



## District hospital based injury data—are they an option in a developing country?

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*Inj Prev* 2002 8: 345-346

doi: 10.1136/ip.8.4.345-b

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## LETTERS

### Studying homicide in the home and how guns are kept

Having a gun in the home appears to increase the risk of homicide victimization<sup>1</sup> and perpetration.<sup>2</sup> Some strategies to prevent gunshot deaths focus on firearm design and distribution practices. But what about the approximately 200 000 000 guns that are privately owned in the United States already?<sup>3</sup> Is the risk of homicide in the home associated with how guns are kept?

Survey data published by the National Center for Health Statistics (NCHS) portend an answer. The National Mortality Followback Survey (NMFS) interviews proxy respondents and gathers detailed information about US decedents, including homicide victims.<sup>4</sup> The most recent (1993) NMFS asked if there were guns in the victim's home and how they were kept (for example, loaded, disassembled). Nearly identical questions were asked the following year in the National Health Interview Survey (NHIS), which yielded data about how living people keep their guns.<sup>5</sup>

We used the data to assess if the risk of being killed in one's home (homicide) was associated with how the firearms were kept. Question wording prevented full use of the data. People who reported that multiple guns were present were asked one set of questions; the wording makes it unclear how a particular gun was kept. People reporting a single gun were asked different questions; these data are more tractable. Among the latter individuals, 14% of the living subjects and 58% of the homicide victims kept the gun in a non-recommended manner (that is, unlocked and loaded or with ammunition). Unfortunately, the relative risk for people with multiple guns in their homes (about 75% of the US households that contain guns<sup>5</sup>) cannot be determined.

Additional data are needed. One source is the 1998 NHIS, which asked revised firearm questions. We hope the NMFS is revised and readministered as well.

Asking people about guns, doing it quickly and concisely, and eliciting accurate information is a challenge. We are encouraged by the NCHS's commitment to include firearm questions on their already lengthy surveys. The firearm section is key, providing information by which to address important research questions.

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### Patterns of violence in Karachi, Pakistan

I welcome the paper by Chotani *et al* on violence in Pakistan and the empirical nature of the exploration.<sup>1</sup> It is also encouraging to see *Injury Prevention* raise the issue of violence in developing countries, as it is a neglected health problem. However, from the Pakistani context, there are several contextual and explanatory points that are needed to clarify some of the issues raised in the paper and also to add to them.

1. Macroeconomic changes have affected Pakistani society for the past two decades with important impacts on the health and social sectors.<sup>2</sup> One of the impacts is on the levels of violence and unintentional injuries—trends that have not been appropriately studied in the developing world. The impact of adjustment programs like the Social Action Program in Pakistan therefore merit discussion in a dialogue exploring the nature and patterns of violence.

2. I disagree with the claim made in the paper that there have been no comparisons of police data with other data sources in Pakistan. National burden of disease analysis for Pakistan included all types of injuries and used such a comparative analysis.<sup>3</sup> Moreover, innovative sources of data have also been compared to police data on violence in the literature.<sup>4</sup> Indeed more work needs to be done in this area to enhance the internal consistency of data from Pakistan—a research agenda for the country.

3. I was surprised to note the lack of attention to the role of firearms in the discussion and prevention part of the paper. The influx of firearms since the eighties, the relationship with substance abuse, and the drug trade are important considerations for exploring violence in Pakistan. There are major economic relationships between these factors and all of them facilitate and potentiate the occurrence and impact of violence in the country, including political and ethnic violence. Most importantly, the control of firearms and their use is a potential preventive strategy which needs to be explored in the Pakistani context.

4. Although not the intent of the study, it is worth reflecting that there are enormous costs to violence everywhere. In addition to the direct and indirect medical and treatment costs to those injured or dead, there are societal costs in the form of preventive, rehabilitative, structural, and quality of life factors. If such an assessment was to be done in Karachi, I am sure one could attribute a large cost

amount to violence. We must begin to use economic arguments as well, to enhance the case for greater attention to violence in the developing world.

As suggested by the authors, it is time to analyze the causes and consequences of violence in Pakistan systematically. The use of evidence in doing such analysis is critical; the development of a framework to link the different causative and impact pathways is vital; and finally the ability to mobilize Pakistani society to reject such violence and develop their own capacity for preventing it, is probably the most important.

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### District hospital based injury data—are they an option in a developing country?

Lack of epidemiological data on injuries is one of the main impediments to injury prevention activities.<sup>1</sup> Setting up a costly surveillance system is not an option in many developing countries. Utilizing existing sources of data like the hospital logs has been suggested.<sup>2</sup> We present our findings on the quality of injury data available in existing logs in a district hospital in a developing country.

Mangochi District (total population about 660 000) in southern Malawi is served by a 250 bed district hospital. We reviewed the discharge logs from pediatric, male, and female wards for a period of six months (1 August 1995 to 31 January 1996). A total of 3188 patients were admitted during the study period (998 children, 2190 adults). There were 386 patients with injuries, 64 (17%) among children under age 5 years. Children were more likely to be admitted for injury than adults (17% v 9.7% p<0.001). Discharge diagnosis showed that "fractures, sprains, and dislocations" accounted for over half (196; 51%) of all injuries. Motor vehicle crashes (62; 16%), burns (41; 11%), assaults (24; 6%), bites (10; 3%), and poisoning (8; 2%) accounted for most of the remainder. There were a total of 22 deaths after admission to the hospital (case fatality rate 6%). Children had higher case fatality rate compared with adults (7.8 v 5.3%), though the difference failed to reach statistical significance (odds ratio 1.52, 95% confidence interval 0.47 to 4.61).

The epidemiological data in the logs were limited. No information describing the circumstances, mechanism, nature, severity, or

intentionality of injury was available. Outcome information was limited to dead versus alive. Discharge diagnosis varied between type of injury (for example, fracture) and cause of injury (for example, motor vehicle crashes, falls, etc). Routine information from district hospitals in developing countries, therefore, may be insufficient to identify risk groups and inform data driven interventions.

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#### When doing nothing can cause harm

Newspapers may be a primary source of information for the general public, but they do little to educate the public about strategies to prevent injuries or reduce mortality.<sup>1</sup> Research on newspaper clippings on unintentional injury events indicates that out of 577 articles reporting on motor vehicle accidents, only 3% mention alcohol use by the driver and 9% mention seat belt use.<sup>2</sup>

To better understand this situation, we surveyed daily newspaper editors to determine their knowledge, attitudes, and beliefs about risk reporting, and to measure the extent to which they integrated risk reduction and injury prevention into their articles. We developed, piloted, and revised a survey instrument and emailed it to all daily newspaper editors in Iowa (n=33). One week later, we re-emailed each of the editors attaching the survey and restating its purpose. A total of four surveys and reminders were sent by both post and email. However, only seven editors (21%) responded—all indicating a lack of interest in injury control. As a result, we telephoned the remaining editors, leaving a minimum of four messages. We were able to contact only eight and none of these eight desired to complete the survey. Not only did the editors lack interest in the survey, some exhibited strongly negative attitudes to injury control.

This experience suggests several conclusions. First, injury prevention is certainly not a priority. Second, the editors expressed little interest in learning about injury control. The exceptions were those with personal relationships with injury control personnel. Working with the media is an area that needs to be improved by injury control professionals. Third, if injury control is to remain in the newspapers, there may be a need to focus more on the use of paid advertisements/editorials to reach the reader.

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#### Acknowledgements

This project was funded by a grant from the National Center for Injury Prevention Control (NCIPC) at Centers for Disease Control (CDC). The author wishes to acknowledge the assistance of Susan Kinzer, MPH and Shelly Reich and comments by

Professor Craig Zwerling and Associate Professor Corinne Peek-Asa on earlier drafts.

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## BOOK REVIEW

### Injury Control: A Guide to Research and Program Evaluation.

Edited by FP Rivara, P Cummings, TD Koepsell, DC Grossman, and RV Maier. (Pp 304; £65 hardback.) Cambridge University Press, 2001. ISBN 0-521-66152-8.

Fred Rivara, the principal editor of this book, ends the introductory chapter by noting that injury, at the beginning of the 21st century, continues to cause enormous death and disability worldwide. Although some progress in controlling the toll of injury has been made in the last 50 years, Rivara observes that 'further reduction in injury will depend on increasingly more sophisticated research. It is our hope that this volume will help to stimulate such efforts'. I certainly agree with his assessment.

To that end, 30 well known injury researchers collaborated on 20 chapters that cover a wide range of issues related to research and evaluation in the field of injury. *Injury Control* spans issues of measurement of injury events and consequences, the management of injury data, various approaches to designing and carrying out injury related research—from descriptive and analytical epidemiological studies to intervention trials, economic analyses, assessments and improvements in clinical care, and ethical issues. The volume appears to be pegged to scientists and practitioners in the "middle", somewhere between novices and experts. That's fine, since most injury books to date have been pegged to the most introductory level.

The chapters are generally short, and the authors have followed similar formats. The advantage of this approach is that the chapters have a similar structure. The disadvantage is that the chapters, in some cases, may be thin on detailed information or lack pizzazz. In many cases, excellent examples are drawn from the literature to demonstrate the methodological points. This volume is a competent, authoritative review of the state of injury research in 2001. It could serve admirably as the text for an injury epidemiology research course in a school of public health.

While *Injury Control* stands alone as an excellent contribution to research in the field, it would benefit from two additions. First, the volume needs to be accompanied by a "reader". That is, each chapter needs a set of articles, or substantial excerpts from research articles, that demonstrate the important methodological points, whether specific uses of methods, or strengths of approaches, or limitations and biases of certain approaches. Second, there needs to be a set of commentaries that challenge the methodologists in our field to think about our "future" research needs. What are the problems that *can't* be solved using the methods documented in this volume? How will these new methods

emerge? Perhaps *Injury Prevention* would publish such a discussion.

Finally, in the first chapter of *Injury Control*, Rivara reminds the reader of the volume by Haddon, Suchman and Klein, *Accident Research: Methods and Approaches*, published by the Association for Crippled Children in 1964. Many of us found that book in the 1970s when we began working in the injury field. It filled us with excitement and enthusiasm for this new field. Not only did it document the state of the science and art of that day, it challenged us to address new and important research agendas. After finishing *Injury Control*, go back to the library and get out *Accident Research!*

**B Guyer**

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## CALENDAR

### Successful partnership working

11-12 November 2002, York, UK. The Royal Society for the Prevention of Accident's Home Safety Congress focuses on creating, maintaining, and sustaining partnership working. Further details can be found on [www.rospa.com/home](http://www.rospa.com/home).

### UK road safety conference

3-5 March 2003, Blackpool, UK. The Royal Society for the Prevention of Accident's 68th National Road Safety Congress entitled *Safer Driving-Reducing Risks, Crashes and Casualties* will focus on recent developments in driver training, older drivers, influencing driver and pre-driver behaviour, law and enforcement, aspects of vehicle design and technology, and designing roads to help rivers. Further details can be found on [www.rospa.com](http://www.rospa.com).

### CAPIC injury prevention conference

11 March 2003, Cardiff, UK. Further details at [www.capic.org.uk](http://www.capic.org.uk) in due course.

### Partnership for the future

16-18 March 2003, Perth, Western Australia. The Australian Injury Prevention Network, World Health Organisation and Western Australian and Commonwealth Departments of Health will sponsor the meeting to be held in conjunction with the 1st Asia-Pacific meeting on injury prevention. The issues facing developing countries and those facing indigenous people will have a specific focus but other issues will also be included. For registration of interest see [www.congresswest.com.au/injury](http://www.congresswest.com.au/injury).

### 4th European Convention in Safety Promotion and Injury Control

10-11 April 2003, Paris. The theme of this conference organised by European Consumer Safety Association and Commission de la Sécurité des Consommateurs is *New business challenges in consumer safety*. It aims to reassess the state of play in Europe and to share the experiences in safety promotion and injury control measures among all partners involved. It wants to identify the successes and failures in implementing the recommendations of ECOSA's White Book since 2001. It will in particular also look into the consequences of

implementing the new provisions under the revised general product safety directive, the directions for enhancing safety of services and the impact of product liability on business. Programme details and further information can be obtained from [www.ecosa.org/csi/ecosa.nsf/news](http://www.ecosa.org/csi/ecosa.nsf/news) or from ECOSA, PO Box 75169, 1070 AD Amsterdam, The Netherlands.

### Child and Youth Health 2003

11–14 May 2003, Vancouver, British Columbia. The Congress will focus attention on health issues facing children and youth within the context of the UN Special Session on Children, which immediately precedes it. It provides the international community with the setting to define opportunities and set priorities related to new knowledge development through research and the application of this knowledge to the health issues of children over the next decade. The Congress

will bring together child and youth health leaders, scientists, health workers, governmental and non-governmental organizations, and industry to identify those opportunities that are critical to moving forward on improving the health of all children. Youth participation will be encouraged. This Congress links to and is a direct response to the challenge put forward by the United Nations to address the needs of children as a priority. The call for abstracts is open until 31 October 2002. For further details visit [www.venuewest.com/childhealth2003](http://www.venuewest.com/childhealth2003) or write to Child & Youth Health 2003, c/o Congress Secretariat, Venue West Conference Services Ltd, 645–375 Water Street, Vancouver, BC, Canada V6B 5C6 (tel: +1 604–681 5226, fax: +1 604–681 2503, email: [congress@venuewest.com](mailto:congress@venuewest.com)).

### Enhanced Safety of Vehicles conference

19–23 May 2003, Nagoya, Japan. The theme of the 2003 ESV conference is *New steps towards*

*vehicle safety enhancements*. The call for papers closes on 15 September 2002. There are 13 themes ranging from child restraint systems through vehicle design to advanced intelligent technologies. Further details can be found on [www.esv2003.com](http://www.esv2003.com).

### XXII Congress of the International Association for Suicide Prevention

10–14 September 2003, Stockholm. Deadline for abstracts: 15 March 2003. Contact: Congress Secretariat, tel: +46 8 5465 15 00, fax: +46 8 5465 15 99, email: [iasp2003@stocon.se](mailto:iasp2003@stocon.se).

### 7th World Conference on Injury Prevention and Control

6–9 June 2004, Vienna, Austria. Keep the date free!

## LACUNAE .....

### Red light monitors save lives

An audit of California's red light enforcement cameras credits the technology with curbing accidents but urges local governments to take better command of their programs. In the most exhaustive look at the controversial cameras to date, the Bureau of State Audits examined seven of the 20 red light programs in the state. The report released in July found that red light running accidents fell by 10% in jurisdictions that use cameras since a 1996 state law authorized the technology. The drop was more pronounced at the particular intersections where cameras were installed. At 10 intersections in the city of Sacramento, red light related accidents fell by 44% since cameras went up, the audit found. The audit surveyed the cities of Fremont, Long Beach, Oxnard, Sacramento, San Diego, San Francisco, and Los Angeles County. The 110 page report also challenged two widespread notions about red light cameras—that cities make money off the \$281 tickets and that traffic engineers manipulate the yellow light times on traffic signals to generate more tickets. Only the programs in Oxnard and San Diego have generated significant revenue, according to the audit, while some cities have lost money in the process. Sacramento, for example, lost \$153 000 since the first cameras were installed three years ago, while San Francisco lost nearly \$1 million since its program started in 1996. Sacramento now pays its contractor \$87 from every \$281 red light ticket, with the city keeping \$9.30. The rest is divided among various state and county programs. And auditors found no evidence that yellow times have been decreased. In fact, yellow times at three intersections in Sacramento were extended last year even though they met intervals established by the state Department of Transportation. A copy of the audit is online at [www.bsa.ca.gov/bsa/index.html](http://www.bsa.ca.gov/bsa/index.html) (from *The Sacramento Bee*, July 2002; submitted by Peter Jacobsen).

This rather bizarre story might make one believe that accident-proneness is more than a concept. Not this man's lucky day.

### Injured man survives brush with death near train tracks

A man who was hit by a train while passed out in his car after cutting his fingers in a household accident has survived. Richard Paquette was driving to a clinic when he passed out near train tracks. A witness said the car was dragged 30 metres before Mr Paquette awoke and managed to swing the car out of harm's way. He was not hurt (from *National Post* (Canada), August 2002; submitted by Amy Zierler).