

1 Introduction

This report describes the incidence of injuries newly occurring in Australia and resulting in admission to a hospital in the financial year 1st July 2004 to 30th June 2005. It is the third in a series, with previous reports addressing injury hospitalisations for the years 2001–02 and 2003–04 (Berry & Harrison 2006a; Berry & Harrison 2007a).

1.1 Data selection

The data underpinning this report were hospital separation unit records for 2004–05, extracted from the National Hospital Morbidity Database (NHMD, see AIHW 2006). Unit records for episodes of care in Australian hospitals in 2004–05 were coded to the fourth edition of the Australian Modification of the International Classification of Diseases (ICD-10-AM). All separation records containing codes from either Chapter XIX (*injury, poisoning and certain other consequences of external causes*) and/or Chapter XX (*external causes of morbidity and mortality*) of the ICD-10-AM were provided to the National Injury Surveillance Unit (NISU) by the Australian Institute of Health and Welfare (AIHW).

For this report, separation records with a principal diagnosis in the range S00–T98 (Chapter XIX) were extracted for analysis. Records fitting this criterion were considered to represent all hospitalisations *directly* attributable to an injury of some kind. This selection criterion matches that applied by Berry and Harrison (2007a) but differs slightly to that applied by Berry and Harrison (2006a), when a small number of separations lacking external cause coding were excluded.

Consistent with Berry and Harrison (2006a; 2007a), this report also applies a further criterion for most analyses; the exclusion of separations with a mode of admission indicating a transfer from another acute hospital to minimise the double-counting of cases. A single event that results in an injury requiring inpatient hospital care may generate multiple unit records for various reasons. Accordingly, the total number of hospital separations identifiable as being directly attributable to injury overestimates the actual number of events that provoked these hospitalisations. Without a date of injury variable or readmission flag in the de-identified NHMD records, the number of discrete injury cases (incidence) is estimated here by excluding records explicitly categorised as second or subsequent episodes of care (i.e. mode of admission is transfer from another acute hospital). This approach does not account for multiple separations generated by readmissions to hospital after the person had been discharged to their place of usual residence, but (currently) unpublished work by NISU using person-linked hospital data suggests that the effect of this is small for injury cases.

1.2 Report structure

This report categorises injury hospitalisations into three main groups; community injury, complications of surgical and medical care and residual injury separations.

Community injury separations have been defined in this report as unit records with a principal diagnosis in the range S00–T75 or T79 (consistent with Berry & Harrison 2006a; Berry & Harrison 2007a). These injuries are generally sustained in the community setting; the home, the workplace, an educational institution, the street, the natural environment etc. Community injuries have been divided into two main types on the basis of the

first-occurring external cause code in the record; unintentional injuries (e.g. motor vehicle accidents, falls) and intentional injuries (e.g. assault, self-harm).

Injuries classed as complications of surgical and medical care have been defined in this report as unit records with a principal diagnosis in the range T80–T88. These injuries are thought to be the result of adverse events of a health intervention and include post-operative infections, complications associated with prosthetic devices, implants and grafts, and failure or rejection of transplanted organs. While injuries classed as complications of surgical and medical care provide a rudimentary measure of the incidence of adverse events related to hospital care, records with principal diagnosis codes outside the range of T80–T88 may also be related to adverse events (e.g. where external cause codes explicitly describe complications when the diagnoses codes do not). As such, the estimates of adverse events related to surgical and medical care are lower in this report than stated elsewhere (e.g. AIHW 2006).

The residual group of injury cases analysed in this report includes records with principal diagnoses T78 (adverse effects not elsewhere classified), T89 (other specified complications of trauma), and T90–T98 (sequelae of injuries, of poisoning and of other consequences of external causes). This group comprises a relatively small proportion of the total number of injury hospitalisations (about one per cent) and the relationship between diagnoses of these types and the circumstances of the injurious event provoking the hospitalisation is not well understood.

The topics covered in each section of this edition of the report are similar to those covered by the previous editions (Berry & Harrison 2006a; Berry & Harrison 2007a). A difference is that this edition examines rates of community injury by remoteness of usual residence, but not trends over time. The immediately previous edition (Berry & Harrison 2007a) discusses trends and not remoteness.

1.3 Profiles of priority injury areas

The National Injury Prevention and Safety Promotion Plan: 2004–2014 (Pointer et al. 2003; NPHP 2005) identified seven national injury prevention areas for action; children (0–14 years), youth and young people (15–24 years), adults (25–64 years), older people (65+ years), Aboriginal and Torres Strait Islander people, rural and remote populations, and alcohol and injury. Where appropriate, results have been presented to highlight the impact of injury on the targeted groups. However, injuries involving Aboriginal and Torres Strait Islander people have not been distinguished in this report, as issues surrounding the identification of indigenous status necessitate a special approach. Information regarding injury morbidity among Aboriginal and Torres Strait Islander Australians is the subject of another NISU report (Helps & Harrison 2006). Similarly, the contribution of alcohol to hospitalised injury in Australia has not been considered in this report as it is not yet possible to assess the alcohol-relatedness of this data with adequate reliability (see Pidd et al. 2006).

1.4 Injury hospitalisations 2004–05 overview

For public and private hospitals combined, episodes of care separating from hospital between 1st July 2004 and 30th June 2005 attributed to *injury and poisoning and certain other consequences of external causes* (S00–T98) ranked fourth in the total number of hospitalisations after *factors influencing health status and contact with health services* (Z00–Z99), *diseases of the digestive system* (K00–K93) and *neoplasms* (C00–D48) when records are grouped as in *Australian hospital statistics 2004–05* (AIHW 2006). This represents an increase in position; in previous years, injury ranked fifth after hospitalisations due to *pregnancy, childbirth and the puerperium* (O00–O99, see Berry & Harrison 2006a; Berry & Harrison 2007a).

Table 1.1: Injury hospitalisations overview: males, females and persons, Australia 2004–05

	Males	Females	Persons^(b)
Total number of hospital separations for any cause^(a)	3,292,736	3,726,032	7,018,850
Total number of hospital bed-days ^a	11,061,645	12,765,911	23,828,612
Separations due to injury and poisoning (S00–T98)^(c)	264,139	199,410	463,554
Percentage of all separations	8.0	5.4	6.6
Bed-days due to injury and poisoning	924,212	960,194	1,884,422
Percentage of all bed-days	8.4	7.5	7.9
Community injury separations (S00–T75 or T79)^(c)	223,634	160,463	384,102
Percentage of all injury separations	84.7	80.5	82.9
Bed-days due to community injury	690,814	738,897	1,429,727
Percentage of injury bed-days	74.7	77.0	75.9
Complications of surgical & medical care separations (T80–T88)^(c)	38,199	36,427	74,626
Percentage of all injury separations	14.5	18.3	16.1
Bed-days due to complications injury	227,589	217,768	445,357
Percentage of injury bed-days	24.6	22.7	23.6
Residual injury separations (T78, T89 or T90–T98)^(c)	2,306	2,520	4,826
Percentage of all injury separations	0.9	1.3	1.0
Bed-days due to residual injury separations	5,809	3,529	9,338
Percentage of injury bed-days	0.6	0.4	0.5

(a) Source: *Australian Hospital Statistics 2004–05* (AIHW 2006).

(b) Includes separations where sex was not reported.

(c) Separations defined according to principal diagnosis.

Nearly half a million hospital separations were directly attributed to injury and poisoning in 2004–05 (Table 1.1). These separations accounted for 6.6% of all episodes of care in Australian hospitals in this year. Approximately 1.9 million hospital bed-days were utilised by injury separations in 2004–05. These bed-days accounted for a higher proportion of all hospital bed-days (7.9%) than injury separations contributed to all separations. This difference was most apparent for injuries involving females; injury separations accounted for 5.4% of all hospital separations involving females but the episodes of care associated with these injuries accounted for 7.5% of all hospital bed-days. This is related to the high rate of hospitalised injury for older females and the prevalence of serious injuries to the hip and thigh, often due to a fall, for this population.

Unit records classed as community injury separations (principal diagnosis S00–T75 or T79) accounted for 82.9% ($n = 384,102$) of all injury separations in 2004–05 (Table 1.1). More community injury separations involved males (223,634 vs. 160,463 for females), but more bed-days were utilised by females due to community injury (738,897 vs. 690,814 for males). Conversely, males and females were involved in relatively similar numbers of separations and hospital bed-days due to injuries defined as complications of surgical and medical care. The bed-days utilised by complications separations accounted for a much higher proportion of all hospital bed-days due to injury (23.6%) than the number of complications separations contributed to all injury separations (16.1%).

Residual injury separations accounted for a very small proportion of both injury separations and hospital bed-days due to injury (1.0% and 0.5%, respectively).