17 Conclusions and recommendations

This report describes the profiles of thirteen injury mechanisms that resulted in hospitalisation of NSW residents. Information on only a small proportion of the burden of non-fatal injury in NSW is presented in this report, because most injuries do not require admission to hospital. For example, injuries are also treated by general practitioners, by ambulance services, by emergency departments, or by allied health professionals (e.g. physiotherapists).

During the period 1989–1990 to 2003–2004, the overall injury hospitalisation rate of NSW residents did not change significantly. However, yearly hospitalisation rates significantly decreased or increased for a number of injury mechanisms (Table 30).

Priority areas identified for prevention activities from the analysis of injury-related hospitalisations of NSW residents from 1999–2000 to 2003–2004 based on hospitalisation rates in the population are listed below.

FALLS

Falls were the leading cause of injury-related hospitalisation in NSW between 1999–2000 and 2003–2004, with on average 35,015 fall-related hospitalisations per year during this period. Just over one-third (34.8%) of injury-related hospitalisations were due to falls. *Falls on the same level* and *from one level to another* for both males and females, particularly for individuals aged 65 years or older, were the main significant causes of hospitalisation. In addition, *falls from buildings* and from *ladders and scaffolding* are leading causes of hospitalisation for males.

MOTOR VEHICLE TRANSPORT

Motor vehicle transport was the second leading cause of injury-related hospitalisation in NSW. Injuries related to motor vehicle transport accounted for on average 10,640 hospitalisations per year in NSW between 1999–2000 and 2003–2004, and accounted for about 10.6% of injury-related hospitalisations. Leading causes of motor-vehicle related injury were *vehicle occupants* involved in a traffic incident for both males and females, and *motorcycle incidents* in both traffic and non-traffic situations for males, particularly those aged 15–54 years. Of concern was the particularly high rate of motor vehicle transport-related injuries in males aged 15–24 years (502.3 per 100,000 population), compared to the overall rate for all age groups (169.3 per 100,000 population).

STRUCK BY/STRUCK AGAINST INJURIES

Struck by/struck against injuries were the third leading cause of injury-related hospitalisation in NSW between 1999–2000 and 2003–2004, with about 7,130 hospitalisations per year in this period. Hospitalisation rates were particularly high in males aged 15–24 years as a result of being *struck by/struck against a person or object*.

Table 30. Significant changes[1] in injury-related hospitalisation rates by mechanism, NSW, 1989–1990 to 2003–2004

Injury mechanism	Males	Females
Falls	↑	↑
Complications of care	↑	↑
Motor vehicle transport	↓	↓
Struck by/against	↑	↑
Self-harm	↑	↑
Cut/pierce	-	↓
Interpersonal violence	↑	↑
Poisoning	↓	↓
Non-motor vehicle road transport	-	↓
Natural/environmental factors	↑	↑
Foreign bodies	↑	-
Fire and burns	↓	↓
Machinery	↓	↓
Near-drowning	↓	↓
All injury	-	-

1 An upwards facing arrow indicates a significant increase and a downwards facing arrow indicates a significant decrease. A dash indicates no significant trend.

SELF-HARM

Self-harm was the fourth leading cause of injury-related hospitalisation in NSW between 1999–2000 and 2003–2004, with on average 6,615 hospitalisations per year in this period. The leading cause of self-harm-related hospitalisation was *poisoning* for both males and females. This was the most common cause of self-harm-related hospitalisation in all age groups. Rates of self-harm-related hospitalisation were particularly high for self-harm events involving females aged 15–24 years and males aged 25–34 years.

CUT/PIERCE-RELATED INJURIES

Cut/pierce-related injuries were the fifth leading cause of injury-related hospitalisation in NSW 2003–2004, with about 6,210 hospitalisations per year in this period. The leading causes of cutting and piercing injuries were contact with *sharp glass* in both males and females, and *knives* and *other powered household goods* for males particularly those aged 15-44 years.

INTERPERSONAL VIOLENCE

Interpersonal violence was the sixth leading cause of injury hospitalisation in NSW between 1999–2000 and 2003–2004, and accounted for approximately 5,940 hospitalisations per year. Assault by *bodily force* or by *sharp or blunt objects* were the leading causes of interpersonal violence-related injury between 1999–2000 and 2003–2004. Males aged 15-44 years had particularly high rates of interpersonal violence-related injury hospitalisations.

IMPROVED DATA COLLECTION

Details regarding the causal factors and the circumstances surrounding the injury event are not often captured in routinely collected hospital administration datasets, such as the NSW ISC. High quality information is necessary for monitoring the incidence of injury among the residents of NSW. Listed below are recommendations for changes to injury classification and data collection systems in NSW that would improve our knowledge of the incidence of injury events and their causes, and subsequently improve injury prevention activities in NSW.

DATE OF INJURY

The number of injury-related hospitalisations is not equivalent to the number of incident injury cases that result in hospitalisation, even after excluding transfers and statistical discharges. Some patients have several admissions to hospital for ongoing treatment and rehabilitation for the same injury. Multiple admissions are also a problem because of differing criteria among hospitals for admission over time and across geographical regions. The NSW ISC does not capture information relating to date of injury. If such a variable were introduced, it could be used with probabilistic data linkage methods (or a unique patient identifier) to determine whether a given episode of care for a patient was the first admission to hospital for a particular injury.

IMPROVED INJURY CLASSIFICATION

Falls

The second most common type of fall leading to hospitalisation is *other and unspecified*. This category accounted for about 7,000 hospitalisations each year between 1999–2000 and 2003–2004, at a rate of 103.5 per 100,000. The lack of detail provided by this code regarding the type of fall that occurred limits

the identification of appropriate fall-related injury prevention strategies. An assessment of the feasibility of developing and incorporating additional detail into the ICD-10-AM classification system regarding the type of fall that occurred is strongly recommended.

Cut and pierce-related injuries

The second most common type of cut/pierce-related injury leading to hospitalisation was *other mechanism*, which corresponds to ICD-10-AM external cause code W29 *"Contact with other powered hand tools and household machinery"*. This code includes injuries due to can-openers, knives, sewing machines and chain-saws. Lack of detail about the particular tool causing the injury limits injury prevention activities aimed at reducing the incidence of cut/pierce-related injuries due to these devices. An assessment of the feasibility of developing and incorporating additional detail into the classification system regarding the type of tool that resulted in the cut/pierce-related injury is recommended.

Foreign bodies

This mechanism corresponds to ICD-10-AM external cause code W44 *"Foreign body entering into or through eye or natural orifice"*. Lack of detail about the particular foreign body causing the injury limits injury prevention activities aimed at reducing the incidence of injuries due to foreign bodies. An assessment of the feasibility of developing and incorporating additional detail into the classification system regarding the type of foreign body that resulted in the injury is recommended.

Struck by/struck against

The lack of information regarding the type of object that struck the person or the details regarding the two objects that the person was caught between limits injury prevention activities aimed at reducing the incidence of injuries due to struck by/struck against injuries. An assessment of the feasibility of developing and incorporating additional detail into the classification system regarding the type of object that resulted in the struck by/struck against injury is recommended.

Fire and burns

There were 1,149 hospitalisations during 1999–2000 to 2003–2004 as a result of an *other and unspecified fire/burn*. This represented 14.6% of fire and burn-related hospitalisations during this period. The lack of detail provided by this category regarding the type of fire/burn involved in the incident is likely to hamper the development of injury prevention strategies. An assessment of the feasibility of developing and incorporating additional detail into the classification system regarding the type of fire/burn that resulted in the injury is recommended.