170.4	177.7	352.1	349.2
<i>Male rate ratio: Indigenous: non-Indigenous</i>	2.4	1.3	1.0	0.9	0.9	1.2	1.5	1.8	1.9	2.0	2.0	2.0	1.5	1.2	1.4	1.3
Indigenous female	156.6	199.6	189.9	303.5	301.7	234.4	285.6	309.9	273.2	200.1	242.9	164.8	134.9	113.1	230.6	220.8
Non-Indigenous female	58.6	148.6	201.1	299.2	223.0	148.4	130.9	112.7	106.4	108.4	98.6	118.4	101.2	141.8	143.6	143.9
<i>Female rate ratio: Indigenous: non-Indigenous</i>	2.7	1.3	0.9	1.0	1.4	1.6	2.2	2.8	2.6	1.8	2.5	1.4	1.3	0.8	1.6	1.5
<i>Rate ratio: Indigenous: Non-Indigenous</i>	2.5	1.3	1.0	0.9	1.0	1.3	1.7	2.1	2.0	1.9	2.1	1.7	1.4	1.0	1.5	1.4

Rates are averages of annual rates over the five years 2001–02 to 2005–06.
* Adjusted by direct standardisation to the Australian population in June 2001.

Car occupants and pedestrians were the two modes of transport resulting in the largest number of cases of death or serious injury for Indigenous people (Tables 2.2 and 2.3).

Table 3.3 depicts age-standardised rates of fatal and serious injury, by gender, and according to mode of transport. Fatal injury among car occupants was 2.8 times higher among Indigenous compared to non-Indigenous persons. Likewise, serious injury among car occupants was 2.1 times higher among Indigenous compared to non-Indigenous persons. A higher proportion of car passengers relative to car drivers were fatally or seriously injured among Indigenous people, whereas the inverse was observed for non-Indigenous people.

Indigenous male car drivers had 2.4 times the fatality rate and 1.5 times the serious injury rate of non-Indigenous male car drivers. Indigenous female car drivers had 1.4 times the fatality rate and 0.8 times the serious injury rate of non-Indigenous female car drivers. Indigenous male car passengers had 3.6 times the fatality rate and 3.7 times the serious injury rate of non-Indigenous male car passengers. Similarly, Indigenous female car passengers had 4.7 times the fatality rate and 2.9 times the serious injury rate of non-Indigenous female car passengers.

The fatality rate for pedestrians was 9.3 times higher among Indigenous compared to non-Indigenous persons. Likewise, serious injury was 3.9 times higher among Indigenous compared to non-Indigenous persons.

Indigenous male pedestrians had 7.7 times the fatality rate and 4.2 times the serious injury rate of non-Indigenous male pedestrians. Similarly, Indigenous female pedestrians had 13.5 times the fatality rate and 3.6 times the serious injury rate of non-Indigenous female pedestrians.

Figure 3.3 depicts age-specific death rates in traffic conditions and by mode of transport. Non-traffic death rates for non-Indigenous males and females scarcely left the zero line (Appendix A5), and therefore data were too sparse to be charted. Figures 3.4 and 3.5 depict age-specific serious injury rates by traffic and non-traffic conditions and by road user group. Tabulations of the age-specific and all-ages rates by mode of transport for Figures 3.3–3.5 are included as Tables A4, A6 and A7 in the Appendix.

Fatal and serious injury rates for Indigenous people in traffic conditions do not follow the pattern of peak in early adulthood, and decline thereafter as is observed for non-Indigenous people. Instead, Indigenous rates for pedestrians, car passengers and car drivers in particular, tend to rise in early adulthood and remain elevated through middle age.

For traffic accidents (i.e. occurring on a public road), the fatality rate for Indigenous pedestrians was high in the 35–39 year age group for males (age-specific rate of 29 per 100,000) and for females at ages 35–39 years (19 per 100,000) and 45–49 years (23 per 100,000) (Figure 3.3). For male and female drivers, the fatality rate was high at ages 30–34 years (males: 20 per 100,000, females: 7 per 100,000) but for males only, the fatality rate was highest at ages 65 years and older (24 per 100,000) (Figure 3.3). The car passenger fatality rate among Indigenous females was high in the 20–24 year age group (15 per 100,000) but for males, it was high in the 15–19 and 45–49 year age groups (19 and 17 per 100,000, respectively).

Table 3.3: Mode of land transport for fatal and serious injury; NT, WA, SA and Qld, 2001–02 to 2005–06

Mode of transport	Males (Rate ‡)						Female (Rate ‡)						Persons				Rate Ratio†
	Indigenous			Non-Indigenous			Indigenous			Non-Indigenous			Indigenous		Non-Indigenous		
	Count	Rate ‡	Rate ‡	Count	Rate ‡	Rate ‡	Count	Rate ‡	Rate ‡	Count	Rate ‡	Rate ‡	Count	Rate ‡	Count	Rate ‡	
Fatal injury																	
Car occupant	22.0	7.6	10.3	3.6	190	15.9	1,950	5.6	2.8								
– Driver	13.4	5.5	2.8	2.0	85	7.7	1,294	3.7	2.1								
– Passenger (inside/outside of vehicle)	6.9	1.9	7.1	1.5	90	7.1	604	1.7	4.1								
– Unspecified or boarding or alighting	1.7	0.2	*	0.1	15	1.0	52	0.1	7.0								
Motorcyclist	1.1	2.7	0.0	0.2	8	0.6	500	1.4	0.4								
Pedal cyclist	*	0.4	*	0.0	5	0.2	75	0.2	1.1								
Pedestrian	13.4	1.7	8.6	0.6	117	10.9	408	1.2	9.3								
Animal or occupant of animal-drawn vehicle	0.0	0.1	0.0	0.1	0	0.0	22	0.1	0.0								
Serious injury																	
Car	222.4	93.9	134.1	73.7	2,362	176.8	29,231	83.9	2.1								
– Driver	85.5	57.3	32.5	38.8	731	58.0	16,733	48.0	1.2								
– Passenger (inside/outside of vehicle)	93.2	25.4	74.9	26.1	1,179	83.9	9,024	25.9	3.2								
– Unspecified or boarding or alighting	43.8	11.2	26.7	8.8	452	34.9	3,474	10.0	3.5								
Motorcyclist	52.1	119.0	5.1	11.2	466	28.2	22,851	65.5	0.4								
Pedal cyclist	55.8	69.8	17.4	16.9	756	36.6	15,207	43.7	0.8								
Pedestrian	84.9	20.4	39.8	11.0	776	61.1	5,470	15.8	3.9								
Animal or occupant of animal-drawn vehicle	25.3	15.7	5.9	22.4	243	15.3	6,610	18.9	0.8								

Note: Shading denotes the highest 2 figures for a column by fatal and serious injury.

* Small counts are omitted.

† 'Mode of transport' here means the vehicle the person was travelling in at the time of being injured in a transport accident.

‡ Rates are averages of annual rates over the five years 2001–02 to 2005–06.

§ Per 100,000 population, adjusted by direct standardisation to the Australian population in June 2001.

† Ratio of age-standardised rate for persons specified as Indigenous to the equivalent rate for all other persons (non-Indigenous and not stated).

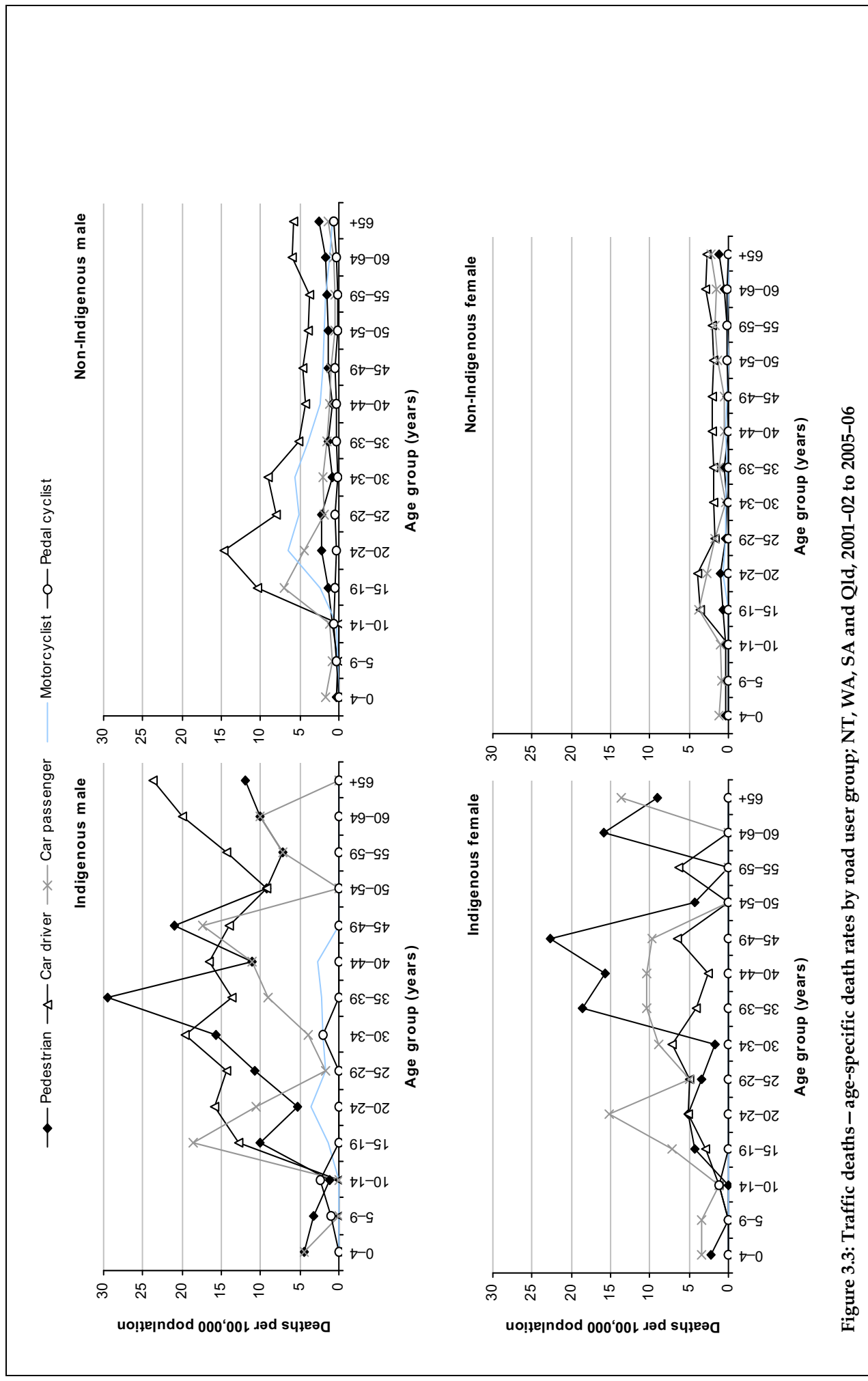


Figure 3.3: Traffic deaths – age-specific death rates by road user group; NT, WA, SA and Qld, 2001–02 to 2005–06

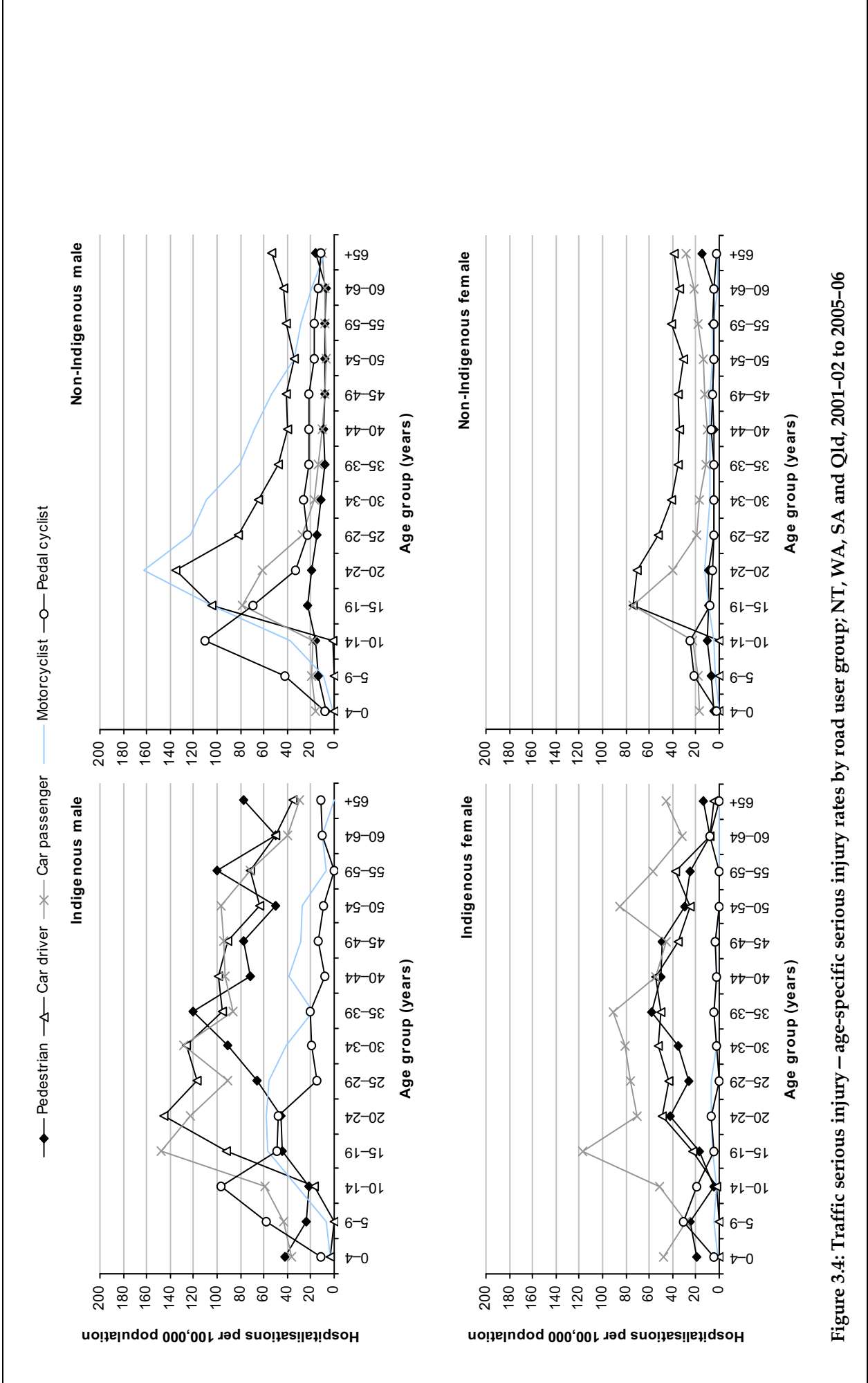


Figure 3.4: Traffic serious injury – age-specific serious injury rates by road user group; NT, WA, SA and Qld, 2001-02 to 2005-06

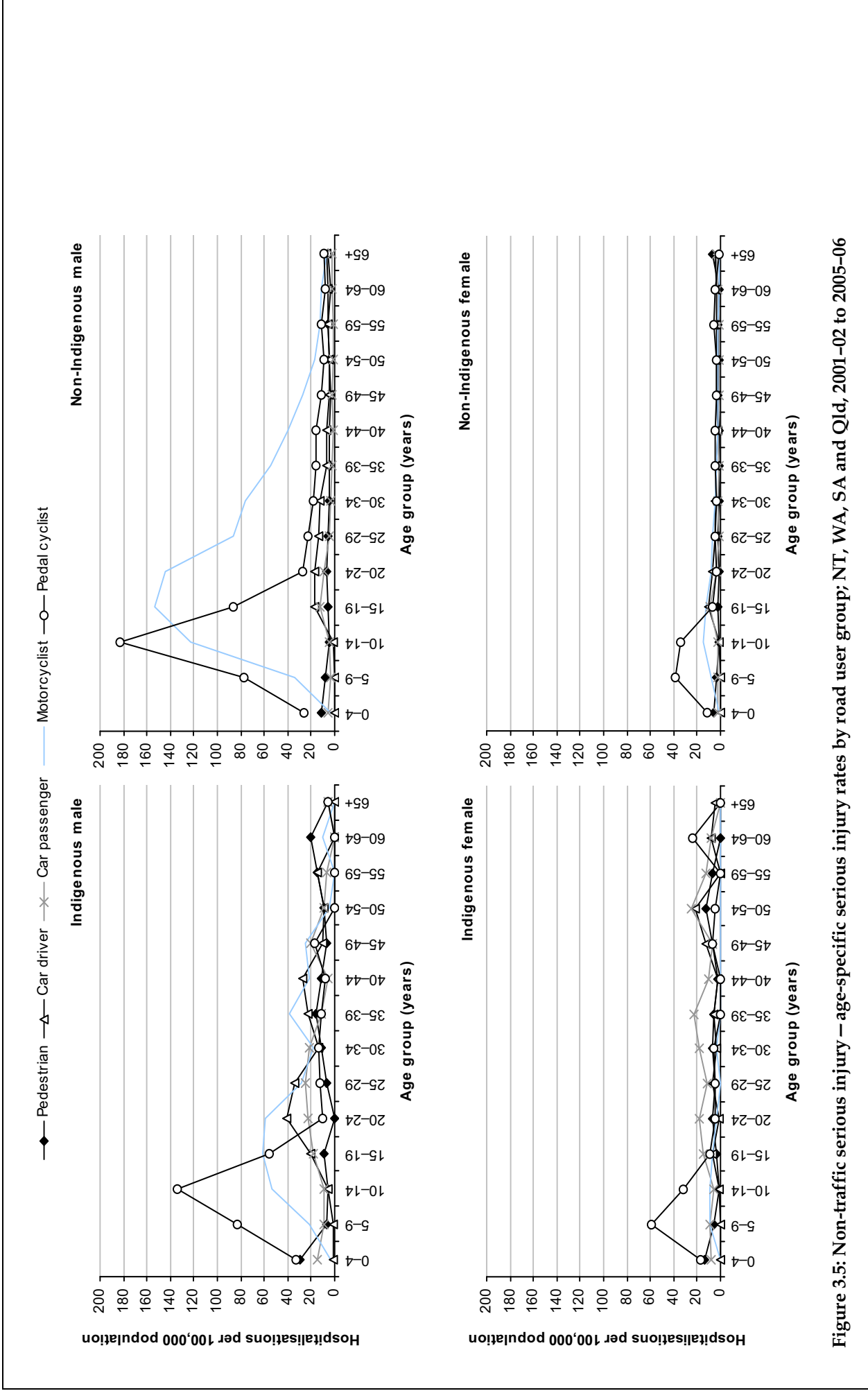


Figure 3.5: Non-traffic serious injury – age-specific serious injury rates by road user group; NT, WA, SA and Qld, 2001–02 to 2005–06

Figures 3.4 and 3.5 depict age-specific serious injury rates by traffic and non-traffic conditions and by road user group. For traffic accidents (i.e. occurring on a public road) (Figure 3.4), car passengers were the road user group most commonly injured among Indigenous people and the serious injury rate was high in the 15–19 year age group (males: age-specific rate of 123 per 100,000, females: 117 per 100,000). Car drivers were the second most commonly injured road user group for Indigenous males, with the injury rate highest in the 20–24 year age group (146 per 100,000). For Indigenous females, the second most commonly injured group was pedestrians with the highest injury rate occurring at ages 35–39 years (58 per 100,000).

For non-Indigenous males, motorcyclists were the road user group most commonly injured in traffic conditions with the serious injury rate highest in the 20–24 year age group (162 serious injury cases per 100,000), followed by car drivers, with the highest rate occurring in the 20–24 year age group (135 per 100,000 for car drivers). For non-Indigenous females, the group most commonly injured in traffic conditions was car drivers, with the highest rates occurring at ages 15–19 and 20–24 years (74 per 100,000 and 70 per 100,000, respectively), followed by car passengers with the highest rate occurring in the 15–19 year age group (74 per 100,000).

For non-traffic accidents (Figure 3.5), pedal cyclists were the road user group most commonly injured among Indigenous people – serious injury rates highest in 10–14 year age group for males (age-specific rate of 134 per 100,000) and in the 5–9 year age group for females (59 per 100,000). For Indigenous males, the second group most commonly injured was motorcyclists, with the highest rate occurring in the 15–19 year age group (62 per 100,000). For Indigenous females, the second group most commonly injured was car passengers, with the highest rates occurring at ages 35–39 and 50–54 years (26 per 100,000 and 23 per 100,000, respectively).

For non-Indigenous males, motorcyclists were the road user group most commonly injured in non-traffic conditions with the serious injury rate highest in the 15–19 year age group (153 serious injury cases per 100,000), followed by pedal cyclists, with the highest rate occurring in the 10–14 year age group (183 per 100,000). For non-Indigenous females, the most commonly injured group in non-traffic conditions was pedal cyclists with the highest rates occurring at ages 5–9 and 10–14 years (39 per 100,000 and 34 per 100,000, respectively), followed by motorcyclists with the highest rates occurring at ages 10–14 and 15–19 years (15 per 100,000 and 12 per 100,000, respectively).

Remoteness area

In this report, fatal and serious injury cases by remoteness of a person's usual residence are presented for the five-year period of 2001–02 to 2005–06 (Tables 3.4 and 3.5).

The deaths and hospital datasets used in this report do not contain information on the crash location; therefore it is not possible to determine if the injury was sustained also in a remote and very remote area. However, it is likely that people who reside in remote and very remote areas are injured in transport crashes that occur in the vicinity of where they live or work.

In general, age-standardised rates of fatal and serious injury increased according to remoteness of the person's usual residence from an urban centre for Indigenous and non-Indigenous persons (Table 3.5 and Figure 3.6). However, the age-standardised rate of fatal injury in the outer regional areas was lower than in the major cities and inner regional areas for Indigenous people, and for males in particular. The age-standardised rate of non-fatal injury in the outer regional areas was also lower than in the inner regional areas for Indigenous people, and males in particular. Three-quarters of Indigenous persons fatally (75%) and seriously (74%) injured in road crashes (traffic and non-traffic) resided in outer regional, remote or very remote areas (Table 3.4). By contrast, over two-thirds of non-Indigenous persons fatally (69%) and seriously injured (69%) resided in major cities or inner regional areas.

Taking into account the Indigenous and non-Indigenous populations in each of the remoteness areas, Indigenous persons living in major cities and inner regional areas had fatal injury rates that were 2.3 times and 1.9 times greater, respectively, than for non-Indigenous persons. In outer regional Australia, the rates of fatal injury were similar for Indigenous and non-Indigenous persons. In remote and very remote areas, the fatality rates for Indigenous persons were 2.5 times and 2.3 times greater, respectively, than for non-Indigenous persons. Indigenous persons living in major cities had serious injury rates that were 1.2 times greater than for non-Indigenous persons. In inner regional Australia, the rates of serious injury were similar for Indigenous and non-Indigenous persons. Non-Indigenous persons had higher rates of serious injury than Indigenous persons in outer regional Australia (1.3 times), remote areas (1.1 times) and in very remote areas (1.3 times). This latter observation is largely due to the fact that non-Indigenous persons had higher rates of serious injury in land transport accidents in non-traffic conditions (see Figure 3.7), many of them off-road motorcycle accidents, and motorcyclist serious injury rates increased according to remoteness of usual residence from an urban centre (see Tables A8 to A11).

Indigenous male rates of fatal and serious injury were (at least) twice the rate observed for Indigenous females in each remoteness area (with two exceptions: only 1.2 times more males than females dwelling in an outer regional area and 1.4 times more males than females dwelling in a remote area died in a land transport crash), and non-Indigenous male rates were also (at least) twice the rate observed for non-Indigenous females in each remoteness area.

Table 3.4: Land transport fatal injury cases and serious injury cases by remoteness area of residence and Indigenous status for persons involved in land transport accidents; NT, WA, SA and Qld, 2001–02 to 2005–06

ASGC remoteness area of residence	Indigenous				Non-Indigenous				% Indigenous cases per remoteness area
	Male	Female	Persons		Male	Female	Persons		
	Count	Count	Count	Per cent	Count	Count	Count	Per cent	
Fatal injury									
Major cities	35	13	48	14%	1,139	354	1,493	45%	3%
Inner regional	22	7	29	8%	595	225	820	25%	3%
Outer regional	18	22	41	12%	480	174	654	20%	6%
Remote	35	24	59	17%	133	41	174	5%	25%
Very remote	114	43	156	46%	69	20	89	3%	64%
Total*	227	116	343	100%	2,477	854	3,331	100%	9%
Serious injury									
Major cities	546	256	802	16%	27,320	11,694	39,014	45%	2%
Inner regional	334	142	476	10%	14,188	6,093	20,281	24%	2%
Outer regional	719	372	1,091	22%	13,712	5,164	18,877 ^(a)	22%	5%
Remote	565	249	814	16%	4,011	1,423	5,434	6%	13%
Very remote	1,160	578	1,738	35%	1,859	680	2,539	3%	41%
Total †	3,338	1,600	4,938	100%	61,149	25,075	86,225^(a)	100%	5%

* ASGC remoteness area of residence not reported for 10 Indigenous (male=3, female=7) and 101 non-Indigenous (male=61, female=40) persons.

† ASGC remoteness area of residence not reported for 17 Indigenous (male=14, female=3) and 80 non-Indigenous (male=59, female=21) persons.

(a) Gender not stated for 1 non-Indigenous person.

Table 3.5: Age-standardised fatal and serious injury rates by remoteness area of residence and Indigenous status for persons involved in land transport accidents; NT, WA, SA and Qld, 2001–02 to 2005–06

ASGC remoteness area of residence	Age-standardised rate per 100,000 population (95% CI)					
	Indigenous			Non-Indigenous		
	Male	Female	Persons	Male	Female	Persons
Fatal injury						
Major cities	26 (19–36)	8 (5–14)	16 (12–21)	11 (10–11)	3 (3–4)	7 (7–7)
Inner regional	43 (31–61)	9 (4–19)	25 (18–34)	19 (17–20)	7 (6–8)	13 (12–14)
Outer regional	14 (9–21)	12 (8–19)	13 (10–17)	18 (17–20)	7 (6–8)	13 (12–14)
Remote	46 (34–62)	32 (22–47)	39 (31–49)	22 (19–26)	8 (6–11)	16 (14–18)
Very remote	65 (54–77)	28 (21–37)	46 (40–54)	27 (21–34)	11 (7–17)	20 (16–25)
Serious injury						
Major cities	323 (286–359)	135 (114–155)	223 (204–243)	255 (252–258)	107 (105–109)	181 (179–183)
Inner regional	416 (358–474)	186 (147–224)	297 (263–331)	443 (436–451)	185 (181–190)	315 (310–319)
Outer regional	384 (351–417)	195 (173–217)	286 (267–305)	512 (504–521)	205 (199–210)	364 (358–369)
Remote	576 (522–630)	269 (231–307)	423 (390–456)	657 (636–677)	270 (256–285)	478 (465–491)
Very remote	615 (574–656)	307 (278–335)	459 (435–484)	754 (719–789)	361 (333–389)	582 (559–605)

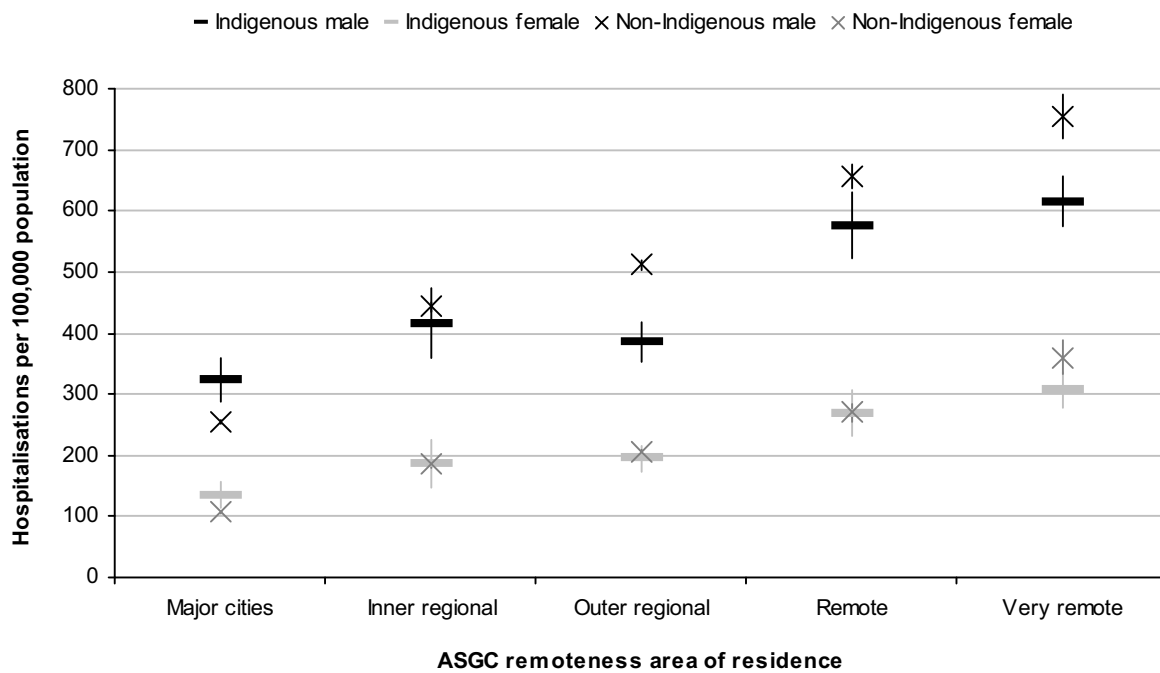
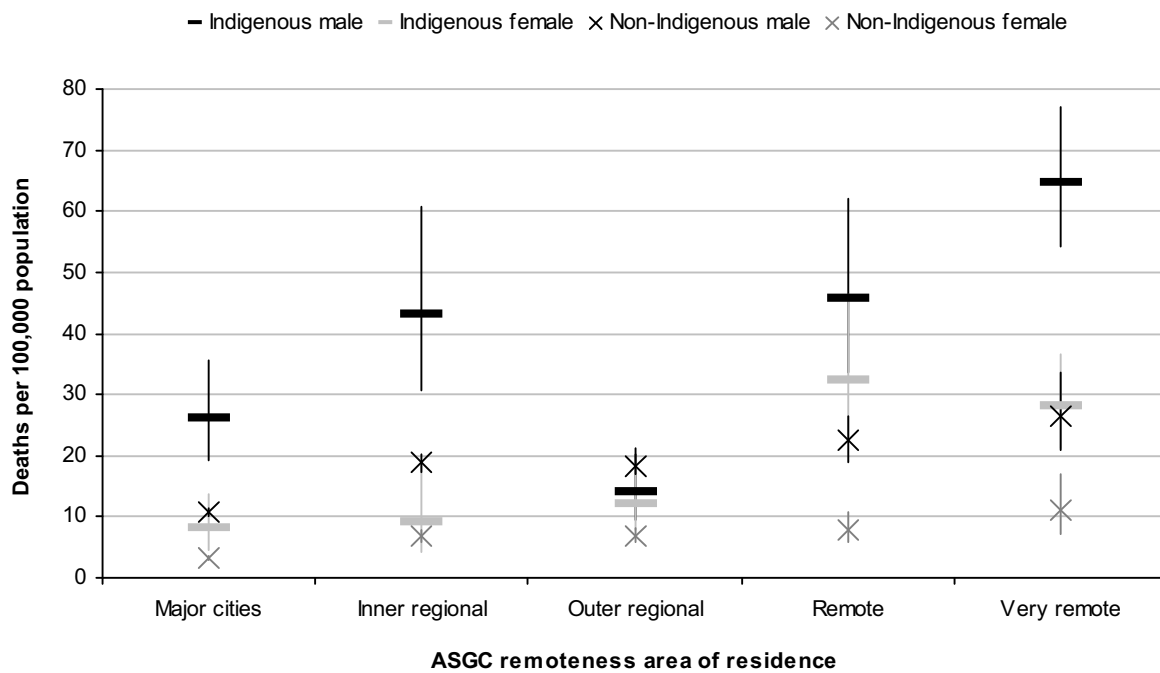


Figure 3.6: Age-standardised death and hospitalisation rates for land transport injury by remoteness area and Indigenous status for persons involved in land transport accidents; NT, WA, SA and Qld, 2001–02 to 2005–06

The numbers of deaths stratified by remoteness area are sparse and therefore preclude a more detailed examination of the nature and circumstances of land transport deaths by remoteness area. The following analyses are therefore restricted to hospitalisation data only.

A pattern emerges when hospitalisation rates are distinguished by whether they resulted from traffic or non-traffic conditions (Table 3.6 and Figure 3.7). In traffic conditions, Indigenous persons had higher rates of hospitalisation (based on age-standardised rates) than non-Indigenous persons in major cities and remote and very remote areas. For Indigenous and non-Indigenous males and females, the hospitalisation rate from traffic injury increased by remoteness of the person's usual residence. In each remoteness area, hospitalisation rates for traffic injury for Indigenous males ranged from almost twice to over twice the rate observed for Indigenous females, and a similar finding was observed for non-Indigenous males compared to non-Indigenous females.

In non-traffic conditions, hospitalisation rates for Indigenous males and non-Indigenous males were similar for major cities. However, rates of hospitalisation for non-Indigenous and Indigenous males diverged from each other as the location of the person's usual residence became more remote. There was an almost four-fold increase in the hospitalisation rate for non-Indigenous males in very remote areas compared to major cities. This increase by remoteness did not occur to the same extent for Indigenous males, which resulted in rates for non-Indigenous males between almost two and three times higher than for Indigenous males in outer regional, remote and very remote areas. A similar pattern occurred for females, with an almost five-fold increase in the hospitalisation rate for non-Indigenous females in very remote areas compared to major cities. This increase by remoteness did not occur to the same extent for Indigenous females, which resulted in rates for non-Indigenous females 1.5 times higher than for Indigenous females in very remote areas. In each remoteness area, hospitalisation rates for non-traffic injury for non-Indigenous males ranged from 3.6 times to 5.1 times the rate observed for non-Indigenous females and a similar finding, though to a lesser extent, was observed for Indigenous males compared to Indigenous females.

Table 3.6: Age-standardised hospitalisation rates by remoteness area of residence and Indigenous status for persons involved in land transport accidents; NT, WA, SA and Qld, 2001–02 to 2005–06

ASGC remoteness area of residence	Age-standardised rate per 100,000 population (95% CI)					
	Indigenous			Non-Indigenous		
	Male	Female	Persons	Male	Female	Persons
Traffic						
Major cities	226 (193–260)	96 (79–114)	156 (139–174)	154 (151–156)	72 (70–74)	113 (111–114)
Inner regional	287 (235–340)	118 (90–146)	199 (170–227)	244 (238–249)	107 (103–110)	175 (172–179)
Outer regional	257 (230–285)	139 (121–158)	196 (180–212)	265 (259–272)	117 (112–121)	193 (190–197)
Remote	331 (289–373)	184 (150–217)	257 (230–284)	262 (249–275)	124 (114–134)	198 (190–207)
Very remote	443 (408–479)	220 (196–244)	330 (309–351)	304 (281–326)	161 (142–180)	241 (226–256)
Non-traffic						
Major cities	75 (62–87)	24 (16–31)	48 (41–56)	86 (84–87)	20 (19–21)	53 (52–54)
Inner regional	103 (82–125)	44 (23–65)	74 (58–89)	155 (151–160)	31 (29–33)	93 (91–96)
Outer regional	81 (67–95)	36 (27–45)	58 (50–66)	195 (190–201)	39 (37–42)	120 (117–123)
Remote	168 (140–196)	61 (45–77)	115 (99–131)	301 (287–314)	69 (62–76)	193 (185–201)
Very remote	100 (85–115)	61 (49–73)	81 (71–90)	330 (307–354)	92 (78–106)	226 (211–240)

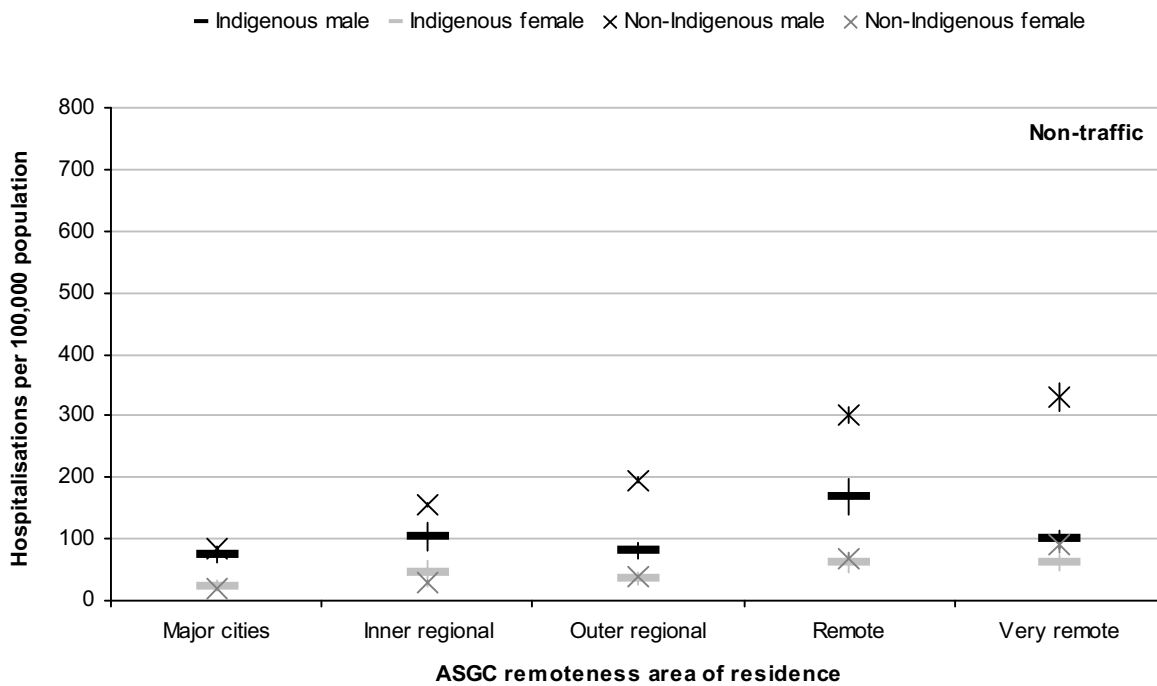
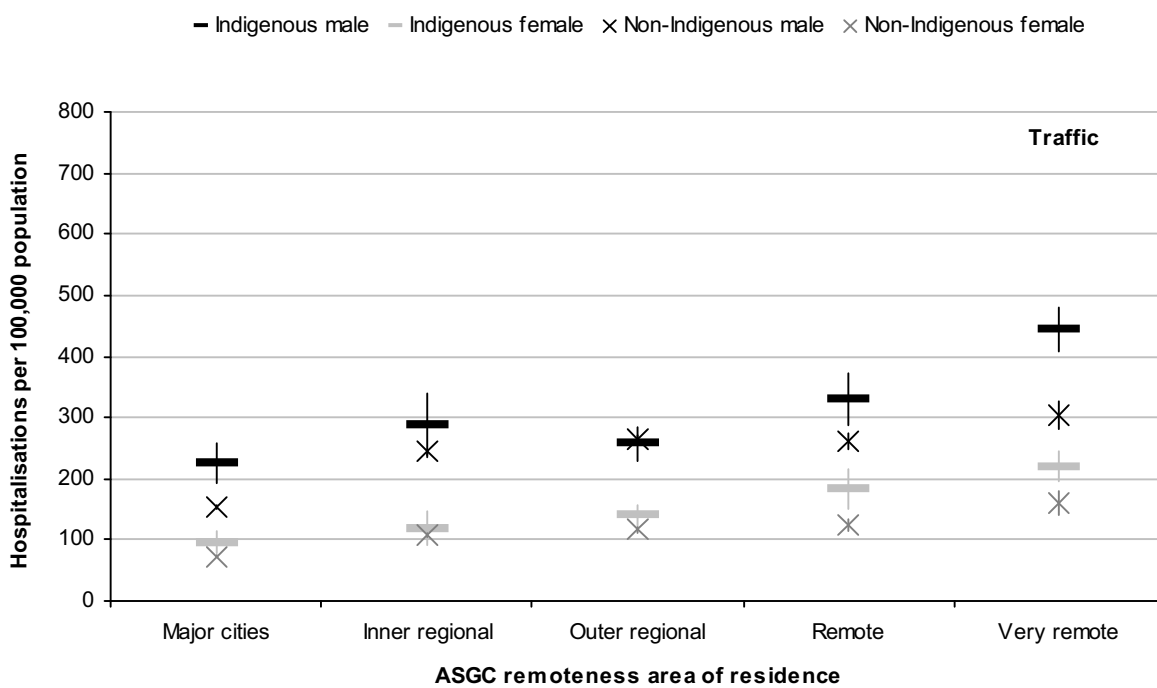


Figure 3.7: Age-standardised hospitalisation rates by remoteness area and Indigenous status for persons involved in land transport accidents; NT, WA, SA and Qld, 2001-02 to 2005-06

Remoteness areas by injured person's vehicle and Indigenous status

Figures 3.8–3.10 depict age-specific injury rates (traffic and non-traffic combined) by the remoteness of the injured person's usual place of residence. Data are stratified by remoteness of residence, gender, age and mode of transport. As a result of stratification, case numbers for Indigenous persons are often small and susceptible to chance variation. While broad patterns are likely to be meaningful, little weight should be put on fluctuations in age-specific rates from one age-group to the next. Most serious injury for pedal cyclists and motorcyclists occurred in non-traffic conditions. This is shown for one remoteness area – Figures 3.11 and 3.12 depict age-specific injury rates for traffic and non-traffic conditions in remote and very remote locations. Tabulations of the age-specific rates and all-ages rates by mode of transport for Figures 3.8–3.12 are included as Tables A8 to A12 in the Appendix.

Major cities

In major cities, the highest all-ages rate among Indigenous males was for pedal cyclists, with the highest rate observed in the 10–14 year age group (216 per 100,000), followed by injuries to Indigenous male pedestrians aged 35–44 (191 per 100,000 at ages 35–39 years and 184 per 100,000 at ages 40–44 years). Overall, in major cities, injury rates for most types of transport were higher for Indigenous males than for non-Indigenous males, with one exception; more non-Indigenous males were injured while riding motorcycles in major cities than Indigenous males. For non-Indigenous males, in terms of the all-ages rate, motorcyclists were most commonly injured with the highest rate observed for those aged 20–24 years (204 per 100,000). The second most commonly injured group was pedal cyclists, for which non-Indigenous males aged 10–14 years had the highest injury rate (254 per 100,000).

For Indigenous females, car passengers were most commonly injured with the serious injury rate highest in the 15–19 year age group (130 per 100,000), followed by pedestrians with the highest rates observed for females aged 20–24 years (91 per 100,000) and 40–44 years (89 per 100,000). Car drivers were the most commonly injured for non-Indigenous females with the highest rate observed for those aged 15–24 years (56 per 100,000 for 15–19 year olds and 60 per 100,000 for 20–24 year olds). High injury rates were also observed for non-Indigenous female car passengers, with the highest rate in the 15–19 year age group (67 per 100,000).

Inner and outer regional

Indigenous males in this region were most commonly injured as pedal cyclists, with the highest rate observed for those aged 10–14 years (268 per 100,000). Motorcyclists were the second most commonly injured with the highest rate observed for males aged 15–19 years (157 per 100,000). For non-Indigenous males, motorcyclists were the most commonly injured with the highest rate in the 20–24 year age group (508 per 100,000) – four times higher than that observed for Indigenous motorcyclists of the same age. The second most commonly injured group for non-Indigenous males was pedal cyclists, with the highest rate observed for those aged 10–14 years (376 per 100,000). For Indigenous and non-Indigenous males living in inner and outer regional areas, the pattern of injury for pedal cyclists is similar to that observed for those living in major cities.

For Indigenous females, car passengers were most commonly injured, with the highest rate in those aged 35–39 years (104 per 100,000). Pedal cyclists were the second most commonly injured with the highest rate observed for females in the 5–9 year age group (111 per 100,000). For non-Indigenous females, car drivers were most commonly injured, with the highest rates at ages 15–24 years (126 per 100,000 at ages 15–19 years and 113 per 100,000 at ages 20–24 years). The second most commonly injured group was car passengers, with the highest rate in those aged 15–19 years (109 per 100,000).

Remote and very remote

In remote and very remote regions, the highest all-ages rate for Indigenous males was for car passengers, with the highest rate observed in the 30–34 year age group (265 per 100,000), followed by car drivers, with the highest rates at ages 20–24 years (234 per 100,000) and 30–34 years (238 per 100,000). For non-Indigenous males, motorcyclists were most commonly injured, with the highest rates observed for those aged 15–24 years (977 per 100,000 at ages 15–19 years and 730 per 100,000 at ages 20–24 years). The injuries to non-Indigenous male motorcyclists in this region were 8.6 times greater at ages 15–19 years and 5.8 times greater at ages 20–24 years than those recorded for Indigenous male motorcyclists of the same age, and were far higher than injuries observed for any other vehicle type. The second most commonly injured group for non-Indigenous males was car drivers and rates were high at ages 15–24 years (207 per 100,000 for 15–19 year olds and 248 per 100,000 for those aged 20–24 years).

As for Indigenous males, car passengers were most commonly injured for Indigenous females, with the highest rate observed in the 50–54 year age group (200 per 100,000). The second most commonly injured group was pedestrians, with the highest rates at ages 35–39 years (101 per 100,000) and 45–49 years (99 per 100,000). For non-Indigenous females, car drivers were most commonly injured, with the highest rate observed in the 15–19 year age group (209 per 100,000), followed by car passengers, with the highest rate at ages 15–19 years (166 per 100,000) and motorcyclists with the highest rate at ages 15–19 years (144 per 100,000).

In remote and very remote regions, over 70% of serious injury cases for car drivers and car passengers occurred in traffic conditions for both Indigenous and non-Indigenous males and females. About two-thirds of Indigenous male and female pedestrians sustained their injuries on public roads and serious injury rates were generally high between 25–64 years of age. About 40% of non-Indigenous pedestrians sustained their injuries in traffic conditions and another 40% occurred in non-traffic conditions and serious injury rates were highest among young adults (traffic) and young children and teenagers (non-traffic). Half of Indigenous motorcyclists and 60% of non-Indigenous motorcyclists sustained their injuries in non-traffic conditions, and about 90% of those injured were male. Over 60% of Indigenous and non-Indigenous pedal cyclists sustained their injuries in non-traffic conditions.

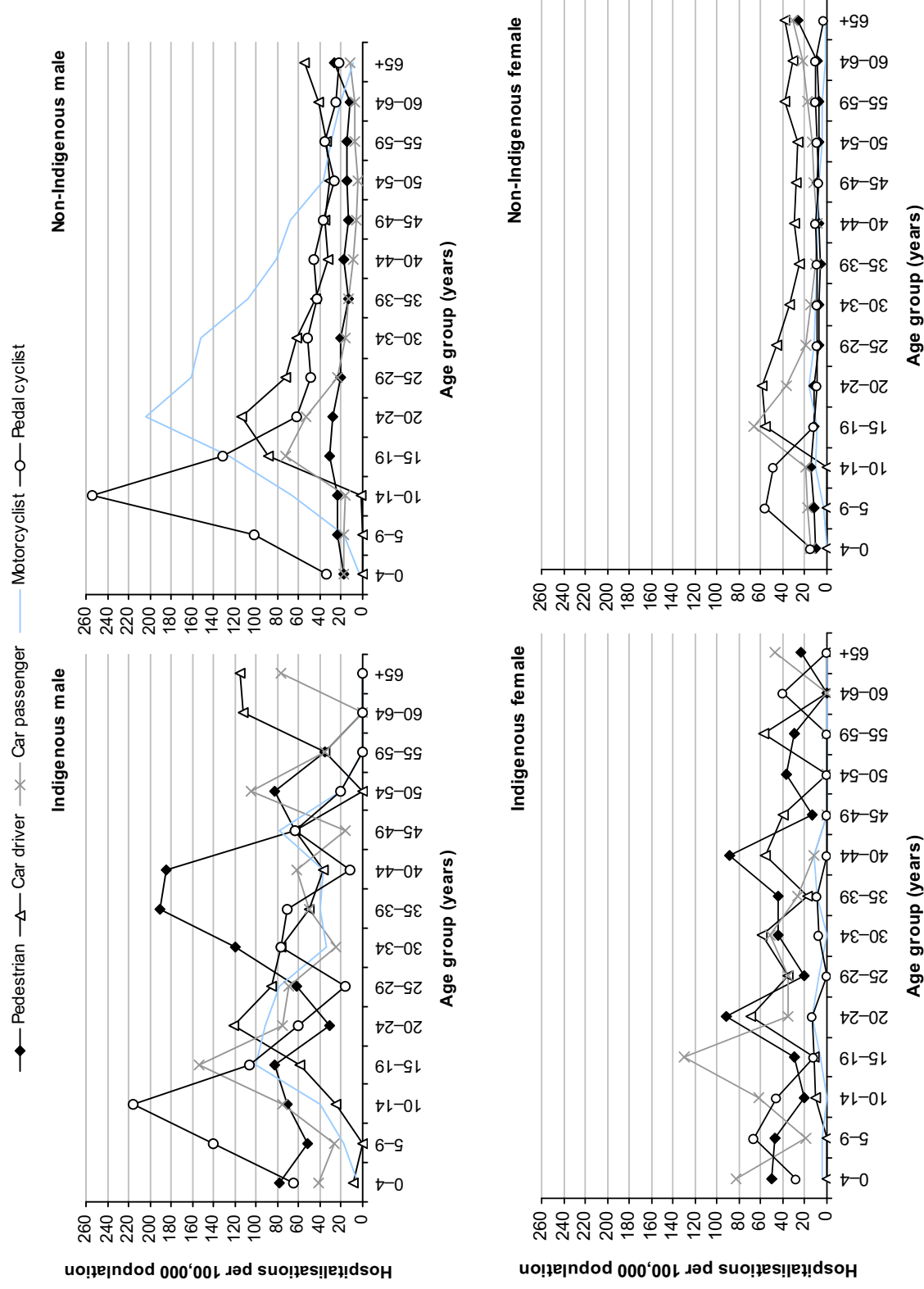


Figure 3.8: Remoteness areas by seriously injured person's vehicle and age: Major cities; NT, WA, SA and Qld, 2001-02 to 2005-06

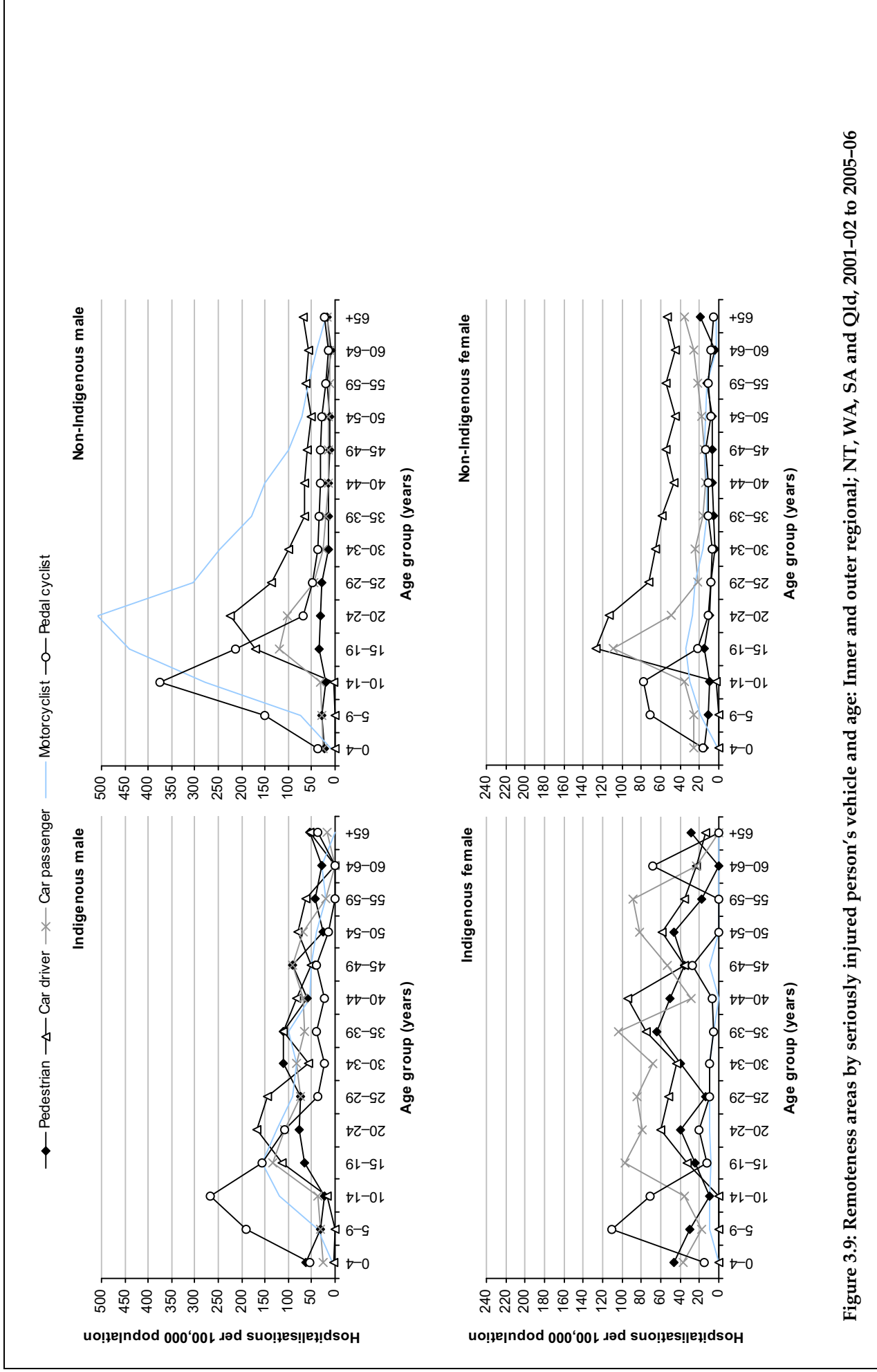


Figure 3.9: Remoteness areas by seriously injured person's vehicle and age: Inner and outer regional; NT, WA, SA and Qld, 2001-02 to 2005-06

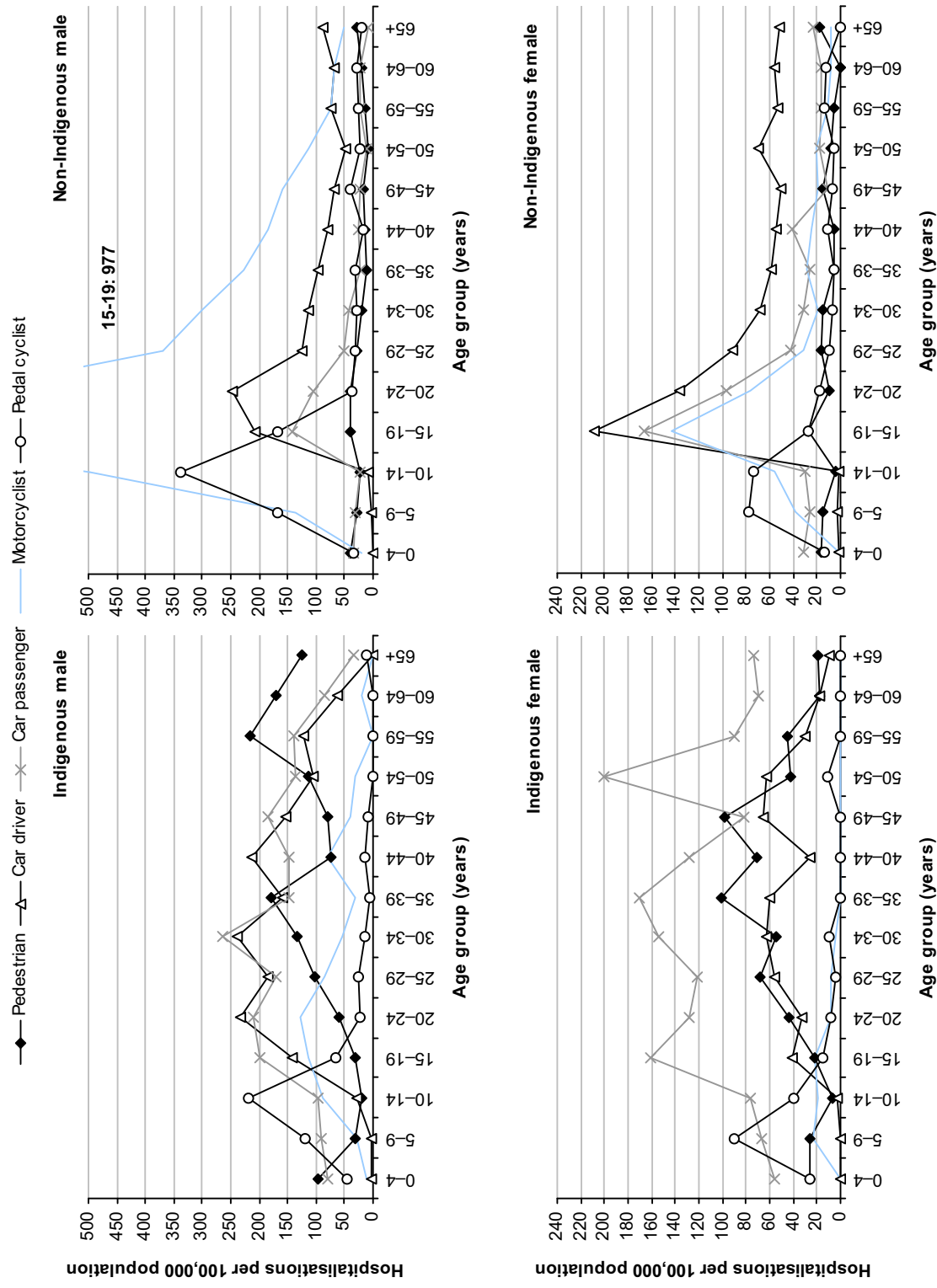


Figure 3.10: Remoteness areas by injured person's vehicle: Remote and very remote; NT, WA, SA and Qld, 2001-02 to 2005-06

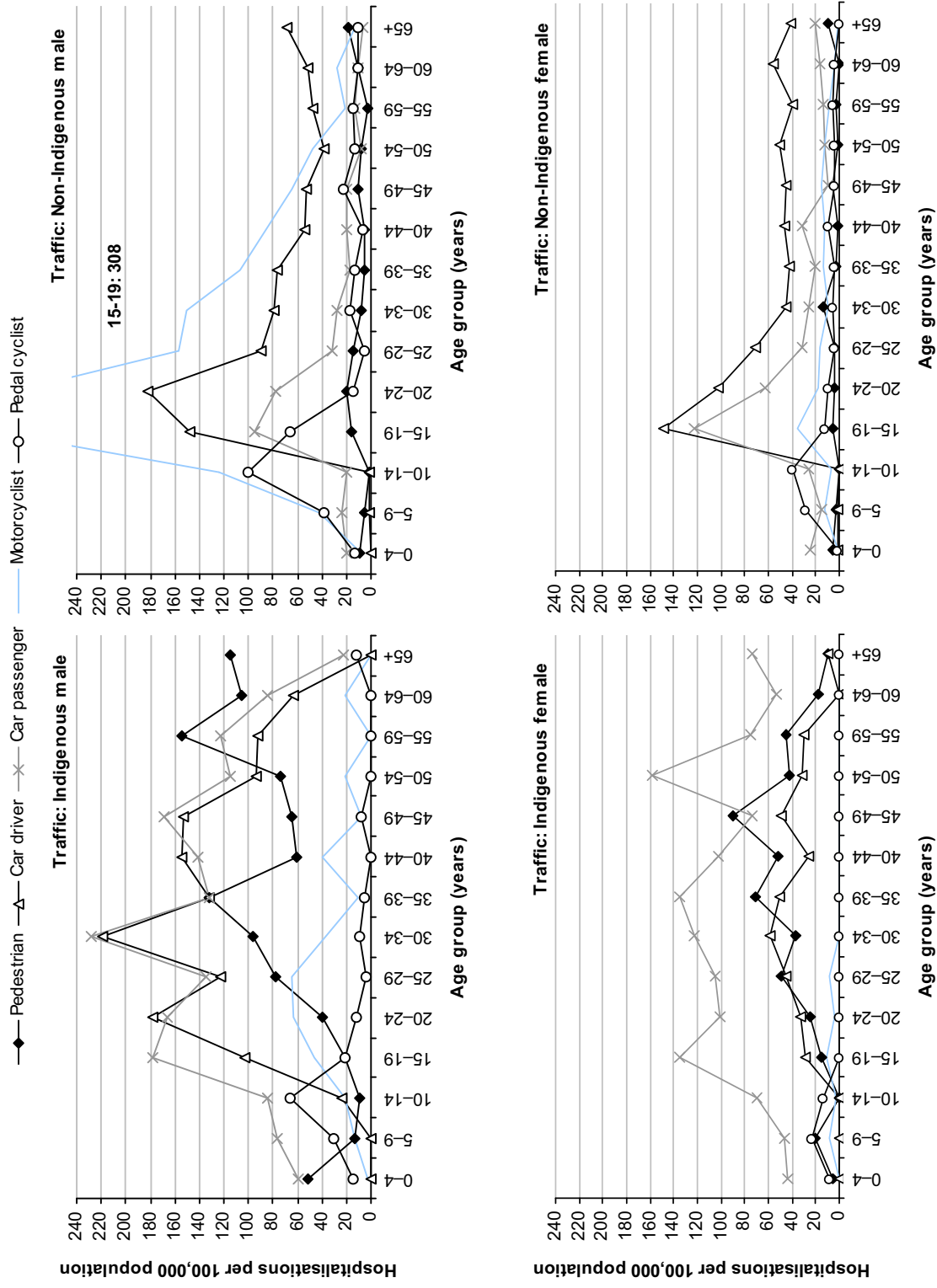


Figure 3.11: Traffic serious injury – remoteness areas by injured person’s vehicle: Remote and very remote; NT, WA, SA and Qld, 2001–02 to 2005–06

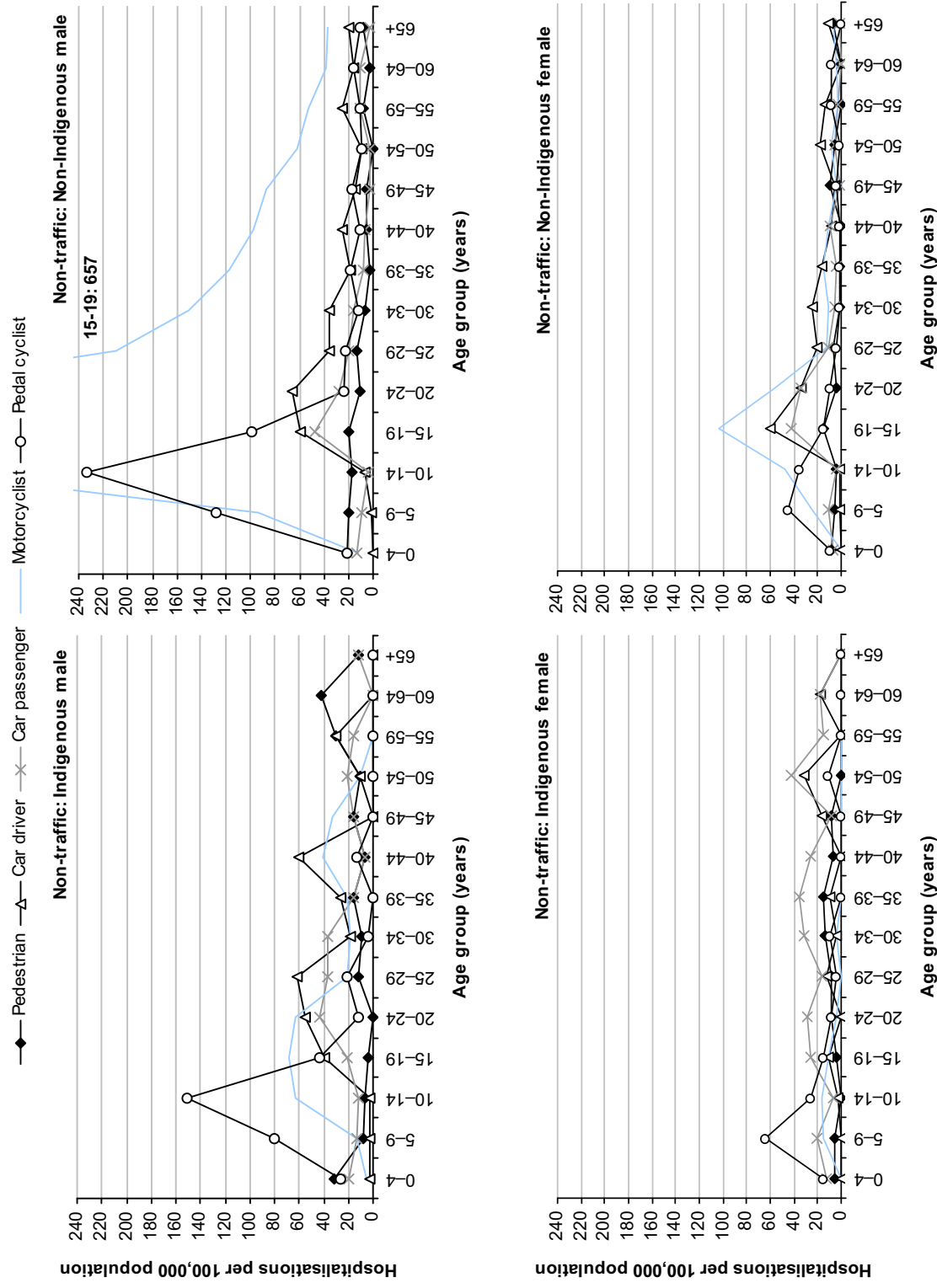


Figure 3.12: Non-traffic serious injury – remoteness areas by injured person’s vehicle: Remote and very remote; NT, WA, SA and Qld, 2001–02 to 2005–06

Mechanism of injury

Many injuries result from a collision between a person's mode of transport and another vehicle, or collision with some other object. In this report, the other vehicle or object is called the counterpart. The counterpart in land transport crashes that result in the death or serious injury of Indigenous persons is specified in Tables 3.7 and 3.8, respectively. Note that ICD-10 (deaths) and ICD-10-AM (hospitalizations) do not allow 'heavy transport vehicle' to be distinguished from 'bus' as a counterpart.

Table 3.7: Mechanism of injury for Indigenous persons fatally injured in land transport accidents; NT, WA, SA and Qld, 2001–02 to 2005–06

Injured person	Counterpart in collision										Total
	Car, pick-up truck or van	2- or 3-wheeled motor vehicle	Pedal cycle	Pedestrian or animal	Heavy transport vehicle or bus	Train	Other non-motor vehicle	Fixed or stationary object	Non-collision transport accident†	Other and unspecified transport accidents	
Car occupant	21	0	0	*	11	*	0	57	88	9	190
Motorcyclist	*	0	0	0	0	0	0	*	0	*	8
Pedal cyclist	*	0	0	0	*	0	0	0	0	0	5
Pedestrian	87	*	0	0	16	6	0	0	0	7	117
Occupant of pick-up truck or van	0	0	0	0	*	0	0	*	*	0	6
Occupant of heavy transport vehicle	0	0	0	0	0	0	0	0	0	0	0
Bus occupant	0	0	0	0	0	*	0	0	0	0	*
Remainder	0	0	0	0	0	0	0	0	0	*	*
Unknown	0	0	0	0	0	0	0	0	*	*	11
Total	113	*	0	*	30	9	0	62	93	32	343

Note: Includes traffic, non-traffic and unspecified as to whether traffic or non-traffic.

Shading denotes the 3 highest figures in the table.

* Small counts are omitted.

Deaths are five-year totals, occurring during 2001–02 to 2005–06 for which an 'external cause' was coded as the Underlying Cause of Death (ICD-10 V01–V89.9).

† Includes non-collision accidents such as overturning, falling or being thrown from a vehicle. It is possible this category may have been used as a residual (i.e. 'dump') code for cases lacking information on whether the accident involved a collision with a counterpart, despite the provision of the *other and unspecified* category for this purpose.

Table 3.8: Mechanism of injury for Indigenous persons seriously injured in land transport accidents; NT, WA, SA and Qld, 2001–02 to 2005–06

Injured person	Counterpart in collision										Total
	Car, pick-up truck or van	2- or 3-wheeled motor vehicle	Pedal cycle	Pedestrian or animal	Heavy transport vehicle or bus	Train	Other non-motor vehicle	Fixed or stationary object	Non-collision transport accident†	Other and unspecified transport accidents	
Car occupant	288	*	0	29	34	*	0	421	1,275	313	2,362
Motorcyclist	22	10	*	6	5	*	0	55	258	108	466
Pedal cyclist	67	0	6	*	0	*	*	38	455	187	756
Pedestrian	631	*	15	0	27	*	5	0	*	85	776
Occupant of pick-up truck or van	*	0	0	*	0	0	0	12	76	7	100
Occupant of heavy transport vehicle	*	0	0	0	0	0	0	*	9	*	15
Bus occupant	*	0	0	0	*	0	0	*	14	7	25
Animal rider or occupant of animal-drawn vehicle	0	0	0	*	0	0	0	*	211	26	243
Occupant of special all-terrain or off-road vehicle	0	0	0	0	0	0	0	0	0	44	44
Occupant of three-wheeled motor vehicle	0	0	0	*	0	0	0	*	*	*	11
Occupant of a tram	0	0	0	0	0	0	0	0	0	*	*
Occupant of a train	0	0	0	0	0	0	0	0	0	9	9
Occupant of special agricultural or industrial or construction vehicle	0	0	0	0	0	0	0	0	0	21	21
Unknown	*	*	0	0	0	0	0	0	25	81	106
Total	1,017	20	22	40	67	7	6	536	2,325	898	4,938

Note: Includes traffic, non-traffic and unspecified as to whether traffic or non-traffic.

Shading denotes the 4 highest figures in the table.

* Small counts are omitted.

Cases are five-year totals for 2001–02 to 2005–06 and include cases where Principal Diagnosis was coded to ICD-10-AM S00–T98.

† Includes non-collision accidents such as overturning, falling or being thrown from a vehicle. It is possible this category may have been used as a residual (i.e. 'dump') code for cases lacking information on whether the accident involved a collision with a counterpart, despite the provision of the *other and unspecified* category for this purpose.

The three most common mechanisms (Table 3.9) accounting for about a third (68%) of fatal injuries in Indigenous land transport crashes were 1) a car occupant injured in a non-collision transport accident (26%), 2) a pedestrian injured in a collision with a car, pick-up truck or van (25%), and 3) a car occupant injured in a collision of the car with a fixed or stationary object (17%).

The four most common mechanisms accounting for 56% of serious injury in Indigenous land transport crashes were 1) a car occupant injured in a non-collision transport accident (26%), 2) a pedestrian injured in a collision with a car, pick-up truck or van (13%), 3) a pedal cyclist injured in a non-collision transport accident (9%), and 4) a car occupant injured in a collision of the car with a fixed or stationary object (9%).

The five most common mechanisms accounting for 63% of fatal injuries in non-Indigenous land transport crashes are shown in Table 3.9. The three most common involved a car occupant injured 1) in a collision with a fixed or stationary object (23%), 2) in a collision with a car, pick-up truck or van (16%), and 3) in a non-collision car accident (9%). Pedestrians hit by a car, pick-up truck or van constituted only 8% of fatalities.

The five most common mechanisms accounting for over a half of serious injury in non-Indigenous land transport crashes were 1) a motorcyclist injured in a non-collision transport accident (13%), 2) a car occupant injured in a collision with a car, pick-up truck or van (12%), 3) a pedal cyclist injured in a non-collision transport accident (10%), 4) a car occupant injured in a non-collision transport accident (9%), and 5) a car occupant injured in a collision with a fixed or stationary object (8%).

In most fatal (88%) and serious injury (79%) cases involving Indigenous car occupants, the person was reported to be positioned inside the vehicle at the time of the accident. Riding on the outside of the car accounted for only 4% of fatal and 2% of serious injuries (though location was unknown for 8% of the fatally injured car occupants and 18% of those seriously injured) (Tables 3.10 and 3.11). Most non-Indigenous car occupants were positioned inside the vehicle at the time of the accident for both fatal (96%) and serious (87%) injury.

For Indigenous occupants of a pick-up truck or van or a heavy transport vehicle, there were 6 fatalities and 115 serious injury cases in total. One fatality and 24 serious injury cases were from riding on the outside of the vehicle (though occupant position was unknown for 13 persons seriously injured).

For non-Indigenous persons, about twice as many drivers compared with passengers were fatally and seriously injured (Tables 3.10 and 3.11). Similar numbers of car drivers and car passengers were killed among Indigenous persons, but 1.6 times as many passengers were seriously injured compared to car drivers. The higher proportion of car passengers relative to car drivers being killed or seriously injured among Indigenous persons, suggests a higher average number of passengers per vehicle compared to non-Indigenous persons, resulting in more persons injured per crash.

Table 3.9: Most common mechanisms of injury for land transport; NT, WA, SA and Qld, 2001–02 to 2005–06

Type of collision	Traffic	Non-traffic	Total**	Per cent ‡
Fatal injury—Indigenous (n=343)				
Car occupant injured in a non-collision transport accident	83	5	88	25.7%
Pedestrian injured in a collision with a car, pick-up truck or van	76	9	87	25.4%
Car occupant injured in a collision with a fixed or stationary object	54	*	57	16.6%
Total of the most common mechanisms	213	17	232	67.6%
Serious injury—Indigenous (n=4,938)				
Car occupant injured in a non-collision transport accident	987	253	1,275	25.8%
Pedestrian injured in a collision with a car, pick-up truck or van	493	67	631	12.8%
Pedal cyclist injured in a non-collision transport accident	129	324	455	9.2%
Car occupant injured in a collision with a fixed or stationary object	366	55	421	8.5%
Total of the most common mechanisms	1,975	699	2,782	56.3%
Fatal injury—non-Indigenous (n=3,331)				
Car occupant injured in a collision with a fixed or stationary object	769	6	775	23.3%
Car occupant injured in a collision with a car, pick-up truck or van	541	*	545	16.4%
Car occupant injured in a non-collision transport accident	275	18	296	8.9%
Pedestrian injured in a collision with a car, pick-up truck or van	230	28	277	8.3%
Car occupant injured in a collision with a heavy transport vehicle	220	0	220	6.6%
Total of the most common mechanisms	2,035	56	2,113	63.4%
Serious injury—non-Indigenous (n=86,225)				
Motorcyclist injured in a non-collision transport accident	3,951	7,356	11,342	13.2%
Car occupant injured in a collision with a car, pick-up truck or van	9,824	246	10,088	11.7%
Pedal cyclist injured in a non-collision transport accident	2,239	6,313	8,574	9.9%
Car occupant injured in a non-collision transport accident	5,888	1,796	8,109	9.4%
Car occupant injured in a collision with a fixed or stationary object	5,894	1,056	6,958	8.1%
Total of the most common mechanisms	27,796	16,767	45,071	52.3%

Note: Shading denotes whether the mechanism occurs more frequently in traffic or non-traffic conditions.

* Small counts are omitted.

** This includes cases where it is unspecified as to whether the crash occurred in traffic or non-traffic conditions.

‡ Per cent of total fatal injuries or serious injuries for the relevant group.

Table 3.10: Mechanism of fatal injury for car occupants; NT, WA, SA and Qld, 2001–02 to 2005–06

Injured person	Counterpart in collision										Total
	Car, pick-up truck or van	2- or 3-wheeled motor vehicle	Pedal cycle	Pedestrian or animal	Heavy transport vehicle or bus	Train	Other non-motor vehicle	Fixed or stationary object	Non-collision transport accident†	Other and unspecified transport accidents	
Fatal injury—Indigenous (n=343)											
Car occupant											
• Driver	21	0	0	*	11	*	0	57	88	9	190
• Passenger (inside of vehicle)	7	0	0	*	7	*	0	34	35	0	85
• Passenger (outside of vehicle)	14	0	0	*	*	0	0	19	41	*	83
• Boarding or alighting	0	0	0	0	0	0	0	*	*	0	7
• Unspecified	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	*	*	15
Fatal injury—non-Indigenous (n=3,331)											
Car occupant											
• Driver	545	*	0	9	220	14	*	775	296	86	1,950
• Passenger (inside of vehicle)	375	*	0	6	162	9	*	559	145	36	1,294
• Passenger (outside of vehicle)	163	*	0	*	55	5	0	203	124	26	582
• Boarding or alighting	0	0	0	0	0	0	0	*	19	*	22
• Unspecified	7	0	0	0	0	0	0	0	*	0	*
	0	0	0	0	0	0	0	0	*	0	0
	0	0	0	0	*	0	0	*	*	24	49

Note: Includes traffic, non-traffic and unspecified as to whether traffic or non-traffic.

*Small counts are omitted.

Deaths are five-year totals, occurring during 2001–02 to 2005–06 for which an 'external cause' was coded as the Underlying Cause of Death (ICD-10 V01–V89.9).

† Includes non-collision accidents such as overturning, falling or being thrown from a vehicle. It is possible this category may have been used as a residual (i.e. 'dump') code for cases lacking information on whether the accident involved a collision with a counterpart, despite the provision of the *other and unspecified* category for this purpose.

Table 3.11: Mechanism of serious injury for car occupants; NT, WA, SA and Qld, 2001–02 to 2005–06

Injured person	Counterpart in collision										Total
	Car, pick-up truck or van	2- or 3-wheeled motor vehicle	Pedal cycle	Pedestrian or animal	Heavy transport vehicle or bus	Train	Other non-motor vehicle	Fixed or stationary object	Non-collision transport accident†	Other and unspecified transport accidents	
Serious injury—Indigenous (n=4,938)											
Car occupant	288	*	0	29	34	*	0	421	1,275	313	2,362
• Driver	113	*	0	7	15	0	0	176	412	7	731
• Passenger (inside of vehicle)	167	0	0	15	17	*	0	230	682	18	1,130
• Passenger (outside of vehicle)	*	0	0	*	*	0	0	*	41	0	49
• Boarding or alighting	0	0	0	0	0	0	0	0	35	0	35
• Unspecified	*	0	0	*	*	0	0	13	105	288	417
Serious injury—non-Indigenous (n=86,225)											
Car occupant	10,088	57	5	222	818	46	35	6,958	8,109	2,893	29,231
• Driver	6,439	43	*	142	582	28	17	4,710	4,429	339	16,733
• Passenger (inside of vehicle)	3,433	14	*	60	220	14	13	2,121	2,570	254	8,700
• Passenger (outside of vehicle)	22	0	0	11	*	*	*	16	271	0	324
• Boarding or alighting	18	0	0	*	0	0	0	8	425	0	452
• Unspecified	176	0	0	*	*	*	*	103	414	2,300	3,022

Note: Includes traffic, non-traffic and unspecified as to whether traffic or non-traffic.

* Small counts are omitted.

† Includes non-collision accidents such as overturning, falling or being thrown from a vehicle. It is possible this category may have been used as a residual (i.e. 'dump') code for cases lacking information on whether the accident involved

a collision with a counterpart, despite the provision of the *other and unspecified* category for this purpose.

Time trends

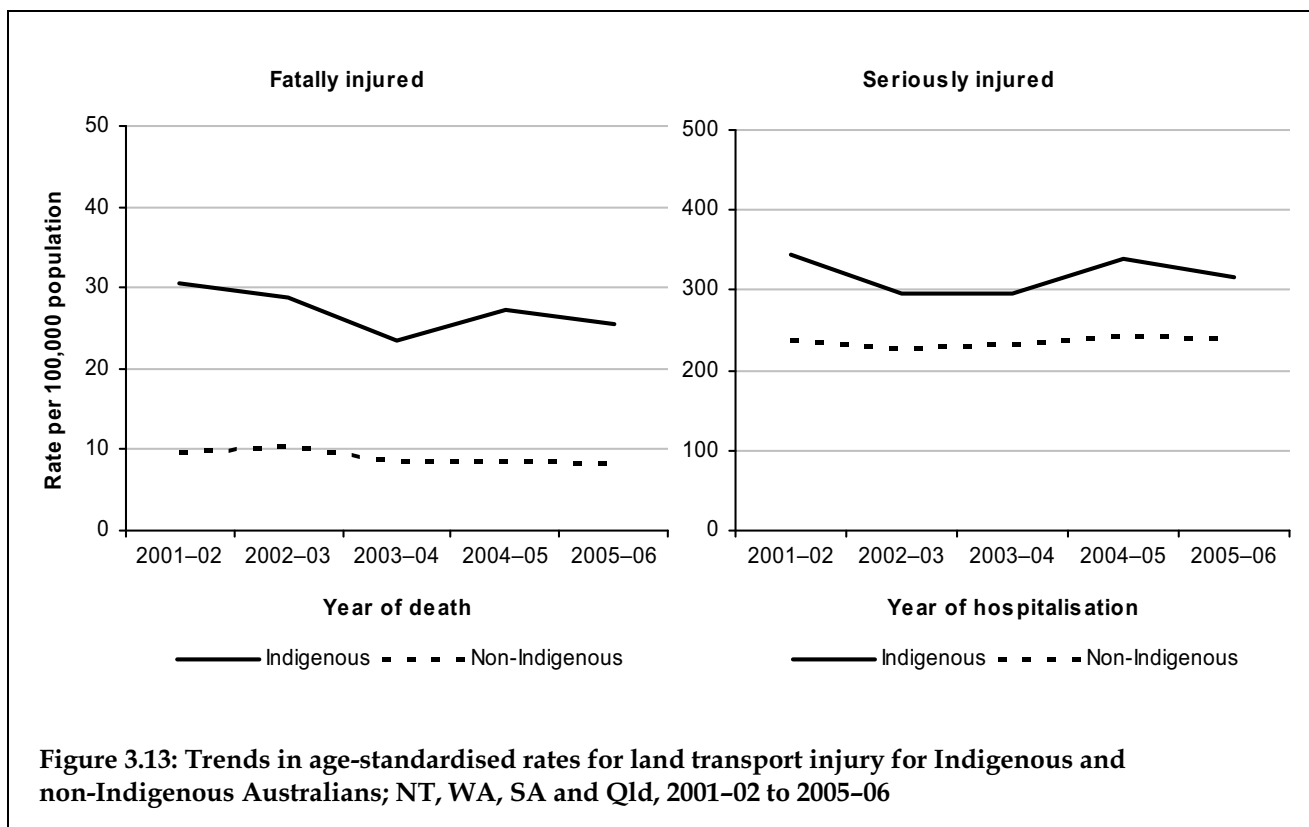
Table 3.12 and Figure 3.13 depict age-standardised rates of serious and fatal injury over five years (2001–02 to 2005–06) for which both injury case numbers and population numbers were available by age and gender. Results must be interpreted with caution as it is possible that any trends in fatal or serious injury rates for Indigenous people may be influenced by changing levels of ascertainment of Indigenous status or injury deaths over time. This issue is discussed in ‘Data issues’ in the Appendix.

Table 3.12: Trends in age-standardised rates of fatal and serious injury by Indigenous status; NT, WA, SA and Qld, 2001–02 to 2005–06

	Age-standardised rate per 100,000 population (95% CI)									
	Fatally injured					Seriously injured				
	2001–02	2002–03	2003–04	2004–05	2005–06	2001–02	2002–03	2003–04	2004–05	2005–06
Indigenous										
Males	35 (21–49)	37 (26–48)	37 (23–51)	42 (26–58)	32 (22–42)	489 (446–532)	429 (390–469)	390 (353–427)	436 (397–474)	444 (404–484)
Females	27 (15–38)	21 (11–31)	12 (6–17)	15 (7–23)	19 (10–28)	208 (182–234)	172 (149–194)	209 (182–235)	246 (217–275)	194 (169–219)
Persons	31 (22–39)	29 (21–36)	24 (17–30)	27 (19–36)	25 (19–32)	344 (320–369)	296 (274–318)	297 (274–319)	339 (315–363)	315 (292–338)
Non-Indigenous										
Males	14 (13–16)	15 (14–17)	13 (11–14)	13 (12–14)	12 (11–14)	336 (330–342)	318 (312–324)	329 (323–334)	340 (334–346)	340 (334–346)
Females	5 (4–6)	5 (5–6)	4 (4–5)	4 (4–5)	4 (3–5)	137 (133–141)	137 (133–141)	134 (131–138)	141 (137–145)	138 (134–141)
Persons	10 (9–10)	10 (10–11)	9 (8–9)	9 (8–9)	8 (8–9)	238 (234–241)	228 (225–232)	233 (229–236)	242 (238–245)	240 (237–244)

The age-standardised rates of fatal and serious injury due to land transport crashes fluctuated over the five year period 2001–02 to 2005–06 (Table 3.12). The 95% confidence intervals overlap for both fatal and serious injury when comparing 2001–02 with 2005–06, so there are unlikely to be statistically significant differences between the two time-points.

Non-Indigenous rates of fatal and serious injury due to land transport crashes were constant over the five year period (Table 3.12).



Trends in the age-standardised rates of fatal and serious injury over five years and by road user group are shown in Figure 3.14. The different profiles of land transport injury for Indigenous people compared with non-Indigenous people are depicted. Small numbers for Indigenous people meant that confidence intervals were wide for each mode of transport, with the implication being that sample sizes were not large enough to determine whether a trend was statistically significant or influenced by random variation. However, although caution must be taken in interpretation, there did not appear to be a significant increase in the rate of serious injury among Indigenous people for any road user group since 2001-02. As further years of data become available, it will be possible to see whether these patterns continue or whether they are in fact, chance fluctuations or effects of data issues. For non-Indigenous people, there was a significant increase in the age-standardised rate of serious injury for motorcyclists in the last two years of the five-year period.

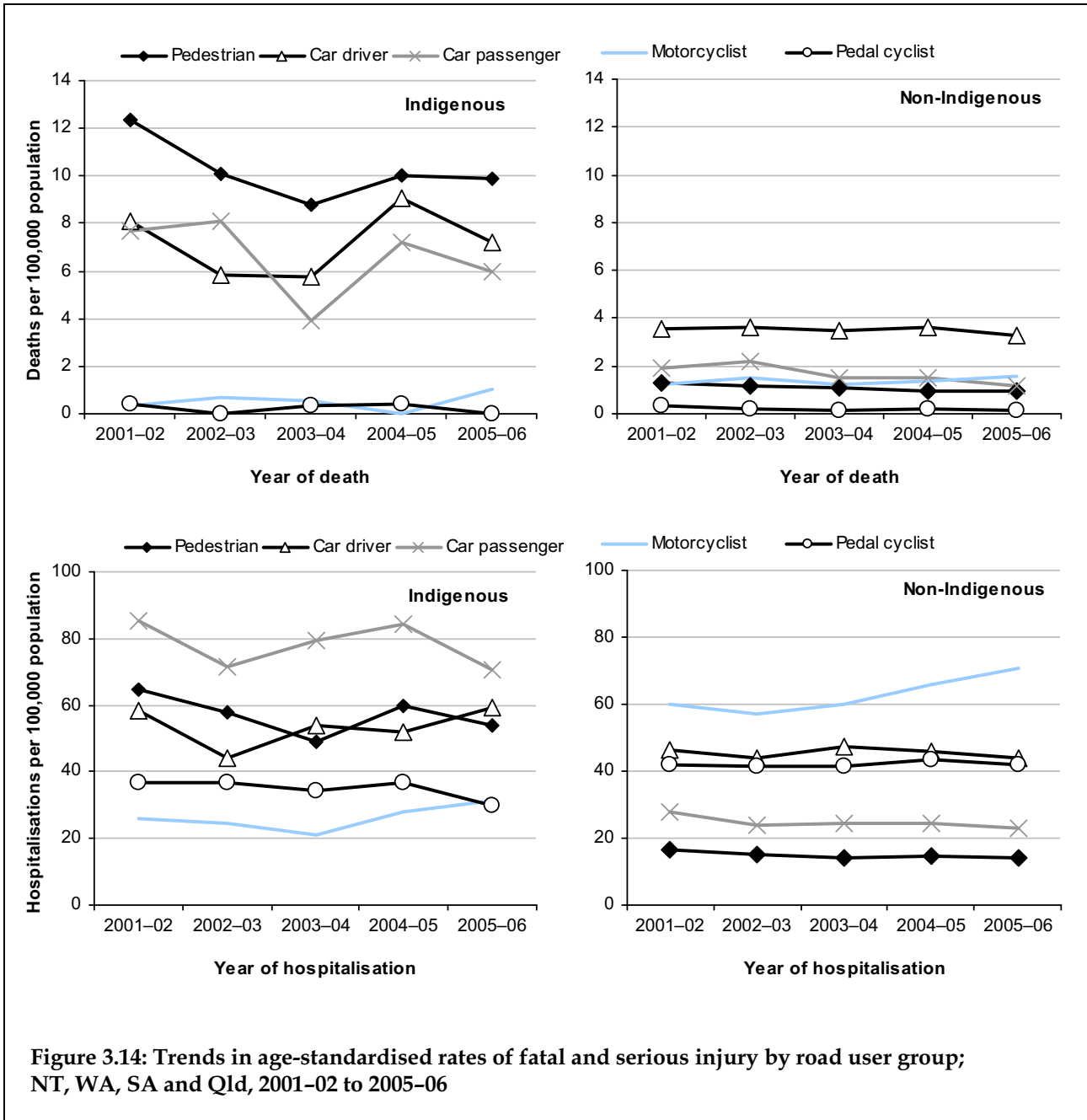


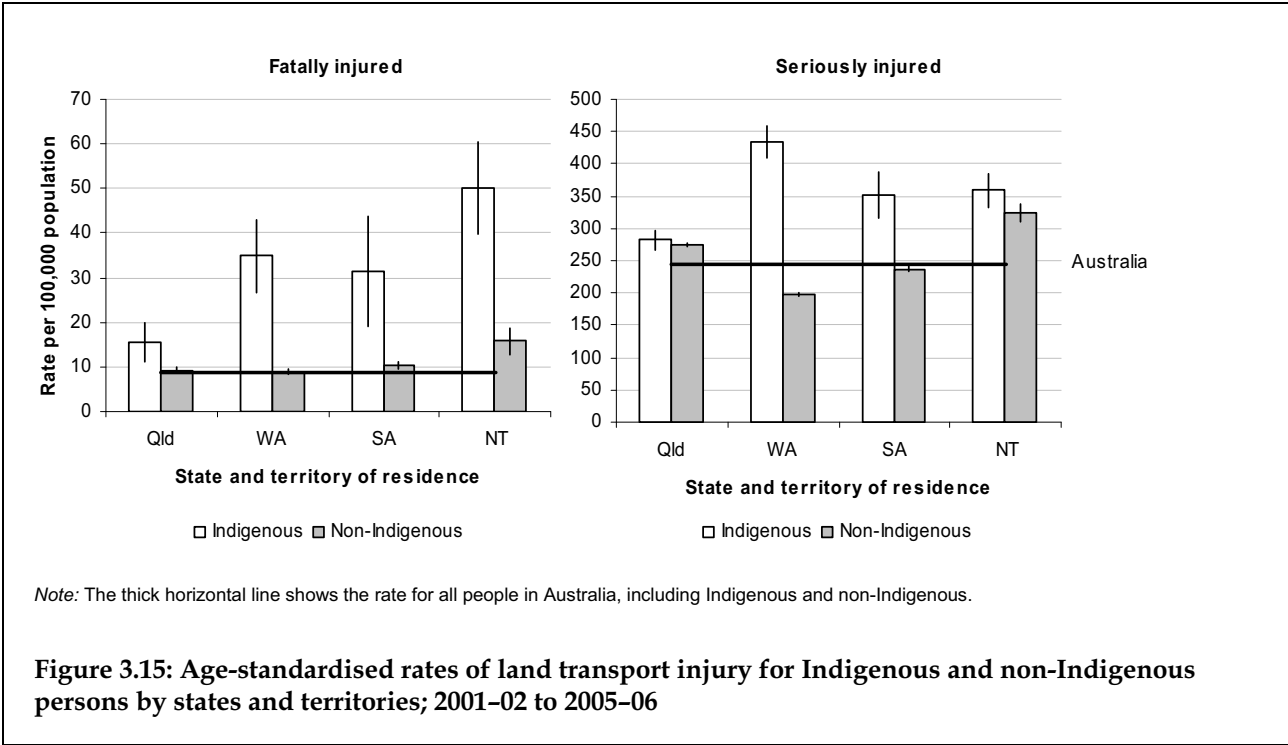
Figure 3.14: Trends in age-standardised rates of fatal and serious injury by road user group; NT, WA, SA and Qld, 2001-02 to 2005-06

State and territory differences

The age-standardised rates of fatal and serious injury due to land transport crashes were significantly higher than the national rate (the rate for all people in Australia) for Indigenous people in all four jurisdictions (Figure 3.15). The Indigenous rate of fatal injury was 1.8 times as high as the national rate in Queensland, 4.0 times as high in Western Australia, 3.6 times as high in South Australia and 5.8 times as high in the Northern Territory. The Indigenous rate of serious injury was 1.2 times as high as the national rate in Queensland, 1.8 times as high in Western Australia, 1.4 times as high in South Australia and 1.5 times as high in the Northern Territory.

The Indigenous rates of fatal and serious injury appear to be lower in Queensland compared to Western Australia, South Australia and the Northern Territory. However, there is evidence that completeness of ascertainment of Indigenous status in deaths and hospitalisation data differs between the four jurisdictions and is lowest in Queensland (see 'Data issues' in the Appendix). This may partly explain the apparently lower serious injury rate and much lower fatality rate in Queensland.

The rates of fatal injury among non-Indigenous people in Queensland and Western Australia were similar to the national rate. However, the rate of serious injury in Queensland was significantly higher than the national rate (1.1 times) and the rate of serious injury in Western Australia was significantly lower than the national rate (0.81). The rate of fatal injury among non-Indigenous people in South Australia was significantly higher than the national rate (1.2 times) but the rate of serious injury was close to the national rate (0.97). The age-standardised rates of fatal and serious injury due to land transport crashes for non-Indigenous people in the Northern Territory were significantly higher than the national rate, 1.8 and 1.3 times as high, respectively.



Other literature

The 2002 National Aboriginal and Torres Strait Islander Social Survey (ABS 2004b) is a survey of 9,400 Indigenous people aged 15 years and over. On the subject of motor vehicle access and difficulties with transport, the survey revealed that Indigenous people were more likely than non-Indigenous people to have difficulty getting to the places that they needed to get to. Whilst 85% of non-Indigenous Australians aged 18 years and above had access to a motor vehicle to drive, only around 60% of Indigenous Australians had such access. Only 4% of non-Indigenous Australians reported that they couldn't get around, or had trouble doing so, whereas the percentage of Indigenous Australians with such transport difficulties was 12%. Transport difficulties were a larger problem for Indigenous persons compared to non-Indigenous persons, irrespective of the state or territory of residence in Australia.

A joint report by the Australian Bureau of Statistics (ABS) and the Australian Institute of Health and Welfare (AIHW) presented data for the 2006 Census which revealed that 21% of Indigenous households were without a motor vehicle in 2001, whereas only 9% of non-Indigenous households had no vehicle (ABS and AIHW 2008). In terms of remoteness of residence, the Indigenous households most likely to be without a vehicle were those in remote and very remote areas. The ABS/AIHW report surmised that difficulty with transport/distance and the services not being available in the area were commonly given as reasons by Indigenous people in remote areas for not seeking health care when needed. Given the information from the National Aboriginal and Torres Strait Islander Social Survey and the ABS/AIHW report, it is likely that transport difficulties arising from the lack of access to a motor vehicle for Indigenous Australians in remote and very remote areas, may be further exacerbated by a lack of public transport in such regions.

Appendix: Data issues

Comparability with reports by other organisations

National cause of death data (mortality data) are collected in Australia by the Australian Bureau of Statistics (ABS) and classified in accordance with an international standard classification called the International Statistical Classification of Diseases (ICD). Australian hospitals also use ICD when compiling data on persons injured and subsequently admitted to hospital (morbidity data). This conjuncture provides a basis for consolidation of mortality and morbidity data.

ICD provides a nationally consistent basis for looking at mortality and morbidity due to transport accidents of all kinds (road, rail, water and air) taken together. However, it is not necessarily consistent with the approach taken by the Australian Transport Safety Bureau (ATSB) or others in looking at safety in each transport mode individually. For example, road safety statistics compiled by the Federal Government are focused on crashes on public roads, whereas ICD covers road crashes both on and off public roads. Aviation statistics compiled by the ATSB do not cover hang-gliders, gliders and other forms of non-powered aircraft, whereas ICD does. For national road deaths, readers should refer to the 'road safety/statistics' part of the Department website at <www.infrastructure.gov.au>, where road death statistics are published on a monthly basis. Similarly, for details on marine, rail and air safety (aviation death statistics are published monthly), the relevant part of the ATSB website should be consulted. The purpose here is to provide a general overview rather than to focus on each mode in detail.

Deaths

Deaths data in this report are from the ABS mortality unit record data collection. Data are presented according to the year in which the deaths occurred (rather than reporting deaths according to year of registration).

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

- Date of death occurring 1 July 2001 to 30 June 2006 and registered by 31 December 2006 (received from the ABS in July 2008);
- The Underlying Cause of Death (UCoD) is classified to ICD-10 (WHO 1992) external cause codes in the range V01–V99 (i.e. the 'Transport Accidents' section of Chapter XX *External causes of morbidity and mortality*); and
- Place of usual residence is recorded as the Northern Territory (NT), Western Australia (WA), South Australia (SA) or Queensland (Qld).

The ICD-10 classification system excludes any death from being coded in the V01–V99 range if the death is attributable to injuries sustained during a transport accident, but the death occurred one year or more after the originating event. Such cases are coded as Y85 '*Sequela*e [late effects] of transport accidents'.

Deaths were defined as being due to transportation if they contained a Chapter 20 underlying cause of death code for 'Transport Accidents' (ICD-10 range V01–V99). Cases in which a code in this range appears only as a multiple cause of death (2nd or subsequent codes) were excluded on the grounds that transport was not recorded as the main reason for death (Table A1). Almost all records (99%) contained an injury code (S00–T98) as a multiple cause of death in the 2nd or subsequent codes. Deaths were included regardless of whether or not they had a multiple cause of death of injury (S00–T98), resulting in a starting file of 3,878 records.

Table A1: Selection criteria for death records of transport injury

Record occurring from 1 July 2001 to 30 June 2006	Indigenous	Non-Indigenous	Total
Records with an ICD-10 'Transport Accident' code (V01–V99) as underlying cause, or multiple cause of death (i.e. transportation coded anywhere in the record)*	352	3,577	3,929
Records with a 'Transport Accident' as underlying cause of death, and	348	3,530	3,878
• Injury (S00–T98) as a multiple cause of death anywhere in the record	347	3,509	3,856

* There were 51 records (all but a few records were non-Indigenous) with another underlying cause of death (e.g. suicide, fires, burns or scalds) or no external cause (n=48; of which 40 had an injury code elsewhere in the record).

Serious injury

National hospital separations data were provided by the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database (NHMD). A separation is defined as:

A formal, or statistical process, by which an episode of care for an admitted patient ceases (AIHW 2001).

Hospital cases were defined as being due to transportation if they contained a first reported Chapter XX external cause code in the ICD-10-AM range V01–V99. Cases with a Principal Diagnosis other than injury and cases in which transportation only appears as an additional external cause code were excluded on the grounds that injury due to a transport accident was not recorded as being the main reason for admission to hospital (Table A2), resulting in a starting file of 106,412 records.

Table A2: Selection criteria for hospital records of transport injury

Record occurring from 1 July 2001 to 30 June 2006	Indigenous	Non-Indigenous	Total
Records with an ICD-10-AM 'Transport Accident' code (V01–V99) as external cause anywhere in the record*	6,599	112,942	119,541
Records with a 'Transport Accident' as first reported external cause†, and	6,525	112,182	118,707
• Injury as a Principal Diagnosis (S00–T98)	5,760	100,652	106,412

* There were 834 records (74 Indigenous and 760 non-Indigenous) with a first reported external cause code of another type of injury (e.g. complications of surgical and medical care, other unintentional injuries, falls, intentional self-harm etc.) but a 2nd or subsequent external cause code of transportation.

† There were 12,295 cases (765 Indigenous and 11,530 non-Indigenous) with a first reported external cause code of transportation but a Principal Diagnosis outside of the injury range (S00–T98). For Indigenous persons, the most common Principal Diagnoses were *care involving use of rehabilitation procedure, unspecified* (Z50.9, n=197), *examination and observation following transport accident* (Z04.1, n=125) and *cellulitis of lower limb* (L03.11, n=41). For non-Indigenous persons, the most common Principal Diagnoses were *care involving use of rehabilitation procedure, unspecified* (Z50.9, n=2,887), *examination and observation following transport accident* (Z04.1, n=1,243), *care involving use of other rehabilitation procedures* (Z50.8, n=523), *other specified orthopaedic follow-up care* (Z47.8, n=421) and *other physical therapy* (Z50.1, n=393).

Seriously injured is defined for this report as an injury which results in the person being admitted to hospital, and subsequently discharged alive either on the same day or after one or more nights stay in a hospital bed (i.e. deaths are excluded). The terms *seriously injured* and *hospitalisations* are used interchangeably in the report. As discharge from hospital can include transfer to home, to another acute care hospital and to another form of care (e.g. rehabilitation), a method has been used in this report to reduce over-counting of injury cases by omitting separations in which the mode of admission is recorded as being by transfer from another acute-care hospital, on the grounds that such cases are likely to result in two or more separation records for the same injury.

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

- Australian hospital separations occurring 1 July 2001 to 30 June 2006, coded according to the second, third and fourth edition of ICD-10-AM (NCCH 2000; NCCH 2002; NCCH 2004);
- Principal Diagnosis in the ICD-10-AM range S00–T98 using Chapter XIX *Injury, poisoning and certain other consequences of external causes* codes;
- First (left-most) external cause of morbidity in ICD-10-AM range V01–V99 (i.e. the ‘Transport Accidents’ section of Chapter XX *External causes of morbidity and mortality*);
- Mode of admission has any value except the one indicating that transfer from another acute-care hospital has occurred;
- Mode of separation has any value except the one indicating that the person died while in hospital; and
- Place of usual residence is recorded as the NT, WA, SA and Qld.

The calculation of transport accidents as a percentage of all injury hospital separations and the calculation of total patient days (including same day, which are assigned a stay of one day) requires the inclusion of all hospital separations (i.e. not omitting separations in which the mode of admission is recorded as being by transfer from another acute-care hospital or separations in which the person died in hospital).

Ascertainment of Indigenous status

For data in most of the five-year period covered by this report, the ABS and the AIHW recommend that Indigenous statistics only be reported for jurisdictions with a sufficient level of Indigenous identification (ABS and AIHW 2005; AIHW 2005b). For deaths data, these jurisdictions are the NT (92%), WA (70%), SA (64%) and Qld (52%) (ABS 2005a).

For hospitalisation data, the level of completeness of identification of Indigenous status is assessed annually by each jurisdiction and provided to the AIHW. For the fiscal period 2001–02 to 2003–04, only the NT, WA and SA reported that the quality of Indigenous status was ‘acceptable’, (AIHW 2003; AIHW 2004; AIHW 2005a) and Qld was included as acceptable in 2004–05 and 2005–06 (AIHW 2006; AIHW 2007a) although no estimates of the level of completeness of Indigenous identification were provided. However, the AIHW recommended that Qld also be included in the reporting of Indigenous statistics, since the four jurisdictions in aggregate better reflect the diversity of social and economic circumstances in the Indigenous and non-Indigenous populations (AIHW 2005b). The four jurisdictions account for 75% of national hospital separations reported as being for Indigenous people and 39% of national hospital separations. Similarly, they account for 60% of the Indigenous population of Australia and 38% of the population of Australia (AIHW 2005b). The same AIHW publication advises caution be exercised in time series analyses for these four jurisdictions, and findings should include a caveat about the possible contribution to changes in hospitalisation rates for Indigenous people of changes in ascertainment of Indigenous status for Indigenous patients (AIHW 2005b).

Analyses of Indigenous mortality trends must be undertaken with care, because of the limited understanding of the ways in which changes in the recording of Indigenous status on death registrations have affected the recorded numbers of deaths (AIHW 2005b). In an AIHW publication, longer term mortality trends for 1991–2002 were reported for only three jurisdictions (SA, WA and the NT) as it was decided these were the only jurisdictions with 12 years of reasonable coverage of Indigenous deaths registrations (ABS and AIHW 2005).

Estimates of the extent to which Indigenous Australians are identified in mortality data ('coverage') are determined by the ABS for each state and territory by comparing the number of deaths from all causes registered as Indigenous with expected numbers calculated from census-based population estimates and projections (ABS 2006). Implied coverage of Indigenous status in deaths data from 2001–05 is shown in Table A3. Overall coverage appears to be reasonable for the four jurisdictions over the time-period 2001–02 to 2005–06 that will be the subject of this report, though the estimate for Queensland is lower than the others.

Table A3: Implied coverage† of Indigenous deaths

Jurisdiction	2001–05*
Western Australia	70%
South Australia	64%
Northern Territory	92%
Queensland	52%
New South Wales	45%
Australian Capital Territory	(a)
Victoria	31%
Tasmania	(a)

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

*2001 census based (ABS 2005a).

(a) Not calculated due to small numbers.

Hospital separations and deaths for which Indigenous status was 'not stated' are amalgamated with the separations for the non-Indigenous people. This approach is consistent with the approach taken by the AIHW which have observed that the number of such cases is small and the demographic profile of the 'not stated' cases is similar to the non-Indigenous cases (AIHW 2005b).

Under-ascertainment of Indigenous status will necessarily mean over-estimating non-Indigenous deaths and hospitalisations. This is because some people who could correctly be recorded as Aboriginal and Torres Strait Islander will in fact be recorded as non-Indigenous or Indigenous status 'not stated'. This is unlikely to have a significant impact on the calculation of rates in major cities and inner and outer regional areas where a small proportion of the population is Indigenous, but a report by the AIHW points out that misclassification is likely to be a greater problem in remote areas, where a larger proportion of a smaller population is Indigenous (AIHW 2007b). The magnitude of this error is unknown, and there is a body of work suggesting that ascertainment of Indigenous status may be better in remote areas compared to urban areas (AIHW 2007b).

In summary, this report presents mortality and morbidity statistics for the four jurisdictions, Queensland, South Australia, Western Australia and the Northern Territory in the five-year period to 30 June 2006. Indigenous persons are compared to non-Indigenous people (includes non-Indigenous and not stated) in the same four jurisdictions. The reported mortality and morbidity burden of Indigenous people due to transport injury is likely to be an underestimate, due to incomplete identification of people as being Indigenous in hospital and deaths data collections in these jurisdictions.

Data quality

The aspects of the quality of mortality data most pertinent to this project are the completeness of the set of death records available for analysis, the identification and coding of causes of death, and the identification and coding of Indigenous status. The last of these issues is discussed above. The others are considered here.

The ABS mortality data result from a process in which that agency obtains data from state and territory Registrars of Death which, in turn, obtain information from the doctor or coroner who certifies each death, and from a relative or other person who knew the deceased person. The ABS codes causes of death according to the 10th revision of the International Classification of Diseases (ICD-10). If a death was due to an injury, the ICD-10 requires coding of the 'external cause' of the injury. Doing this requires additional information, which the ABS normally seeks from the National Coroners Information System (NCIS), a national electronic repository of data on coroner cases.

For most deaths, this process results in a record in an annual ABS mortality data file that summarises characteristics of the person (e.g. age, sex and Indigenous status) and his or her death (e.g. date, jurisdiction, causes). There are some circumstances in which this does not occur, and this can result in some deaths being recorded in a way that leads to under- or over-estimation of deaths from a particular cause, such as transport injury, and perhaps to omission of some deaths. Since the ABS practice is not to update mortality data files once released, such cases will remain missing or misclassified.

The main type of problem that has been identified occurs when the ABS is aware of a death, but does not have complete and final information on its causes by the time of the ABS processing cut-off date for the relevant annual data file. This can occur if a coroner is still investigating the death, or if information about it has not been entered into the NCIS. Under these circumstances, the ABS applies ICD-10 coding rules to the limited information on hand (Walker et al 2008). If no information is available about the cause of death, then the case is likely to be coded to R99, 'Other ill-defined and unspecified causes of death'. If a death is known to be due to an injury, but the cause of the injury is not known, then ICD-10 rules dictate that it should be coded to X59, 'Exposure to unspecified factor'.

Case counts of road traffic deaths based on the ABS mortality data used in this report were compared with counts based on the Australian Road Fatality Statistics calendar years 2000 to 2006 <<http://statistics.infrastructure.gov.au/atsb>>. Counts were similar from the two sources for the four jurisdictions included in this report, the only substantial divergence being for Queensland in the final two years of the period, when counts based on the ABS mortality data were lower than those based on the Australian Road Fatality Statistics. For the reported period as a whole these differences were about 5% for Queensland and about 2% for the four jurisdictions combined. Note that these comparisons are for traffic injury deaths in the entire population, because the Australian Road Fatality Statistics database does not include information in Indigenous status.

Population and other denominators

All Indigenous rates in this report were calculated using, as the denominator, the 'low series' ABS experimental population projections of the Indigenous population in the NT, WA, SA and Qld and were based on the 2001 Census (ABS 2004a). Non-Indigenous rates were derived using, as the denominator, non-Indigenous population numbers that were calculated by subtracting Indigenous numbers from the total population for these jurisdictions (ABS 2007).

To minimise the impact of small case numbers for cross-tabulations, data were combined for a five year period. With the exception of the table and figure that depict trends over individual years (Table 3.12 and Figure 3.13), hospitalisation rates for Indigenous and non-Indigenous Australians were calculated using the average of five years of case numbers divided by the ABS population numbers in 2001, expressed as the rate per 100,000 population.

Remoteness areas in this report refer to the place of usual residence of the person who died or was admitted to hospital (see below). Population numbers by ASGC remoteness structure of Australia were obtained as an unpublished data file from the ABS. Indigenous and non-Indigenous rates for each remoteness area were calculated using the respective population numbers for each remoteness area. Direct standardisation was used to age-standardise rates, using the Australian population in 2001 as the standard (ABS 2003). Age-standardised rates and 95% confidence intervals were calculated in Stata version 9.2 statistical software (Stata Corporation 2005) using the `-stdize-` command.

For trends over individual years, financial year cases and end of financial year population numbers were used (using annual estimates available from 30 June 2001) (ABS 2004a; ABS 2007). The estimates in the current report for individual years differ marginally from the estimates that were calculated for the same years as presented in the previous report in the series (Berry et al. 2007). This is because the ABS has recently revised the total Australian population denominators (ABS 2007) and the current report used the updated population numbers whereas the previous report uses the older estimates (ABS 2005c). Also, the current report uses the end of financial year population numbers for trends over individual years (e.g. 30 June 2002 for the financial year 2001–02), whereas in the previous report in the series, population numbers for the day prior to the beginning of the financial year were used (e.g. 30 June 2001 for the financial year 2001–02).

ABS datasets such as the motor vehicle census (ABS 2005b) and the survey of motor vehicle use (ABS 2005d) did not contain any information on Indigenous status. Therefore it was not possible to report Indigenous injury rates using the kilometres travelled or number of vehicles registered as denominators.

Classification of remoteness area

Remoteness area in this report refers to the place of usual residence of the person who died or was admitted to hospital. The remoteness areas were specified according to the ABS Australian Standard Geographical Classification (ASGC) (ABS 2001). Remoteness is defined in a manner based on the Accessibility/Remoteness Index of Australia (ARIA), which was developed for the Commonwealth Department of Health and Aged Care by the National Key Centre for Social Applications of Geographic Information Systems (GISCA), Adelaide University. According to this method, remoteness is an index applicable to any point in Australia, based on road distance from urban centres of five sizes. The ABS has provided tables that specify the proportion of the population of each Statistical Local Area (SLA) in Australia whose place of residence is in each of five segments of the remoteness index. These segments are:

- Major cities, with ARIA index value of 0 to 0.2
- Inner regional, with ARIA index value of >0.2 and ≤ 2.4
- Outer regional, with ARIA index value of >2.4 and ≤ 5.92
- Remote, with ARIA index value of >5.92 and ≤ 10.53
- Very remote, with average ARIA index value of >10.53

These tables were used to assign records to the five areas, on the basis of the SLA of usual residence of the person.

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

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

For hospitalisations, each record in the set having a particular SLA code was assigned to one or other of the areas probabilistically, in proportion to the resident population of that SLA. The resulting values are integers.

Suppression of small cell counts in tables

Cell counts in tables that are four cases or fewer have generally been suppressed as have rates derived from them, to protect confidentiality and because values based on very small numbers are sometimes difficult to interpret. The exceptions to this practice are the tables in the appendices as the rates in these tables are used in the construction of the graphs in Section 3. In the instances where only one cell in a row or column has a count four or less, counts of one or more other cells in the same row or column have generally also been suppressed.

Table A4: Age specific death rates by road user group for traffic conditions; NT, WA, SA and Qld, 2001-02 to 2005-06

Age-specific rate per 100,000 population											
Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male											
0-4	4.4	0.0	4.4	0.0	0.0	0-4	0.3	0.0	1.7	0.0	0.0
5-9	3.2	0.0	0.0	0.0	1.1	5-9	0.2	0.1	0.8	0.2	0.3
10-14	1.2	0.0	0.0	0.0	2.3	10-14	0.9	0.1	1.1	0.3	0.7
15-19	10.0	12.9	18.6	1.4	0.0	15-19	1.3	10.3	6.9	2.5	0.6
20-24	5.3	15.8	10.5	3.5	0.0	20-24	2.3	14.6	4.5	6.5	0.3
25-29	10.7	14.2	1.8	1.8	0.0	25-29	2.2	8.0	1.9	5.1	0.5
30-34	15.7	19.7	3.9	2.0	2.0	30-34	0.9	9.0	2.0	5.6	0.2
35-39	29.5	13.6	9.1	2.3	0.0	35-39	1.4	5.0	1.5	3.8	0.3
40-44	11.0	16.5	11.0	2.8	0.0	40-44	0.9	4.3	1.1	2.3	0.3
45-49	20.9	14.0	17.5	0.0	0.0	45-49	1.3	4.6	1.0	2.0	0.6
50-54	9.2	9.2	0.0	0.0	0.0	50-54	1.4	3.9	0.6	1.9	0.2
55-59	7.1	14.3	7.1	0.0	0.0	55-59	1.6	3.7	0.5	1.7	0.1
60-64	10.0	20.0	10.0	0.0	0.0	60-64	1.7	5.9	0.7	1.2	0.3
65+	11.8	23.7	0.0	0.0	0.0	65+	2.6	5.7	1.4	0.8	0.6
All ages	9.0	9.2	6.1	1.0	0.6	All ages	1.4	5.4	1.9	2.4	0.4
Female											
0-4	2.3	0.0	3.4	0.0	0.0	0-4	0.4	0.0	1.2	0.0	0.0
5-9	0.0	0.0	3.4	0.0	0.0	5-9	0.3	0.0	0.9	0.0	0.0
10-14	0.0	1.2	1.2	0.0	1.2	10-14	0.4	0.0	1.1	0.1	0.1
15-19	4.3	2.9	7.2	0.0	0.0	15-19	0.7	3.7	3.7	0.1	0.0
20-24	5.1	5.1	15.2	0.0	0.0	20-24	1.0	3.9	2.8	0.6	0.0
25-29	3.3	5.0	5.0	0.0	0.0	25-29	0.3	1.8	1.6	0.3	0.0
30-34	1.8	7.1	8.9	0.0	0.0	30-34	0.2	1.9	0.3	0.3	0.0
35-39	18.6	4.1	10.3	0.0	0.0	35-39	0.4	1.9	1.1	0.1	0.0
40-44	15.6	2.6	10.4	0.0	0.0	40-44	0.1	2.1	0.6	0.3	0.0
45-49	22.6	6.5	9.7	0.0	0.0	45-49	0.2	2.1	0.6	0.2	0.0
50-54	4.3	0.0	0.0	0.0	0.0	50-54	0.0	1.9	1.3	0.0	0.3
55-59	0.0	6.3	0.0	0.0	0.0	55-59	0.2	2.0	1.8	0.2	0.1
60-64	15.9	0.0	0.0	0.0	0.0	60-64	0.5	2.9	1.5	0.0	0.1
65+	9.0	0.0	13.6	0.0	0.0	65+	1.1	2.7	2.2	0.1	0.0
All ages	5.5	2.7	6.3	0.0	0.1	All ages	0.5	2.0	1.5	0.2	0.0

Note: There is no suppression of rates that are derived from small counts in this table.

Table A5: Age specific death rates by road user group for non-traffic conditions; NT, WA, SA and Qld, 2001–02 to 2005–06

Age-specific rate per 100,000 population											
Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male											
0–4	4.4	0.0	0.0	0.0	0.0	0–4	0.5	0.0	0.0	0.1	0.1
5–9	2.1	1.1	0.0	0.0	0.0	5–9	0.2	0.0	0.0	0.0	0.0
10–14	1.2	0.0	1.2	0.0	0.0	10–14	0.0	0.0	0.0	0.1	0.0
15–19	0.0	1.4	1.4	0.0	0.0	15–19	0.1	0.2	0.1	1.2	0.0
20–24	0.0	0.0	1.8	0.0	0.0	20–24	0.2	0.1	0.1	0.8	0.1
25–29	1.8	3.6	1.8	0.0	0.0	25–29	0.1	0.1	0.1	0.2	0.0
30–34	0.0	0.0	0.0	0.0	0.0	30–34	0.1	0.1	0.2	0.4	0.0
35–39	4.5	0.0	0.0	0.0	0.0	35–39	0.2	0.0	0.1	0.4	0.0
40–44	2.8	0.0	0.0	0.0	0.0	40–44	0.1	0.0	0.0	0.2	0.0
45–49	0.0	0.0	3.5	0.0	0.0	45–49	0.2	0.1	0.2	0.2	0.0
50–54	5.9	0.0	0.0	0.0	0.0	50–54	0.1	0.1	0.0	0.2	0.0
55–59	0.0	0.0	0.0	0.0	0.0	55–59	0.0	0.0	0.1	0.0	0.1
60–64	0.0	0.0	0.0	0.0	0.0	60–64	0.3	0.1	0.0	0.0	0.0
65+	0.0	0.0	0.0	0.0	0.0	65+	0.6	0.1	0.1	0.1	0.0
All ages	1.8	0.6	0.7	0.0	0.0	All ages	0.2	0.1	0.1	0.3	0.0
Female											
0–4	1.7	0.0	0.0	0.0	0.0	0–4	0.5	0.0	0.0	0.0	0.0
5–9	2.6	0.0	0.0	0.0	0.0	5–9	0.1	0.0	0.0	0.0	0.0
10–14	4.5	0.0	0.0	0.0	0.0	10–14	0.0	0.0	0.1	0.1	0.0
15–19	0.0	0.0	0.0	0.0	0.0	15–19	0.0	0.0	0.1	0.0	0.0
20–24	0.0	0.0	0.0	0.0	0.0	20–24	0.0	0.1	0.0	0.0	0.0
25–29	0.0	0.0	0.0	0.0	0.0	25–29	0.1	0.1	0.0	0.0	0.0
30–34	0.0	0.0	0.0	0.0	0.0	30–34	0.1	0.1	0.0	0.0	0.0
35–39	0.0	0.0	0.0	0.0	0.0	35–39	0.3	0.0	0.0	0.0	0.0
40–44	0.0	0.0	0.0	0.0	0.0	40–44	0.3	0.0	0.0	0.0	0.0
45–49	0.0	0.0	0.0	0.0	0.0	45–49	0.1	0.0	0.0	0.0	0.0
50–54	0.0	0.0	0.0	0.0	0.0	50–54	0.0	0.0	0.0	0.0	0.0
55–59	0.0	0.0	0.0	0.0	0.0	55–59	0.0	0.0	0.0	0.0	0.0
60–64	0.0	0.0	0.0	0.0	0.0	60–64	0.0	0.0	0.0	0.0	0.0
65+	0.0	0.0	0.0	0.0	0.0	65+	0.0	0.0	0.0	0.0	0.0
All ages	0.4	0.0	0.0	0.0	0.0	All ages	0.1	0.0	0.0	0.0	0.0

Note: There is no suppression of rates that are derived from small counts in this table.

Table A6: Age specific serious injury rates by road user group for traffic conditions; NT, WA, SA and Qld, 2001–02 to 2005–06

Age-specific rate per 100,000 population											
Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male											
0–4	42.1	3.3	36.5	3.3	11.1	0–4	7.3	0.2	16.2	1.6	7.5
5–9	24.2	0.0	43.1	6.3	57.8	5–9	14.2	0.3	19.0	9.4	41.6
10–14	22.0	17.4	59.1	31.3	96.1	10–14	15.4	1.2	18.4	37.3	110.2
15–19	44.3	91.5	147.3	57.2	48.6	15–19	23.2	104.1	78.3	104.7	69.4
20–24	45.6	145.6	122.8	57.9	47.4	20–24	19.6	134.7	61.3	162.3	32.6
25–29	65.9	117.5	90.8	55.2	14.2	25–29	15.3	81.4	27.5	123.3	22.9
30–34	90.6	126.0	128.0	41.3	19.7	30–34	11.8	65.2	17.3	109.2	25.7
35–39	120.1	95.2	86.1	18.1	20.4	35–39	7.8	48.1	13.6	80.3	22.1
40–44	71.5	99.0	93.5	38.5	8.3	40–44	9.3	40.2	9.9	68.2	22.1
45–49	76.8	90.8	94.3	27.9	14.0	45–49	8.2	40.6	7.8	53.8	21.8
50–54	50.4	64.1	96.2	27.5	9.2	50–54	7.8	33.7	6.4	33.5	16.9
55–59	100.0	71.4	71.4	7.1	0.0	55–59	8.0	41.2	8.3	28.6	17.2
60–64	49.9	49.9	39.9	10.0	10.0	60–64	6.7	43.3	7.9	18.8	13.3
65+	77.0	35.5	29.6	0.0	11.8	65+	15.5	53.6	10.7	8.0	11.1
All ages	53.7	64.1	81.6	29.4	36.6	All ages	12.5	49.7	21.7	60.0	31.1
Female											
0–4	19.3	0.0	47.7	1.1	4.5	0–4	4.2	0.2	16.8	0.3	1.7
5–9	24.8	0.0	28.2	4.5	30.5	5–9	6.5	0.1	18.4	3.2	21.6
10–14	5.0	2.5	50.9	2.5	19.9	10–14	9.9	0.4	22.8	4.1	25.2
15–19	17.3	23.1	117.1	5.8	4.3	15–19	9.5	74.0	74.1	9.1	8.2
20–24	42.1	48.9	70.8	6.7	6.7	20–24	9.0	70.4	39.4	12.7	6.1
25–29	26.6	43.2	76.5	6.6	0.0	25–29	4.9	51.8	19.7	10.1	4.6
30–34	35.7	51.8	80.3	1.8	1.8	30–34	4.2	41.2	16.9	7.5	4.8
35–39	57.9	49.6	90.9	4.1	4.1	35–39	4.3	35.2	11.9	7.7	5.0
40–44	49.4	54.6	54.6	2.6	2.6	40–44	4.6	34.5	10.2	7.8	6.3
45–49	48.4	35.5	45.2	3.2	3.2	45–49	5.2	35.0	12.5	7.5	5.6
50–54	29.8	25.6	85.2	0.0	0.0	50–54	4.8	30.8	13.6	6.0	5.0
55–59	25.4	38.0	57.1	0.0	0.0	55–59	5.7	41.1	18.0	5.6	4.5
60–64	7.9	7.9	31.7	0.0	7.9	60–64	4.5	33.9	21.7	1.2	4.1
65+	13.6	4.5	45.2	0.0	0.0	65+	14.7	38.8	28.9	0.9	2.3
All ages	27.8	24.8	64.0	3.5	8.6	All ages	7.1	35.3	23.4	5.8	7.2

Note: There is no suppression of rates that are derived from small counts in this table.

Table A7: Age specific serious injury rates by road user group for non-traffic conditions; NT, WA, SA and Qld, 2001–02 to 2005–06

Age-specific rate per 100,000 population											
Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male											
0–4	29.9	1.1	14.4	3.3	33.2	0–4	11.4	0.1	5.2	3.8	25.9
5–9	6.3	1.1	9.5	22.1	83.1	5–9	8.1	0.2	3.4	33.9	77.2
10–14	5.8	5.8	9.3	53.3	134.4	10–14	5.0	1.6	4.4	122.5	183.0
15–19	8.6	20.0	18.6	61.5	55.8	15–19	6.0	17.3	13.0	152.8	85.9
20–24	0.0	40.4	22.8	59.7	10.5	20–24	6.7	17.2	8.9	144.1	27.3
25–29	7.1	33.8	24.9	28.5	12.5	25–29	6.0	13.5	4.9	86.7	22.7
30–34	11.8	13.8	21.7	17.7	13.8	30–34	4.9	12.2	3.6	76.2	17.9
35–39	15.9	22.7	11.3	38.5	11.3	35–39	4.0	6.5	2.6	55.0	15.7
40–44	11.0	27.5	5.5	22.0	8.3	40–44	4.4	7.0	1.5	39.8	15.7
45–49	7.0	10.5	20.9	24.4	17.5	45–49	3.8	5.0	1.9	27.8	11.5
50–54	9.2	9.2	9.2	4.6	0.0	50–54	4.7	4.6	1.4	17.1	9.4
55–59	14.3	14.3	7.1	0.0	0.0	55–59	5.1	5.5	1.6	12.4	11.6
60–64	20.0	0.0	0.0	10.0	0.0	60–64	3.4	5.4	1.8	10.8	7.8
65+	5.9	0.0	5.9	0.0	5.9	65+	6.1	7.1	2.3	6.3	9.4
All ages	10.9	14.3	14.5	30.4	44.0	All ages	5.7	7.5	4.0	56.6	37.3
Female											
0–4	13.6	0.0	7.9	0.0	17.0	0–4	6.2	0.1	2.8	0.6	11.7
5–9	5.6	0.0	9.0	9.0	58.7	5–9	3.6	0.2	2.7	7.6	39.0
10–14	1.2	1.2	6.2	8.7	32.3	10–14	1.6	0.7	2.4	14.9	34.0
15–19	2.9	7.2	14.5	7.2	8.7	15–19	2.7	10.1	9.6	12.2	6.6
20–24	6.7	1.7	18.5	3.4	5.1	20–24	1.7	7.3	3.7	7.9	3.4
25–29	5.0	6.6	11.6	0.0	5.0	25–29	1.9	4.4	1.6	6.7	4.1
30–34	7.1	3.6	17.9	3.6	5.4	30–34	1.7	4.6	2.0	4.4	3.0
35–39	6.2	6.2	22.7	0.0	0.0	35–39	1.2	3.5	1.6	3.3	4.4
40–44	2.6	2.6	10.4	0.0	0.0	40–44	1.5	1.9	1.9	2.3	4.1
45–49	6.5	12.9	6.5	0.0	6.5	45–49	2.0	3.3	0.7	2.7	3.7
50–54	12.8	21.3	25.6	0.0	4.3	50–54	1.7	3.3	1.3	2.2	3.3
55–59	6.3	0.0	12.7	0.0	0.0	55–59	2.4	3.3	1.5	1.9	6.0
60–64	0.0	7.9	7.9	0.0	23.8	60–64	1.1	3.0	2.1	1.1	4.9
65+	0.0	4.5	0.0	0.0	0.0	65+	6.3	4.5	3.4	1.1	1.4
All ages	5.9	4.0	12.1	3.5	16.4	All ages	2.8	3.7	2.7	4.8	8.7

Note: There is no suppression of rates that are derived from small counts in this table.

Table A8: Remoteness area by seriously injured person's vehicle: Major cities; NT, WA, SA and Qld, 2001-02 to 2005-06

Age-specific rate per 100,000 population											
Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male											
0-4	79.0	9.3	41.8	4.6	65.1	0-4	17.5	0.3	17.5	2.5	33.5
5-9	52.4	0.0	26.2	17.5	139.6	5-9	23.5	0.0	17.5	18.4	101.6
10-14	70.3	25.1	75.3	40.2	215.8	10-14	23.3	1.9	16.6	65.9	254.1
15-19	82.5	58.9	153.1	100.1	106.0	15-19	31.5	89.3	72.5	125.8	131.0
20-24	30.3	121.3	75.8	91.0	60.7	20-24	28.7	113.5	52.9	204.2	61.8
25-29	62.4	85.8	70.2	78.0	15.6	25-29	20.3	72.8	24.1	161.6	48.1
30-34	119.2	76.6	25.5	34.0	76.6	30-34	20.6	62.5	16.5	152.8	52.0
35-39	190.6	50.2	50.2	40.1	70.2	35-39	13.4	43.7	12.8	108.6	43.3
40-44	184.1	36.8	61.4	36.8	12.3	40-44	17.2	32.4	8.7	81.1	45.3
45-49	63.2	63.2	15.8	79.0	63.2	45-49	14.0	35.9	6.5	68.4	36.6
50-54	83.4	0.0	104.3	20.9	20.9	50-54	15.3	30.4	4.2	37.1	27.1
55-59	35.6	35.6	35.6	0.0	0.0	55-59	14.6	34.7	7.1	29.5	34.9
60-64	0.0	112.4	0.0	0.0	0.0	60-64	12.4	41.0	7.4	20.3	25.3
65+	0.0	115.3	76.9	0.0	0.0	65+	26.7	54.4	11.2	8.8	22.3
All ages	81.0	45.7	62.4	44.4	89.4	All ages	20.5	45.5	20.2	79.8	65.1
Female											
0-4	50.4	0.0	82.4	4.6	27.5	0-4	9.8	0.2	14.5	0.5	14.2
5-9	47.6	0.0	19.0	4.8	66.6	5-9	12.0	0.0	17.2	3.3	56.2
10-14	20.6	10.3	61.7	0.0	46.3	10-14	14.8	0.4	18.6	10.3	48.5
15-19	29.6	11.8	130.1	5.9	11.8	15-19	12.2	55.8	66.5	9.4	11.2
20-24	90.9	69.9	35.0	14.0	14.0	20-24	12.3	59.7	37.6	15.7	9.2
25-29	21.1	35.2	35.2	7.0	0.0	25-29	7.1	45.7	19.7	12.5	9.5
30-34	44.7	59.6	52.1	0.0	7.4	30-34	7.0	33.3	14.7	10.2	8.9
35-39	44.6	17.9	26.8	8.9	8.9	35-39	6.1	25.4	10.6	9.5	9.5
40-44	89.1	55.7	11.1	11.1	0.0	40-44	6.7	29.2	9.0	8.4	10.1
45-49	13.2	39.5	0.0	0.0	0.0	45-49	8.6	28.8	12.3	8.1	7.5
50-54	37.2	0.0	0.0	0.0	0.0	50-54	7.5	26.1	12.9	4.9	9.3
55-59	28.9	57.7	0.0	0.0	0.0	55-59	7.5	37.9	18.0	5.1	10.9
60-64	0.0	0.0	0.0	0.0	40.0	60-64	8.9	30.9	22.7	1.8	10.1
65+	23.8	0.0	47.6	0.0	0.0	65+	26.7	37.9	31.0	1.3	3.6
All ages	42.6	23.7	48.0	4.9	21.9	All ages	11.7	30.7	22.5	7.2	14.4

Note: There is no suppression of rates that are derived from small counts in this table.

Table A9: Remoteness area by seriously injured person's vehicle: Inner and outer regional; NT, WA, SA and Qld, 2001–02 to 2005–06

Age-specific rate per 100,000 population											
Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male											
0–4	62.3	3.0	26.7	5.9	53.4	0–4	23.2	0.2	25.9	8.3	37.9
5–9	30.7	0.0	30.7	36.3	189.7	5–9	27.6	1.1	28.9	74.7	151.3
10–14	24.1	18.1	36.2	120.6	268.4	10–14	19.7	3.5	32.5	278.3	376.3
15–19	64.3	112.6	132.7	156.8	156.8	15–19	33.3	170.3	119.7	439.4	213.5
20–24	75.4	167.0	107.7	123.9	107.7	20–24	30.2	223.8	103.3	508.2	68.8
25–29	74.5	143.7	74.5	90.5	37.3	25–29	27.2	135.4	46.5	305.3	49.7
30–34	110.7	58.2	81.5	81.5	23.3	30–34	13.3	99.3	25.4	247.5	36.3
35–39	111.5	111.5	65.6	98.4	39.4	35–39	13.7	66.7	20.8	178.7	33.3
40–44	60.3	82.9	67.8	52.7	22.6	40–44	14.0	66.8	13.2	149.9	31.5
45–49	90.8	50.4	90.8	50.4	40.3	45–49	11.9	58.4	13.2	99.7	30.1
50–54	26.7	80.2	66.9	40.1	13.4	50–54	12.3	50.5	13.5	70.4	29.4
55–59	42.6	63.9	21.3	21.3	0.0	55–59	16.9	62.3	12.2	57.9	21.2
60–64	28.5	0.0	0.0	28.5	0.0	60–64	9.8	58.0	11.9	39.5	14.7
65+	54.1	54.1	18.0	0.0	36.1	65+	17.7	68.1	16.2	20.7	21.5
All ages	60.0	61.2	61.2	74.5	108.0	All ages	19.3	73.0	33.2	169.3	81.4
Female											
0–4	46.4	0.0	37.1	0.0	15.5	0–4	14.9	0.3	26.3	1.8	16.0
5–9	30.0	0.0	18.0	9.0	110.9	5–9	11.0	0.2	26.5	19.7	71.3
10–14	9.8	0.0	35.8	9.8	71.5	10–14	9.9	2.1	35.2	29.7	78.1
15–19	24.1	32.1	96.2	8.0	12.0	15–19	14.6	126.3	108.6	34.6	21.2
20–24	39.8	59.7	79.6	10.0	19.9	20–24	9.6	113.3	48.7	27.9	10.2
25–29	14.2	51.9	84.9	9.4	9.4	25–29	8.2	72.1	21.3	25.0	8.5
30–34	39.1	44.0	68.4	9.8	9.8	30–34	4.3	66.1	25.0	15.9	7.1
35–39	63.6	75.2	104.1	5.8	5.8	35–39	5.6	59.0	16.4	12.1	10.4
40–44	50.6	94.0	28.9	0.0	7.2	40–44	7.2	46.5	13.9	12.8	11.5
45–49	35.7	35.7	53.5	8.9	26.7	45–49	6.4	54.6	14.9	14.7	13.2
50–54	46.6	58.2	81.5	0.0	0.0	50–54	6.3	44.9	18.1	14.0	8.5
55–59	17.7	35.4	88.5	0.0	0.0	55–59	11.9	54.6	22.1	12.5	10.9
60–64	0.0	22.8	22.8	0.0	68.3	60–64	3.7	45.0	26.2	3.4	8.2
65+	28.1	14.0	0.0	0.0	0.0	65+	19.3	53.0	35.1	2.8	5.2
All ages	32.6	31.4	56.5	6.4	33.0	All ages	10.1	51.6	31.1	15.5	20.0

Note: There is no suppression of rates that are derived from small counts in this table.

Table A10: Remoteness area by seriously injured person's vehicle: Remote and very remote; NT, WA, SA and Qld, 2001–02 to 2005–06

Age-specific rate per 100,000 population											
Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male											
0–4	96.8	2.8	79.7	11.4	45.6	0–4	39.4	0.0	33.4	19.7	34.9
5–9	30.3	2.8	90.9	27.5	118.4	5–9	29.2	3.1	32.3	135.4	166.2
10–14	21.1	27.1	96.3	87.2	219.6	10–14	22.0	8.5	23.7	496.0	338.5
15–19	32.0	142.4	199.3	113.9	64.1	15–19	39.8	207.0	143.3	977.1	167.2
20–24	59.4	233.7	210.0	126.8	23.8	20–24	40.1	248.1	105.8	729.8	38.3
25–29	101.8	183.2	171.0	85.5	24.4	25–29	29.5	124.9	51.9	369.2	30.9
30–34	132.6	237.7	265.1	54.9	13.7	30–34	19.5	114.7	43.0	302.3	28.7
35–39	179.7	158.5	148.0	31.7	5.3	35–39	11.4	95.2	24.1	228.5	31.7
40–44	73.7	214.3	147.3	80.4	13.4	40–44	13.1	78.5	26.2	185.7	18.3
45–49	80.7	153.2	185.5	40.3	8.1	45–49	16.3	68.2	22.2	160.1	40.0
50–54	115.0	104.6	136.0	31.4	0.0	50–54	9.5	47.7	11.1	113.0	22.3
55–59	215.4	123.1	138.5	0.0	0.0	55–59	14.6	73.2	23.0	73.2	25.1
60–64	169.2	63.4	84.6	21.1	0.0	60–64	19.2	68.5	21.9	68.5	27.4
65+	126.0	0.0	34.4	0.0	11.5	65+	28.2	87.6	8.9	52.0	20.8
All ages	81.7	110.3	144.2	59.6	60.7	All ages	23.3	85.7	39.0	269.9	67.7
Female											
0–4	26.5	0.0	55.9	0.0	26.5	0–4	16.6	1.7	31.6	1.7	13.3
5–9	26.3	0.0	67.1	23.3	90.4	5–9	14.5	3.2	25.9	38.8	77.6
10–14	6.6	3.3	75.8	19.8	39.5	10–14	3.7	1.9	29.7	55.7	74.2
15–19	21.9	40.2	160.9	21.9	14.6	15–19	27.7	209.0	166.2	143.5	27.7
20–24	44.1	32.1	128.4	8.0	8.0	20–24	9.0	135.7	97.2	76.9	18.1
25–29	68.7	56.6	121.2	8.1	4.0	25–29	15.8	91.4	42.6	31.5	9.5
30–34	54.3	63.3	153.7	4.5	9.0	30–34	14.9	68.7	31.4	19.4	7.5
35–39	100.5	60.3	170.8	0.0	0.0	35–39	6.0	58.7	25.6	28.6	6.0
40–44	70.4	25.6	128.0	0.0	0.0	40–44	4.9	55.0	40.4	24.3	11.3
45–49	98.6	65.7	82.1	0.0	0.0	45–49	14.9	50.4	11.2	18.6	7.5
50–54	42.1	63.1	199.9	0.0	10.5	50–54	8.1	69.1	18.3	20.3	6.1
55–59	45.0	30.0	90.1	0.0	0.0	55–59	5.6	52.8	16.7	11.1	13.9
60–64	17.5	17.5	70.1	0.0	0.0	60–64	0.0	55.3	15.8	7.9	11.8
65+	18.6	9.3	74.3	0.0	0.0	65+	17.8	51.8	22.7	8.1	0.0
All ages	42.8	29.5	110.0	9.0	22.3	All ages	11.8	60.5	38.8	32.8	20.4

Note: There is no suppression of rates that are derived from small counts in this table.

Table A11: Traffic serious injury – remoteness area by injured person’s vehicle: Remote and very remote; NT, WA, SA and Qld, 2001–02 to 2005–06

		Age-specific rate per 100,000 population										
Indigenous		Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male												
0–4		51.3	0.0	59.8	2.8	14.2	0–4	9.1	0.0	19.7	7.6	13.6
5–9		13.8	0.0	77.1	13.8	30.3	5–9	4.6	1.5	23.1	41.6	38.5
10–14		9.0	24.1	84.2	21.1	66.2	10–14	1.7	1.7	20.3	123.6	99.9
15–19		21.4	103.2	178.0	46.3	21.4	15–19	15.9	147.3	95.5	308.4	65.7
20–24		39.6	178.3	166.4	63.4	11.9	20–24	20.1	182.5	78.5	291.9	14.6
25–29		77.4	122.2	134.4	65.2	4.1	25–29	14.0	89.8	32.3	157.2	5.6
30–34		96.0	219.4	228.6	36.6	9.1	30–34	7.8	79.5	27.4	149.9	16.9
35–39		132.1	132.1	132.1	10.6	5.3	35–39	5.1	76.2	16.5	106.6	12.7
40–44		60.3	154.0	140.6	40.2	0.0	40–44	5.2	53.6	19.6	86.3	6.5
45–49		64.5	153.2	169.4	8.1	8.1	45–49	10.4	53.4	19.3	65.2	22.2
50–54		73.2	94.1	115.0	20.9	0.0	50–54	8.0	38.2	8.0	47.7	12.7
55–59		153.8	92.3	123.1	0.0	0.0	55–59	2.1	48.1	12.5	20.9	14.6
60–64		105.7	63.4	84.6	21.1	0.0	60–64	11.0	52.0	11.0	27.4	11.0
65+		114.5	0.0	22.9	0.0	11.5	65+	17.8	68.3	5.9	13.4	10.4
All ages		55.7	87.4	122.8	27.8	18.9	All ages	9.3	62.5	26.7	102.2	23.5
Female												
0–4		5.9	0.0	44.2	0.0	8.8	0–4	5.0	1.7	24.9	1.7	1.7
5–9		20.4	0.0	46.7	8.8	23.3	5–9	3.2	1.6	14.5	12.9	29.1
10–14		0.0	0.0	69.2	3.3	13.2	10–14	0.0	0.0	26.0	7.4	39.0
15–19		14.6	29.3	135.3	11.0	0.0	15–19	5.0	148.5	123.4	35.2	12.6
20–24		24.1	32.1	100.3	4.0	0.0	20–24	4.5	101.8	63.3	18.1	9.0
25–29		48.5	44.4	105.1	8.1	0.0	25–29	4.7	70.9	31.5	15.8	4.7
30–34		36.2	58.8	122.1	0.0	0.0	30–34	13.4	44.8	25.4	9.0	6.0
35–39		70.3	50.2	135.6	0.0	0.0	35–39	3.0	42.2	21.1	13.6	4.5
40–44		51.2	25.6	102.4	0.0	0.0	40–44	1.6	46.9	30.7	12.9	9.7
45–49		90.4	49.3	73.9	0.0	0.0	45–49	5.6	44.8	9.3	14.9	3.7
50–54		42.1	31.6	157.8	0.0	0.0	50–54	2.0	50.8	12.2	12.2	4.1
55–59		45.0	30.0	75.1	0.0	0.0	55–59	2.8	38.9	13.9	8.3	5.6
60–64		17.5	0.0	52.5	0.0	0.0	60–64	0.0	55.3	15.8	3.9	3.9
65+		9.3	9.3	74.3	0.0	0.0	65+	9.7	40.5	21.1	1.6	0.0
All ages		29.1	23.7	89.9	3.6	5.4	All ages	4.7	45.7	29.3	11.7	9.7

Note: There is no suppression of rates that are derived from small counts in this table.

Table A12: Non-traffic serious injury – remoteness area by injured person’s vehicle: Remote and very remote; NT, WA, SA and Qld, 2001–02 to 2005–06

		Age-specific rate per 100,000 population										
Indigenous		Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist	Non-Indigenous	Pedestrian	Car driver	Car passenger	Motorcyclist	Pedal cyclist
Male												
0–4		31.3	2.8	19.9	5.7	25.6	0–4	21.2	0.0	13.6	12.1	21.2
5–9		8.3	2.8	13.8	13.8	79.8	5–9	20.0	1.5	9.2	93.9	127.8
10–14		6.0	3.0	12.0	63.2	150.4	10–14	16.9	6.8	3.4	365.6	233.6
15–19		3.6	39.2	21.4	67.6	42.7	15–19	19.9	59.7	47.8	656.7	99.5
20–24		0.0	55.5	43.6	63.4	11.9	20–24	10.9	65.7	27.4	423.3	23.7
25–29		12.2	61.1	36.6	20.4	20.4	25–29	12.6	35.1	19.7	209.2	22.5
30–34		9.1	18.3	36.6	18.3	4.6	30–34	6.5	35.2	15.6	149.9	11.7
35–39		15.9	26.4	15.9	21.1	0.0	35–39	2.5	19.0	7.6	116.8	19.0
40–44		6.7	60.3	6.7	40.2	13.4	40–44	5.2	24.9	6.5	98.1	10.5
45–49		16.1	0.0	16.1	32.3	0.0	45–49	5.9	14.8	3.0	87.4	17.8
50–54		10.5	10.5	20.9	10.5	0.0	50–54	0.0	9.5	3.2	62.1	9.5
55–59		30.8	30.8	15.4	0.0	0.0	55–59	8.4	25.1	10.5	52.3	10.5
60–64		42.3	0.0	0.0	0.0	0.0	60–64	2.7	16.4	11.0	38.3	16.4
65+		11.5	0.0	11.5	0.0	0.0	65+	7.4	19.3	3.0	37.1	10.4
All ages		12.1	22.8	21.4	31.0	39.6	All ages	9.9	23.2	12.3	163.6	43.4
Female												
0–4		5.9	0.0	11.8	0.0	14.7	0–4	8.3	0.0	6.6	0.0	10.0
5–9		5.8	0.0	20.4	14.6	64.2	5–9	4.8	1.6	11.3	24.2	45.2
10–14		0.0	3.3	6.6	16.5	26.4	10–14	3.7	1.9	3.7	48.3	35.3
15–19		3.7	11.0	25.6	11.0	14.6	15–19	15.1	60.4	42.8	103.2	15.1
20–24		8.0	0.0	28.1	4.0	8.0	20–24	4.5	33.9	33.9	56.5	9.0
25–29		8.1	12.1	16.2	0.0	4.0	25–29	6.3	20.5	11.0	12.6	4.7
30–34		13.6	4.5	31.7	4.5	9.0	30–34	1.5	23.9	6.0	10.5	1.5
35–39		15.1	10.0	35.2	0.0	0.0	35–39	1.5	16.6	4.5	15.1	1.5
40–44		6.4	0.0	25.6	0.0	0.0	40–44	0.0	8.1	9.7	11.3	1.6
45–49		8.2	16.4	8.2	0.0	0.0	45–49	9.3	5.6	1.9	3.7	3.7
50–54		0.0	31.6	42.1	0.0	10.5	50–54	6.1	18.3	6.1	8.1	2.0
55–59		0.0	0.0	15.0	0.0	0.0	55–59	0.0	13.9	2.8	2.8	8.3
60–64		0.0	17.5	17.5	0.0	0.0	60–64	0.0	0.0	0.0	3.9	7.9
65+		0.0	0.0	0.0	0.0	0.0	65+	6.5	11.3	1.6	6.5	0.0
All ages		6.1	5.8	20.1	5.4	16.2	All ages	4.8	14.8	9.5	20.3	10.3

Note: There is no suppression of rates that are derived from small counts in this table.

References

ABS (Australian Bureau of Statistics) 2001. Australian Standard Geographical Classification. ABS cat. no. 1216.0. Canberra: ABS.

ABS 2003. Population by age and sex, Australian states and territories, 2001 Census edition-final. ABS cat. no. 3201.0. Canberra: ABS.

ABS 2004a. Experimental estimates and projections, Aboriginal and Torres Strait Islander Australians, 30 June 1991 to 30 June 2009. ABS cat. no. 3238.0. Canberra: ABS.

ABS 2004b. National Aboriginal and Torres Strait Islander social survey, 2002. ABS cat. no. 4714.0. Canberra: ABS.

ABS 2005a. Deaths, Australia, 2004. ABS cat. no. 3302.0. Canberra: ABS.

ABS 2005b. Motor vehicle Census, Australia. ABS cat. no. 9309.0. Canberra: ABS.

ABS 2005c. Population by age and sex, Australian states and territories [Time series spreadsheets]. ABS cat. no. 3201.0. Canberra: ABS.

ABS 2005d. Survey of motor vehicle use, Australia. ABS cat. no. 9208.0. Canberra: ABS.

ABS 2006. Deaths, Australia, 2005. ABS cat. no. 3302.0. Canberra: ABS.

ABS 2007. Population by age and sex, Australian states and territories [Time series spreadsheets]. ABS cat. no. 3201.0. Canberra: ABS.

ABS and AIHW (Australian Institute of Health and Welfare) 2005. The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples. ABS cat. no. 4704.0 AIHW cat. no. IHW14. Canberra: ABS.

ABS and AIHW 2008. The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples. ABS cat. no. 4704.0 AIHW cat. no. IHW21. Canberra: ABS.

AIHW 2001. National health data dictionary, version 10. Cat. no. HWI30. Canberra: AIHW.

AIHW 2003. Australian hospital statistics 2001-02. Cat. no. HSE 25. Canberra: AIHW.

AIHW 2004. Australian hospital statistics 2002-03. Cat. no. HSE 32. Canberra: AIHW.

AIHW 2005a. Australian hospital statistics 2003-04. Cat. no. HSE 37. Canberra: AIHW.

AIHW 2005b. Improving the quality of Indigenous identification in hospital separations data. Cat. no. HSE101. Canberra: AIHW.

AIHW 2006. Australian hospital statistics 2004-05. Cat. no. HSE 41. Canberra: AIHW.

AIHW 2007a. Australian hospital statistics 2005-06. Cat. no. HSE 50. Canberra: AIHW.

AIHW 2007b. Rural, regional and remote health: a study on mortality (2nd edition). Cat. no. PHE 95. Canberra: AIHW.

Berry J & Harrison J 2007. Hospital separations due to injury and poisoning, Australia 2003–04. Cat. no. INJCAT 88. Adelaide: AIHW.

Berry JG, Nearnmy DM & Harrison JE 2007. Injury of Aboriginal and Torres Strait Islander people due to transport, 1999–00 to 2003–04. Cat. no. INJCAT 100. Canberra: AIHW and the Australian Transport Safety Bureau.

Henley G, Kreisfeld R & Harrison J 2007. Injury deaths, Australia 2003–04. Cat. no. INJCAT 89. Adelaide: AIHW.

NCCH (National Centre for Classification in Health) 2000. The International Statistical Classification of Diseases and related health problems, 10th revision, Australian Modification (ICD-10-AM). Second edition 1 July 2000. Sydney: University of Sydney.

NCCH 2002. The International Statistical Classification of Diseases and related health problems, 10th revision, Australian Modification (ICD-10-AM). Third edition 1 July 2002. Sydney: University of Sydney.

NCCH 2004. The International Statistical Classification of Diseases and related health problems, 10th revision, Australian Modification (ICD-10-AM). Fourth edition 1 July 2004. Sydney: University of Sydney.

Stata Corporation 2005. Stata statistical software [computer program] version 9.2. College Station, TX: Stata Corporation.

Walker S, Madden R & Chen L 2008. Deaths due to suicide: the effects of certification and coding practices in Australia. *Australian and New Zealand Journal of Public Health* 32 (2):126–30.

WHO (World Health Organization) 1992. The International Statistical Classification of Diseases and related health problems, 10th revision (ICD-10). Geneva: WHO.

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