Preventing violence in New South Wales: data sources and their adequacy

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Abstract: Objectives: To describe data sources that are relevant to violence in NSW and recommend strategies for improving data collection and dissemination. **Methods**: Literature review, interviews with stakeholders and a survey of data custodians within NSW Health. **Results**: Data sources were mapped using a conceptual framework developed by the Australian Bureau of Statistics. We found that current data sources are only partially effective at characterising the burden of violence in NSW and there are inadequate mechanisms for data review and dissemination. **Conclusions**: Improving data collection and dissemination is the first step in the public health contribution towards reducing the burden of violence on society.

Public health efforts to prevent violence rely on information about communities most at risk of violence and the success (or otherwise) of current interventions. The World Health Organization World Report on Violence and Health recognised that information and data concerning violence are generally incomplete and inadequate for the purpose of public health action, and called for countries to enhance their ability to collect and present such data.[1] In this article we describe data sources that are relevant to violence in NSW and recommend strategies for improving data collection and dissemination.

Methods

As part of a larger project we interviewed 31 key stakeholders in government and non-government organisations in the health, community, criminology, police and other sectors, and asked them about what data sources they accessed for their violence prevention work. We distributed a short survey to custodians of 11 routine data collections managed within NSW Health that we identified as being relevant to violence; of the 11 custodians, nine responded. We also searched government websites and recent published literature to identify data sources.

Data sources

A conceptual framework

Data sources identified were mapped using a conceptual framework that was developed by the Australian Bureau of Statistics (ABS) for mapping information relevant to sexual assault.[2] This framework characterises data sources according to whether they provide information before an incident (context and risk factors), at the time of an incident (incident) or after an incident has occurred (responses and outcomes). Some datasets provide information at more than one of these levels. This information is summarised in Table 1.

Examples of sources and uses of data

Context

The context in which violence occurs includes individual factors, such as prior history of aggression; relationship factors, such as peer and family norms; community factors, such as social capital and residential mobility; and societal factors, such as historical and cultural circumstances. Risk factor studies, such as census data on employment and socioeconomic status, provide information on communities at known increased risk of violence, which can be used prospectively for planning interventions. Population level information, such as population density, drug and alcohol use and the status of women and children can be studied to determine relationships between these variables and violent incidents.

Example: The 2004 National Drug Strategy Household Survey[3] found that one in three people aged 14 years and over consumed alcohol in a way that put them at increased risk of alcohol-related harm in the short-term on at least one occasion in the preceding 12 months. Risky drinking peaked in men and women aged 20–29 years.

Risks

Actual and perceived risks of violence are best documented through population surveys, including victimisation surveys, which are usually anonymous and can facilitate calculation of the prevalence of violence.

Example: The 2004 NSW Population Health Survey[4] asked young people 16–25 years of age whether or not they had been victims of physical violence in the previous 12 months. Twelve and a half percent of young people had

Table 1. Data sources relevant to violence in NSW – conceptual framework adapted from the Australian Bureau of Statistics[2]

Data sources	Custodian
Context	
National Drug Strategy Household Survey	Australian Institute of Health and Welfare
National Illicit Drug Reporting System	National Drug and Alcohol Research Centre, UNSW
Australian School Students Alcohol and Drugs Survey	Anti-Cancer Council of Victoria
ABS Census	Australian Bureau of Statistics
ABS SEIFA Indexes	Australian Bureau of Statistics
ABS Australian Women's Year Book	Australian Bureau of Statistics
National Firearms Monitoring Program	Australian Institute of Criminology
Community Attitudes to Violence Against Women (2006)	Australian Institute of Criminology
Community Atttitues about Child Abuse and Child Protection (2003)	Australian Childhood Foundation
Other studies including policy and media analyses	
Risk	
Women's Safety Survey	Australian Bureau of Statistics
National Personal Safety Survey	Australian Bureau of Statistics
Young Australians and Domestic Violence	Australian Institute of Criminology
Recorded Crime NSW	NSW Bureau of Crime Statistics and Research
National Aboriginal and Torres Strait Islander Social Survey	Australian Bureau of Statistics
National Aboriginal and Torres Strait Islander Health Survey	Australian Bureau of Statistics
NSW Population Health Survey	NSW Health
NSW Inmates Health Survey	Justice Health
NSW Young People in Custody Survey	NSW Department of Juvenile Justice
ABS Crime and Safety Survey, NSW	Australian Bureau of Statistics
Incident	
National Coroners' Information System	Victorian Institute of Forensic Medicine, Monash University
Causes of Death Collection	Australian Bureau of Statistics
National Mortality Database	Australian Institute of Health and Welfare
National Hospital Morbidity Database	Australian Institute of Health and Welfare
National Homicide Monitoring Program	Australian Institute of Criminology
National Firearms Monitoring Program	Australian Institute of Criminology
Recorded Crime NSW	NSW Bureau of Crime Statistics and Research
NSW Criminal Court Statistics	NSW Bureau of Crime Statistics and Research
NSW Inpatient Statistics Collection	NSW Health
NSW Emergency Department Data Collection	NSW Health
NSW Physical Abuse and Neglect of Children Data Collection	NSW Health
DOCS Client Information System (KIDS)	NSW Department of Community Services
BEACH (Bettering the Evaluation and Care of Health) dataset	Australian General Practice Statistics and Classification Centre
NSW Child Death Review Team Reports	NSW Commission for Children and Young People
Prison Injury Surveillance System	Justice Health
Individual clinic/medical records in public and private services	
Responses	
NSW Sexual Assault Data Collection	NSW Health
NSW Physical Abuse and Neglect of Children Data Collection	NSW Health
NSW Domestic Violence Screening Snapshot	NSW Health
NSW Health Incident Information Management System	NSW Health
NSW Criminal Court Statistics	NSW Bureau of Crime Statistics and Research
NSW Mental Health Outcomes Assessment Tool	NSW Health
NSW Sentinel Events Review Committee Reports	NSW Health
Alcohol and other Drug Treatment Services National Minimum Data Set	Australian Institute of Health and Welfare
Juvenile Justice National Minimum Data Set	Australian Institute of Health and Welfare
Child Protection National Minimum Data Set	Australian Institute of Health and Welfare
Admitted Patient Care National Minimum Data Set	Australian Institute of Health and Welfare
Community Mental Health Care National Minimum Data Set	Australian Institute of Health and Welfare
Admitted Patient Mental Health Care National Minimum Data Set	Australian Institute of Health and Welfare
Trauma Incident Review Teams	NSW Institute of Trauma and Injury Management
Impacts and outcomes	
Cost of Domestic Violence to the Australian Economy	Access Economics
International Violence Against Women Survey	Australian Institute of Criminology
Women's Health Australia	University of Newcastle
Injury Costs!	NSW Injury Risk Management Research Centre
Other studies assessing outcomes of violence	

experienced a violent incident. The young men who had been physically assaulted were most likely to be assaulted in an outdoor place or a licenced premise, whereas young women who had experienced physical assault were more likely to be assaulted in the home.

Incident

Information at the incident level is primarily provided by routine datasets such as the NSW Inpatient Statistics Collection, NSW Recorded Crime Statistics[5] and the ABS Mortality Collection. NSW Ambulance Service data could potentially provide information about violent incidents but are currently insufficiently sensitive for this purpose. The national Bettering the Evaluation and Care of Health (BEACH) general practice dataset includes information about violence coded according to International Classification of Primary Care (ICPC) codes, but the number of identified incidents of violence is very small.

Example: The NSW Inpatient Statistics Collection demonstrates that approximately 6000 people are admitted to hospitals in NSW every year for 'interpersonal violence' and males are three to four times more likely to be admitted than females.[6]

Responses

Data describing responses to violence by the health system include the National Minimum Data Sets collected through health service delivery points, such as drug and alcohol services,[4] mental health services, trauma centres and child protection services and incident monitoring systems, such as the NSW Health Incident Information Management System, which documents reported violent incidents affecting clients or staff within NSW health services. In addition, specific mechanisms have been established in part to analyse system responses to serious incidents, such as the NSW Child Death Review Team[7] and the Mental Health Sentinel Event Review Committee.[8]

Example: National data on patient-safety-related incidents from national incident management data demonstrated that from January 1998 to June 2002, 3621 incidents within the health system involved physical violence or a violent verbal exchange.[9] The proportion of total incidents involving violence was higher in emergency departments and much higher in mental health units. These data were used to recommend strategies to train and protect staff in methods to deal with violent incidents.

Impacts and outcomes

The impacts and outcomes of violence are poorly described in current data collections. In particular, there is generally poor assessment of the psychological impacts of violence. Economic studies of the impacts of violence are important but have been conducted infrequently.[10,11]

Example: The NSW Injury Risk Management Research Centre estimated the costs to NSW of various forms of injury during the period 1998–99.[12] The study estimated that self- harm was the second most costly form of injury to NSW ($588 million) and assaults were the fifth most costly mechanism of injury ($134 million). Falls are the most costly mechanism of injury at an estimated $644 million in 1998–99.

NSW Health data sources relevant to violence

Table 2 provides an overview of the strengths and limitations of specific datasets relevant to violence managed by NSW Health, based on the comments of our informants, results of the survey conducted and a review by the UNSW team.

Adequacy of current datasets

Stakeholders interviewed were asked in general terms about the adequacy of the data sources they use. Some common themes emerged from these discussions:

Data sources are not comparable

Different data sources measure different variables, making comparison difficult. For example, sexual violence may be measured through data on presentations to sexual assault centres, presentations to emergency departments, police reports, court reports and population surveys measuring histories of sexual violence in childhood or adulthood. Sexual violence is defined differently in each of these data collections: for example, the legal definition of sexual assault used in criminal prosecution is much narrower than the definitions of sexual victimisation used in population surveys. Given that these collections are not linked, it is difficult to know how much overlap there is. One stakeholder from outside the health sector articulated the need for different sectors to share data more effectively:

'The links between assault prevention, health outcomes and violence prevention are so clear, it is almost ridiculous that we are not sitting at a table on a monthly basis and comparing data…if anything can be done better it is the way we compare data'.

Significant under-reporting

In concert with literature in the area, stakeholders interviewed perceived there to be significant under-reporting of intimate partner violence, sexual violence, elder abuse, school bullying and assaults on hospital staff. Some stakeholders were reluctant to identify violence if they perceived it would compromise provision of care or that there were inadequate referral mechanisms to follow up events identified: 'We are not seeking to get individual level reporting of stuff around DV (domestic violence), child reporting…we wouldn't know what to do with it'. Under-identification of Indigenous status and inaccurate reporting of violence in Indigenous communities were also reported.

Table 2. Routine data collections relevant to violence administered by NSW Health

Data collection	Access and dissemination	Strengths	Limitations	Known gaps	Comments
Emergency Department Data Collection	HOIST[A] access; data in Chief Health Officer's Report; available to institutions upon request	Captures the majority of Emergency Department presentations in NSW	Poor quality data on diagnoses and no data on external causes; not professionally coded; incomplete coverage in NSW; one or more week's time delay in supply of information	Routine recording of injury intent and mechanism	Potential to improve diagnosis coding for violence related emergency department visits
Public Health Real Time Emergency Surveillance System	Internal departmental access only	Captures incidents in real time; potential to identify violence via triage narrative	In early stages; not primarily for capturing data on injury	Details of injury mechanism, external cause	Identify key terms for describing injury secondary to violence; train triage staff in use of these terms
Inpatient Statistics Collection	HOIST* access; data in Chief Health Officer's Report; available to institutions upon request; NSW Injury Profiles published	Includes all admitted patients to public hospitals, private hospitals, psychiatric hospitals, multi-purpose services and day procedure centres. Commonly used and cited dataset on injuries and violence; identification of violence according to ICD-10-a.m. codes	Multiple counting of separations; poor reporting of relationship between victim and perpetrator; activity when injured codes not useful for intentional injuries	Inaccurate recording of Indigenous status	Categories of 'interpersonal violence' could be disaggregated for reporting purposes, for example physical assault *v.* sexual assault; work could be done to estimate the cost of interpersonal violence in NSW; potential for more accurate coding of perpetrator, place of occurrence and involvement of alcohol and other drugs
Physical Abuse and Neglect of Children (PANOC) Data Collection	Ad hoc reports to NSW Health; other agencies upon request	Details of type and extent of abuse experienced by referred children; continuous data from 2000; data used for planning interventions	Only captures children referred by DOCS to the service (substantiated cases of child abuse); limited details of identified perpetrator	Depends on data entry at services	Production of accessible reports would assist usefulness
Sexual Assault Data Collection	Ad hoc reports to NSW Health; other agencies upon request	Demographic data of victim/client; records some details of perpetrator; other forms of abuse identified for children (eg exposure to domestic violence); continuous data from 1987- web-based collection started 2000	Only captures adults and children accessing sexual assault services	Depends on data entry at services	Production of accessible reports would assist usefulness
Incident Information Management System	Internal departmental access only	Systematic recording of incidents in NSW Health services, including violent incidents; information on victim and perpetrator	Relatively new system	Not determined	Currently working to make data more readily available
Mental Health Outcome and Assessment Tools	Not available outside the health . sector. Reports based on minimum datasets produced at national level only.	Specific flags for child protection issues, suicide/self-harm, vulnerability to abuse. History taking about previous experiences of violence. Screening for domestic violence incorporated.	Relatively new system; detailed clinical assessment tools in patient files only; national data collection on minimum items related to violence; difficult for outside agencies to access data; limited potential for public health purposes at present	Limited information in Minimum Data Set relevant to violence	Potentially useful data for local analysis and clinical audits; potential for longer term development

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Table 2. continued

Data collection	Access and dissemination	Strengths	Limitations	Known gaps	Comments
Routine Screening for Domestic Violence Program	Annual snapshot report	Routine enquiry to women presenting to some services in NSW; only statewide source of data on domestic violence	Not yet comprehensively implemented.	Only screening level information provided about violence	Integration into standard data collection tools and participation by all target services would assist usefulness and representativeness of data
NSW Trauma Minimum Data Set	Annual report	Captures patients with serious or critical injuries presenting to NSW major trauma centres; documents mechanisms of injury including blunt assault, stabbing and shooting	Violence is not always clearly indicated as a contributing factor	Minor injuries	Dataset could be used for assessing costs to the health system of violence resulting in serious or critical injury
NSW Prison Injury Surveillance System	Restricted access to Justice Health staff	Text description of injury; records details of injuries not captured by custodial incident reporting systems; records type of injury, location, intent and treatment	Based on self-referral to prison clinics; self-reported intent	Incomplete coverage	Resources to mine the data and undertake site visits and training would improve utility of system
Inmate Health Surveys/ Young People in Custody Health Survey	Publicly available report	Broad range of data collected, including injuries in previous 3 months; data on child sexual abuse collected; data collected via face to face interviews	Data collected every 5 years	Not determined	Potential to further mine data given appropriate resources
NSW Health Survey Program	HOIST* access; data in Chief Health Officer's Report; available to institutions upon request	Good quality data on range of health issues across several surveys; recent questions on youth violence in Population Health Survey	Possible ethical issues	Detailed information on victims or perpetrators of violence	Potential to add further question modules relevant to violence

[A]HOIST is an acronym for the Health Outcomes and Information Statistical Toolkit, which is a collection of databases (data warehouse) maintained by the Epidemiology and Surveillance Branch of the NSW Department of Health. HOIST is only available to staff of the NSW public health system.

Inadequate identification of intent, external causes of violence and the relationship between victim and perpetrator

The majority of victims of violence seen in the health sector are not admitted to hospital, but are seen in the emergency department or as outpatients. However, most data collections beyond the Inpatient Statistics Collection do not routinely record the intent of injuries, the external cause of injuries and the relationship between the victim and perpetrator. Although the Emergency Department Data Collection was identified as a key information source for improvement, this collection does not function primarily as

Table 3. Key resources relevant to violence prevention in NSW

Organisation/document title	URL
Australian Childhood Foundation	www.childhood.org.au
Aboriginal Child Sexual Assault Taskforce	http://www.lawlink.nsw.gov.au/acsat
AIHW National Injury Surveillance Unit	http://www.nisu.flinders.edu.au
Australian Institute of Health and Welfare	http://www.aihw.org.au
Allerton M, Kenny D, Champion U, Butler T. *NSW young people in custody health survey: A summary of key findings.* Sydney: NSW Department of Juvenile Justice, 2003.	www.aic.gov.au/conferences/2003-juvenile/kenny.html
Australian Bureau of Statistics	http://www.abs.gov.au/websitedbs/d3310114.nsf/Home/themes- go to Crime and Justice and Health themes.
Australian Centre for the Study of Sexual Assault	http://www.aifs.gov.au/acssa/index.html
Australian Domestic and Family Violence Clearinghouse	http://www.austdvclearinghouse.unsw.edu.au/
Australian Institute of Criminology	http://www.aic.gov.au/
BEACH (Bettering the Evaluation and Care of Health)	http://www.fmrc.org.au/beach.htm
Bureau of Crime Statistics and Research, NSW Attorney-General's Department	http://www.lawlink.nsw.gov.au/lawlink/bocsar/ll_bocsar.nsf/pages/bocsar_aboutus
Al-Yaman F, Van Doeland M,Wallis M. *Family violence among Aboriginal and Torres Strait Islander peoples.* Canberra: AIHW November 2006.	http://www.aihw.gov.au/publications/index.cfm/title/10372
Illicit Drug Reporting System, National Drug and Alcohol Research Centre	http://notes.med.unsw.edu.au/NDARCWeb.nsf/page/IDRSa
Justice Health, Inmate Health Survey 2001	http://www.justicehealth.nsw.gov.au/pubs/Inmate_Health_Survey_2001.pdf
National Association for the Prevention of Childhood Abuse and Neglect	www.napcan.org.au
National Child Protection Clearinghouse	http://www.aifs.gov.au/nch/
National Coroners Information System	http://www.vifp.monash.edu.au/ncis
NSW Chief Health Officer's Report 2004	http://www.health.nsw.gov.au/public-health/chorep/chorep.html
NSW Child Deaths Review Team	http://www.kids.nsw.gov.au/publications/cdrt2000.html
NSW Health Inpatient Statistics Collection	http://www.health.nsw.gov.au/im/ims/isc/
NSW Health Routine Screening for Domestic Violence Snapshot Report 2004	http://www.health.nsw.gov.au/pubs/2005/routine_screeningfn.html
NSW Health Survey 2004	http://www.health.nsw.gov.au/public-health/survey/hs04/prodout/toc/toc.htm
NSW Injury Risk Management Research Centre	http://www.irmrc.unsw.edu.au/
NSW Institute of Trauma and Injury Management	http://www.itim.nsw.gov.au
Memmott P, Stacy R, Chambers C, Keys C. *Violence in indigenous communities.* Canberra: Commonwealth Attorney-General's Department, 2001	http://www.ncp.gov.au/agd/www/Ncphome.nsf/Page/3AF90A4576B81394CA256B430001AF24?OpenDocument
Mouzos J, Makkai T. *Women's experiences of male violence: findings from the Australian component of the International Violence Against Women Survey (IVAWS).* Canberra: Australian Institute of Criminology, 2004	http://www.aic.gov.au/publications/rpp/56/index.html
Office for the Status of Women & Access Economics, The Costs of Domestic Violence to the Australian Economy, 2004	www.accesseconomics.com.au
Women's Health Australia (The Australian Longitudinal Study on Women's Health)	http://www.alswh.org.au/

a surveillance system and significant barriers to collecting good quality data in this setting were identified.

Accessing health data is difficult unless you know how

Several stakeholders outside the health sector reported that health data were difficult to access unless you knew where to look: 'Health is such a complicated organisation from the outside'. One suggested that it would be 'really good to have a contact in Health we can call up and say – right is it realistic for us to ask for this information – does it exist?' Another thought that 'A one-stop shop outlining the health data, who is the data custodian, how you get access to it…something like that would be beneficial'.

Some data are misleading

There are some communities 'hidden' in the statistics, such as gay and lesbian victims of both intimate partner and street violence, as most datasets do not record information on sexual identity. One stakeholder felt very strongly that the health sector collects poor quality data on child health, including child abuse, as most information is collected via parents rather than from children themselves.

Discussion

Public health surveillance should enable the definition of public health priorities; the characterisation of disease by time, place and person; the detection of unusual patterns of occurrence or epidemics; the evaluation of prevention and control programs; and the projection of future trends and health care needs.[13] All of these are relevant to violence, which can be detected to some degree in routine datasets at the incident level. However, certain forms of violence are likely to be significantly under-reported,[14,15] and even large scale victimisation surveys have been unable to systematically document the experiences of some groups, such as adult survivors of sexual assault, people from non-English speaking backgrounds, sex workers and the homeless.[2]

All routine data collection systems have weaknesses; added to these are some specific limitations of data collected about violence. Particular issues are the lack of resources and personnel to focus on violence in particular, and the use of non-standardised terms and protocols which limit the comparability of results derived from separate data sources or data collection instruments.[16]

To facilitate a broad understanding of the complex patterns of violence within society, information from different sources and different sectors is required. The increased use of data linkage methods is likely to assist with making these data more useful. Table 3 summarises the range of information that is available to violence prevention practitioners in NSW. It is not sufficient to characterise violence using only the ICD codes for assault in the NSW Inpatient Statistics Collection. Basing policy on these measures of morbidity alone will significantly underestimate the burden of violence in NSW. As victims of violence have higher health care needs and consume more health resources than those who have not been victimised,[1,17] it is appropriate that health systems pay particular attention to identifying violence and target programs to where they are most needed.

Collecting information about personal experiences of violence highlights specific ethical and logistic issues that may not be relevant to other forms of information gathering. In particular, respondents should not be adversely affected or revictimised in any way by participating in data collection.[2] Routine datasets often collect data on violence as a by-product of their main purpose, and are therefore unlikely to compromise staff time or patient acceptability. However, as discussed previously, many victims of violence are unlikely to be identified unless more active methods of information gathering are instituted.

Conclusions

Current information systems to characterise violence in NSW are only partially effective. Stakeholders reported that data about violence in general were not representative, were of variable quality and were difficult to access. In addition, there appear to be few systematic mechanisms by which information about violence is regularly reviewed and fed back into policy processes. Key recommendations arising from this project are currently being formulated for consideration by NSW Health.

Public health research, advocacy and intervention depend upon accurate estimations of the burden of injury. Improving information systems is the first step in the public health contribution to reducing the burden of violence on society.

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References

1. Krug EG, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, editors. *World report on violence and health*. Geneva: World Health Organization, 2002.
2. Australian Bureau of Statistics. *Information paper: sexual assault information development framework 4518.0*. Canberra: Australian Bureau of Statistics, 2003.
3. Australian Institute of Health and Welfare. 2004 national drug strategy household survey. In: *Drug statistics series No 16*. Canberra: Australian Institute of Health and Welfare, 2005.
4. Centre for Epidemiology and Research NSW Department of Health. 2004 Report on Adult Health. *N S W Public Health Bull* 2005; 16(S-1).

5. Moffatt S, Goh D, Fitzgerald J. *NSW recorded crime statistics 2004*. Sydney: NSW Bureau of Crime Statistics and Research, 2005.

6. Hayen A, Mitchell R. A description of interpersonal violence-related hospitalisations in New South Wales, 1989–00 to 2003–04. *N S W Public Health Bull* 2006; 17: 8–12.

7. NSW Child Death Review Team. *Fatal assault and neglect of children and young people*. Sydney: NSW Commission for Children and Young People, 2003.

8. NMHSER Committee. *Tracking Tragedy 2004: A systemic look at homicide by mental health patients and suicide deaths of patients recently discharged from mental health inpatient units*. 2005, NSW Health: Sydney.

9. Benveniste K, Hibbert P, Runciman W. Violence in health care: the contribution of the Australian Patient Safety Foundation to incident monitoring and analysis. *Med J Aust* 2005; 183(7): 348–51.

10. Access Economics. *The cost of domestic violence to the Australian economy*. Canberra: Office of the Status of Women, Australian Government, 2004.

11. VicHealth. *The health costs of violence: measuring the burden of intimate partner violence*. Melbourne: Victorian Health Promotion Foundation, 2004.

12. Potter-Forbes M, Aisbett C. *Injury costs! A valuation of the burden of injury in NSW 1998–1999*. Sydney: NSW Injury Risk Management Research Centre, 2003.

13. Berkelman R, Stroup D, Buehler J. Public health surveillance. In: Detels R, Mcewen J, Beaglehole R, Tanaka H, editors. *The Oxford textbook of public health*. Oxford: Oxford University Press, 2002.

14. Carcach C. Reporting crime to the police. In: *Trends and issues in crime and criminal justice*. Canberra: Australian Institute of Criminology, 1997.

15. Mouzos J, Makkai T. *Women's experiences of male violence – findings from the Australian component of the International Violence Against Women Survey*. Canberra: Australian Institute of Criminology, 2004.

16. Watts C, Zimmerman C. Violence against women: global scope and magnitude. *Lancet* 2002; 359: 1232–7.

17. Plichta S. Intimate partner violence and physical health consequences: policy and practice implications. *J Interpers Violence* 2004; 19(11): 1296–323. doi:10.1177/0886260504269685