

A DESCRIPTION OF INTERPERSONAL VIOLENCE-RELATED HOSPITALISATIONS IN NEW SOUTH WALES

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Interpersonal violence (IPV) includes a range of acts and behaviours, including physical violence, and is the term used to describe the intentional use of force or power by one individual or a group of individuals on another person.^{1,2} Interpersonal violence has many contributing factors, often interrelated, which can include social, economic, political, cultural, and biological factors.²

Interpersonal violence and its effects on health are a growing concern to the public health sector.³ Worldwide, there are around 520,000 IPV-related deaths (homicides) each year (8.8 per 100,000 population) and many more individuals are hospitalised as a result of IPV.²

In NSW, the lifetime cost of fatal and non-fatal physical injuries due to IPV has been estimated at \$133.9 million—\$21.9 million in direct costs and \$112 million in mortality and morbidity costs.⁴ Economic analyses of IPV-related prevention strategies have demonstrated that many IPV-related interventions are cost-effective.⁵

This article provides a description of IPV-related hospitalisations in NSW that resulted from a physical injury and includes information on where the incident took place and the relationship of the assailant to the injured person.

METHOD

Hospitalisation data were obtained from the NSW Inpatient Statistics Collection (ISC) for the financial years 1989–90 to 2003–04. The ISC is a census (since July 1, 1993) of patients admitted to public and private hospitals, private day procedures, and public psychiatric hospitals in NSW.⁶

Hospitalisation data include information on episodes of care in hospital which end with the discharge, transfer, or death of the patient, or where the service category for the admitted patient changes. The ISC also includes hospitalisations of NSW residents that occurred in another state or territory. While these data were not available for 2003–04, the number of interstate hospitalisations for this year was imputed based on hospitalisations from the previous three years. A detailed description of the method of imputation used is available elsewhere.⁶

Interpersonal violence-related hospitalisations for NSW residents were identified using the following criteria, all of which had to be met:

- The hospitalisation was for a patient who was a resident of NSW.
- There was a principal diagnosis in the ICD-10-AM range S00-T98 (1998–99 to 2003–04) or in the ICD-9-CM range 800-999 (for 1989–90 to 1997–98).

- There was an external cause code in the ICD-10-AM range X85-Y09 or Y87.1 (1998–99 to 2003–04) or in the ICD-9-CM range E960-E969 (for 1989–90 to 1997–98).

Hospitalisations relating to transfers or statistical discharges were excluded to eliminate ‘multiple counts’, which occur when an individual has more than one episode of care for a given injury. These exclusions refer to transfers between hospitals or changes in the service category for a patient during the one episode of accommodation in a single facility, respectively.⁶ For the years 1999–2000 to 2003–04, the cause of IPV-related hospitalisations were categorised according to the method used to inflict injury (Table 1). Hospitalisations for IPV that ended in death were included in this analysis. Age- and sex-specific population estimates as at 31 December of each of the years under study were obtained from the NSW Department of Health and the Australian Bureau of Statistics. The place of occurrence of the incident for the years 2000–01 to 2003–04 and the relationship between the perpetrator and the victim of the violence for the years 2002–03 to 2003–04 were extracted. These were the years for which this information was available in the ISC.

Analyses were performed using SAS software.⁷ Directly age-standardised rates were calculated using the estimated Australian residential population as at 30 June 2001 as the standard population. Ninety-five per cent confidence intervals were calculated assuming a Poisson distribution.⁸ A negative-binomial regression analysis⁹ was performed to examine the statistical significance of changes in the trend over the time period 1989–90 to 2003–04, and to calculate the annual percentage change in the rate of hospitalisations.

RESULTS

During the period 1999–2000 to 2003–04, there were 29,701 hospitalisations due to IPV, at a rate of 90.8 per 100,000 population (Table 1). There were approximately 5,940 hospitalisations per year during 1999–2000 to 2003–04 due to IPV.

Rates of hospitalisation for IPV were almost three times higher in males than females for the period 1989–90 to 2003–04 (Figure 1). The hospitalisation rate was estimated to have increased significantly by 0.9 per cent each year for males (95 per cent CI for the annual increase: 0.3 per cent to 1.5 per cent), and increased significantly by 2.7 per cent each year for females (95 per cent CI for the annual increase: 1.9 per cent to 3.5 per cent).

Rates of hospitalisation for IPV were higher in males than females for all age groups during 1999–00 to 2003–04

(Figure 2). Males aged 20–24 years had the highest hospitalisation rates for injuries due to IPV.

For the period 1999–2000 to 2003–04, IPV using bodily force accounted for just over half (58.0 per cent) of the hospitalisations due to IPV (Table 1). For males, bodily

force represented over three-quarters of the hospitalisations for IPV. The overall hospitalisation rate for males was about 266 per cent higher than for females.

For females, the most common relationship between the perpetrator and the victim was spouse or domestic partner

TABLE 1

NUMBER AND RATE OF HOSPITALISATIONS FOR INJURY FOR MALES AND FEMALES IN NEW SOUTH WALES CAUSED BY DIFFERENT TYPES OF INTERPERSONAL VIOLENCE 1999–2000 TO 2003–04

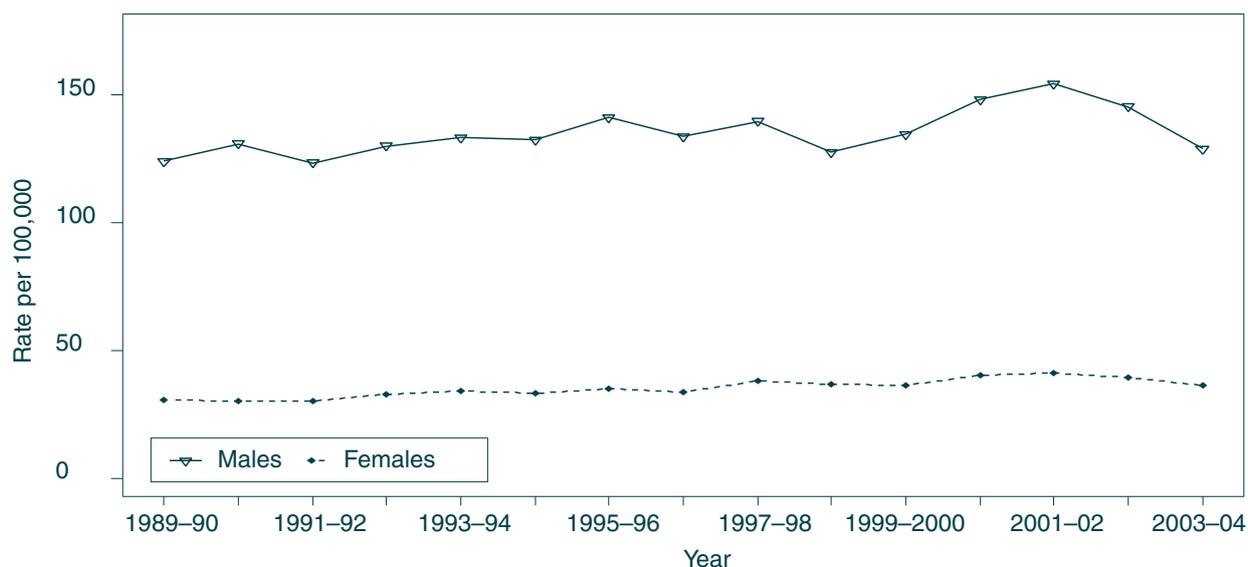
Interpersonal violence method	All persons			Male			Female		
	n	Rate*	95% CI	n	Rate*	95% CI	n	Rate*	95% CI
Bodily force (Y04–Y05, Y07)	17,238	52.7	51.9–53.5	13,000	79.1	77.7–80.4	4,239	26.0	25.2–26.8
Sharp or blunt object (X99, Y00)	6,830	20.9	20.4–21.4	5,870	35.7	34.8–36.7	960	5.9	5.5–6.3
Firearm (X93–X95)	308	0.9	0.8–1.1	286	1.7	1.5–1.9	22	0.1	0.1–0.2
Poisoning (X85, X87–X90)	5,172	15.8	15.4–16.2	4,132	25.1	24.4–25.9	1,039	6.3	5.9–6.7
Suffocation (X91)	39	0.1	0.1–0.2	15	0.1	0.1–0.1	24	0.1	0.1–0.2
Other (All remaining IPV codes)	5,172	15.8	15.4–16.2	4,132	25.1	24.4–25.9	1,039	6.3	5.9–6.7
All†	29,701	90.8	89.8–91.8	23,356	142.1	140.3–143.9	6,343	38.8	37.8–39.8

* Rate per 100,000 population.

† The number of NSW residents hospitalised interstate during 2003–04 was imputed and as a result the sum of sub mechanisms may not equal the total.

FIGURE 1

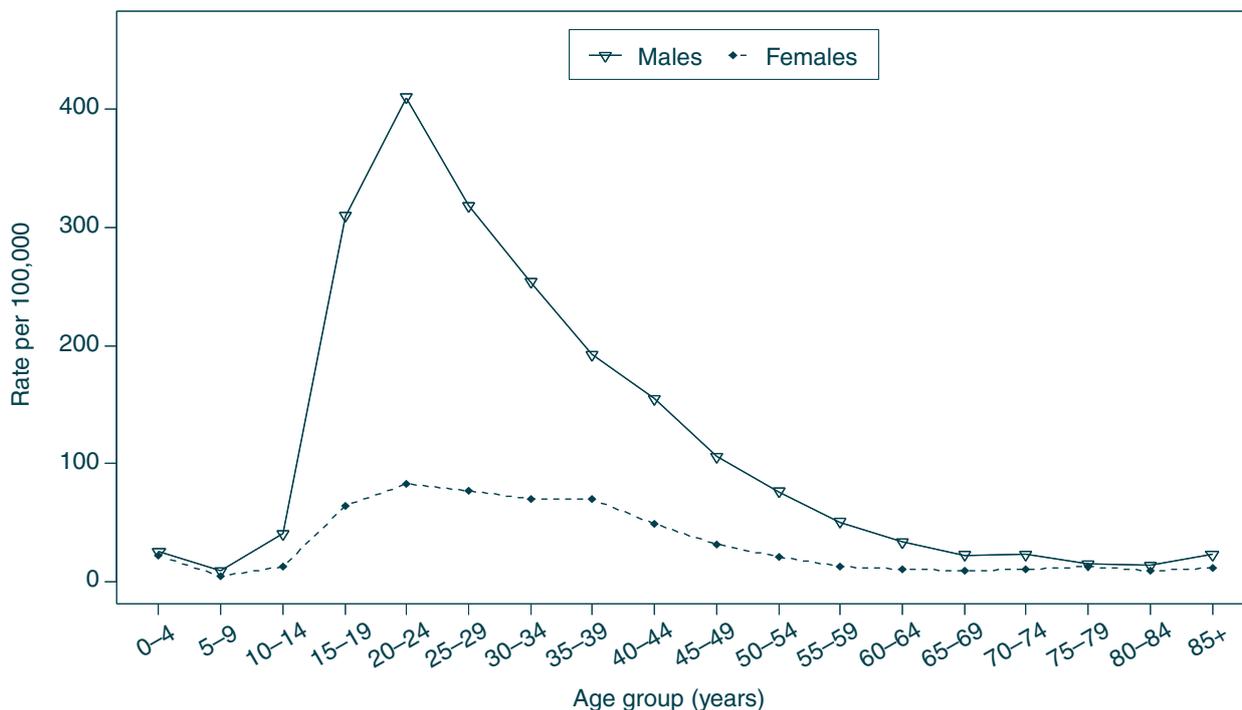
HOSPITALISATION RATE* FOR INJURY DUE TO INTERPERSONAL VIOLENCE FOR MALES AND FEMALES, NEW SOUTH WALES 1989-90 TO 2003-04



* Age-standardised rate per 100,000 population.

FIGURE 2

AGE-SPECIFIC HOSPITALISATION RATE FOR INTERPERSONAL VIOLENCE FOR MALES AND FEMALES, NEW SOUTH WALES: 1999-00 TO 2003-04



(39.2 per cent). For males, the relationship with the perpetrator was coded as ‘unspecified person’ for nearly two-thirds (65.1 per cent) of hospitalisations (Table 2).

Place of occurrence was recorded as unspecified for about half (49.2 per cent) of IPV-related hospitalisations in NSW from 2000–01 to 2003–04 (Table 3). For females, the most commonly recorded location was the home (42.2 per cent), while for males it was a trade or service area (13.5 per cent).

DISCUSSION

Interpersonal violence was the sixth leading cause of injury-related hospitalisation for the period 1999–00 to 2003–04, and accounted for 4.9 per cent of all injury-related hospitalisations.¹⁰ This analysis shows that IPV is one of the leading causes of injury-related hospitalisation in NSW. In the period 1989–90 to 2003–04, rates of IPV-related hospitalisations increased significantly in NSW for both males and females. However, because of changes in coding and possible changes in hospital admission practices over time, caution should be exercised when interpreting these trends.

Bodily force was the most common method of IPV that caused hospitalisation for all age groups. The results suggest that males aged 15–44 years are a population at particular risk, as they had very high rates of hospitalisation compared to all other age groups. The very high rate of

IPV-related hospitalisation among males aged 20–24 years has been noted elsewhere and may be due to a number of factors including substance use, family-related factors, peer influence, and situational and exposure-related factors.¹¹

Hospitalisations as a result of IPV only represent a proportion of the burden from this mode of injury. Interpersonal violence-related deaths accounted for 4 per cent of all injury-related deaths during 1999 to 2003 in NSW¹², and the number of injuries as a result of IPV that do not require hospitalisation or where medical treatment was not sought (or available) has not been quantified in NSW. There is the potential in NSW to develop mechanisms that would assist in the estimation of the often less serious injuries that do not require hospitalisation. However, currently the number and rate of emergency department presentations and general practice visits in NSW caused by IPV are not easily obtainable across the state.

A better understanding of IPV-injuries that resulted in hospitalisation would also require information about the relationship between the perpetrator and the victim of the violence. Although this information became available in ISC data in 2002–03 with the introduction of ICD-10-AM 3rd edition, the perpetrator of the violence was coded as an unspecified person for nearly two-thirds (65.1 per cent) of hospitalisations of males in 2002–03 and 2003–04. However, for females who were hospitalised the perpetrator of the violence was coded as an unspecified person in less

TABLE 2

RELATIONSHIP OF THE ASSAILANT TO THE INJURED PERSON FOR INJURY HOSPITALISATIONS DUE TO INTERPERSONAL VIOLENCE IN NEW SOUTH WALES, 2002–03 TO 2003–04*

	All persons		Male		Female	
	n	%	n	%	n	%
Relationship of the assailant to the injured person						
Spouse or domestic partner	1,150	10.1	185	2.1	965	39.2
Parent	256	2.2	142	1.6	114	4.6
Other family member	437	3.8	275	3.1	162	6.6
Carer	20	0.2	5	0.1	15	0.6
Acquaintance or friend	671	5.9	490	5.5	181	7.3
Official authorities	66	0.6	61	0.7	5	0.2
Person unknown to the victim	1,267	11.1	1,118	12.5	149	6.0
Multiple persons known to the victim	500	4.4	465	5.2	35	1.4
Other specified person	504	4.4	388	4.3	116	4.7
Unspecified person	6,551	57.4	5,830	65.1	721	29.3
Total	11,422	100.0	8,959	100.0	2,463	100.0

*Does not include interstate hospitalisations of NSW residents for 2003–04.

TABLE 3

LOCATION OF THE INJURY INCIDENT FOR HOSPITALISATIONS DUE TO INTERPERSONAL VIOLENCE IN NEW SOUTH WALES, 2000–01 TO 2003–04*

	All persons		Male		Female	
	n	%	n	%	n	%
Location of incident						
Home	4,724	18.0	2,387	11.5	2,337	42.2
Residential institution	530	2.0	476	2.3	54	1.0
School, other institution and public administrative area	558	2.1	464	2.2	94	1.7
Sports and athletics area	225	0.9	206	1.0	19	0.3
Street and highway	2,763	10.5	2,396	11.6	367	6.6
Trade and service area	3,092	11.8	2,802	13.5	290	5.2
Industrial and construction area	137	0.5	126	0.6	11	0.2
Other specified place of occurrence (including farm)	1,171	4.5	1,000	4.8	171	3.1
Unspecified place of occurrence	12,900	49.2	10,735	51.9	2,164	39.1
Missing	137	0.5	104	0.5	33	0.6
Total	26,237	100.0	20,696	100.0	5,540	100.0

*Does not include interstate hospitalisations of NSW residents for 2003–04.

than one third of records (29.3 per cent). Because of this lack of detail, it is difficult to obtain accurate estimates of the rates of IPV according to the type of relationship between perpetrator and victim, such as 'intimate partner (domestic)' violence, 'family' violence, or 'community' violence, particularly for males.

The place of occurrence for an IPV-related hospitalisation is also recorded in hospitalisation data. Disappointingly, this variable was coded as 'unspecified' for around half (50.8 per cent) of IPV-related hospitalisations in NSW from 2000–01 to 2003–04. In addition, the level of specificity of

coding does not allow detection of IPV-incidents at licensed premises, except through the multiple location code of 'trade and service area, cafe, hotel and restaurant'.

The design of relevant intervention strategies that are likely to be effective in preventing IPV relies on the ability to access detailed information regarding the IPV incident and its circumstances. Improved recording of the relationship between the victim and perpetrator of IPV-related injuries and the place of occurrence of an IPV incident in hospitalisation data would assist in the monitoring and subsequent prevention of IPV injuries in NSW.

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DRUG-RELATED AGGRESSION AMONG INJECTING DRUG USERS

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Recent years have seen the diversification of the methamphetamine markets in Australia, with increased availability and the use of more potent forms of methamphetamine such as ice/crystal and base methamphetamine.¹ Intoxication due to the use of stimulants such as methamphetamine has been associated with aggressive and violent behaviour. The connection is not a direct causal relationship, but is thought to be influenced by a number of other factors such as individual, situational and cultural factors.^{2,3,4,5}

As a consequence of these changes to the methamphetamine market, there has been understandable concern that there could also be a concomitant increase in aggressive behaviour among those using the drug.

An association between alcohol and aggression is established^{2,3}, although a range of other factors, such as context, pharmacology and individual differences, also play a role.^{3,6,7} Evidence supporting a link between benzodiazepines and aggression is less conclusive. However, as with alcohol, a wide range of variables

including age, genetics, mood, environment and personality characteristics, such as poor impulse control, have been implicated in modifying individual responses.^{8,3}

This article examines associations between self-reported aggressive behaviour and substance use among an Australia-wide sample of injecting drug users (IDU), where substance-related aggression was defined as aggression while being either under the influence of a drug or during withdrawal.

METHODS

The study utilised the cross sectional survey component of the Illicit Drug Reporting System (IDRS), an annual survey of IDU in metropolitan Australia.

Participants were injecting drug users (n=948) recruited in key drug market areas in capital cities in all Australian jurisdictions. To be eligible, participants had to have been injecting at least monthly during the six months preceding the interview and have lived for at least 12 months in the capital city in which they were interviewed. Data are presented here from 2004. The number of participants from each state or territory were: NSW 157, Victoria 150, Northern Territory 111, Queensland 129, Australian Capital Territory 100, South Australia 101, Tasmania 100, and