

Injuries from external causes: progress in data management, analysis, and patient care

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In recent years, it has become increasingly more common to find that the declarations, resolutions, and documents of various organizations contain an appeal to improve, update, and develop valid, timely, useful, and representative information on external causes of injury (ECI). Almost all of the United Nations' specialized agencies, including its General Assembly, have underscored its importance with the same urgency. One key example is the report of the World Health Organization (WHO) on violence and health, which takes a public health approach to violence prevention, examining violence's forms, magnitude, risk factors, and affected population groups, by age and gender. In addition, this 2002 report outlines nine recommendations for the various sectors charged with violence prevention and control, and has guidelines for use at the national and international levels (1). Other key documents are the WHO and World Bank joint report on road traffic injury, published in 2004, which underscores the need to carry out scientifically-validated interventions aimed at roadway users, vehicles, and the environment (2); and the United Nations Secretary General 2006 report on violence against women, which spotlights this type of violence as a form of discrimination and a violation of human rights (3). Moreover, the United Nations Children's Fund (UNICEF) 2006 report on violence against children constitutes the first global study of this problem. The report—produced with input from boys, girls, and teens—concludes that countries simply do not possess enough consolidated data regarding violence against children, which requires information that is basic, timely, and must be disaggregated by sex, age, ethnicity, geographic location, etc. (4).

All the documents stress the magnitude and severity of the problem and emphasize the need to improve data available on injuries, be they intentional (violent) or unintentional (accidental). In the Region of the Americas, the Pan American Health Organization (PAHO) and the Centers for Disease Control and Prevention (CDC) of the United States of America, among other health organizations, have understood the challenge and have taken action in this regard. This state of affairs is due to inconsistency and a lack of standards in the data that traditionally has been managed by the groups charged with compiling and analyzing information on deaths by homicide, suicide, domestic violence, traffic accidents, fire, drowning, poisoning, and others. The same is true in cases of nonfatal sexual assaults, violence against women, child abuse, and other injuries that affect the health and lives of the individuals directly involved, as well as their families. Without accurate information on the circumstances, parties involved, the times, and locations of the injury event, appropriate and efficient corrective steps and preventive measures cannot be put into place.

Fortunately, there are now proven tools and experiences that can help bridge the information gaps seen in many countries. Guidelines have been published and distributed, courses created, and the codes for ECI are available in the 10th Revision of the International Statistical Classification of Diseases and Health Related Problems (ICD-10) (5). In addition, the International Classification of External Causes of Injury (ICECI) has been adopted and takes into account information registered on whether the incident was intentional or not, where it took place (data needed and used for geographic plotting and local reference), the means and the object that produced the injury, the activity in which the individual was engaged when the incident occurred, the relationship between the assailant and the victim (when applicable), and data on possible risk factors (such as alcohol or drug use and access to firearms) or protective factors (such as the use of a helmet or seatbelt) involved in the act (6).

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This special issue of the *Revista Panamericana de Salud Pública/Pan American Journal of Public Health* presents experiences that various countries of the Region have had with collection, analysis, and dissemination of information on ECI, as well as the methodologies and guidelines that have produced positive results. This comprehensive information is complimented with other articles related to the topic. Because the health sector—via hospital emergency services—is the natural recipient of the injured, regardless of intentionality, in 2001, PAHO and the CDC embarked a collaborative project with the ministries of health and select hospitals in Colombia,³ El Salvador, and Nicaragua, to establish a viable and sustainable model that would allow improvements to the process for collecting, analyzing, and disseminating data on ECI patients. Two of the articles explain the program, which operates without interruption—24 hours per day—in the hospital emergency rooms where the implementation phase has been completed. The article by Sklaver and colleagues (page 379) describes the establishment of a collaborative model among the three countries named and makes several recommendations based on lessons learned during the program rollout; for example, that the data collection format must serve as the starting point for the emergency clinical case history. Furthermore, the article by Salinas and colleagues (page 390) describes the integration of information collected with an Internet database, SILEX, in El Salvador.

As this effort got underway, it became apparent that other countries were taking similar strides, albeit tailored to the circumstances specific to each. Likewise, Brazil rolled out an ECI data collection model to be used by all of the nation's emergency services in September of each year. Gawryszewski and colleagues (page 400) analyze the experience through the data collected from 62 hospitals located throughout Brazil's states and the capitol city, Brasilia. The work focused on cases associated with violence, and differences were found by state, age group, sex, and certain risk factors. Although data from a single month may not be representative of all months, particularly given the possibility of "seasonal variation," the nationwide coverage and high quality of the data support the overall validity.

The range and variability of ECI make it imperative to utilize more complex methods to gather high quality data. Population-based studies that are well designed, use a representative sample, and are subjected to rigorous analysis are a unique source of research. Results of the studies conducted by Le Franc and colleagues (page 409) on domestic violence in three Caribbean countries—Barbados, Jamaica, and Trinidad and Tobago—provide a gender-focused analysis of the high incidence of sexual and psychological violence in countries with different socioeconomics and highlight the cultural aspects to be considered when designing and implementing preventive actions.

Approaching the topic from another angle, Celis and colleagues (page 422) review drowning—a cause of death that is rarely investigated—in all of Mexico's states, over the 27 year period from 1979–2005. This descriptive study of mortality data from Mexico's National Institute on Statistics and Geography (Instituto Nacional de Estadística y Geografía de México) uses ecological analysis to reveal a general downward trend in the number of deaths by drowning in the country overall, as well as by state. Despite the decrease—a trend also observed in Europe, Asia, and the Americas—the authors focus on the Tabasco state, an unusual case where mortality rates have gone unchanged and remain much higher than those of the other states during the study period. Also shown is that in recent years, there has been a significant relative increase in the number of accidental deaths from unspecified causes.

³ In Colombia this project also included the participation of the Universidad del Valle, in Cali, Colombia, through the Instituto de Investigaciones y Desarrollo en la Prevención de la Violencia y la Promoción de la Convivencia Social (CISALVA), a PAHO/WHO collaborating center.

Emergency patient care and evaluating accident- and violence-prevention programs in Brazil are the topics of two research articles. The first, by Deslandes, Minayo, and Lima (page 430), explores several criteria and requirements that, according to the policies of Ministry of Health of Brazil, must be met by the nation's hospitals to successfully reduce violence- and accident-related mortality and morbidity. This study looked at four state capitals and Brasilia, and found that Curitiba obtained the highest level of compliance with the national requirements. The authors point out the need for all the nation's hospitals to improve services, in an expeditious manner and in line with complexities of each. This analysis was complemented by an evaluation of possible complications to which ECI patients may be exposed when the requirements set by the Ministry of Health of Brazil are not met. The other article, by Deslandes and Lemos (page 441), describes a methodology known as Nominal Group method, which combines qualitative and quantitative techniques to evaluate and propose definitions that helped to prioritize the planning and implementation of centers for violence and accident prevention established by the country's Ministry of Health.

Lastly, Villaveces and DeRoo make a timely rescue from annals of history of the Colombian doctor, hygienist, scholar, and politician, Jorge Bejarano Martínez (1888–1966), a pioneer in making the connection between public health and violence-related social issues (page 449). Dr. Bejarano dedicated a large part of his successful career to researching the possible causes of childhood delinquency and studied, retrospectively, various risk factors that are now accepted, without question, to be related to personal history, child abuse, and neglect. Finally, Dr. Bejarano proposed corrective actions outside of the penal system, a novel and ground-breaking concept given that incarceration was the only option in those years, and is still, regrettably, the prevailing way of dealing with delinquency in some countries and sectors.

The articles in this special issue are a sampling of the progress made in ECI-related information, health care services, and research in several countries in the Region. Hospitals that have ECI information systems in place have elected to take certain actions, such as improving the ability of emergency services to respond to the injured, while avoiding complications and deaths; the opening of specialized units; and expanded psychology and social services to support victims and their families. Moreover, prevention programs and specific campaigns have been launched to reduce and prevent suicides, youth-related violence, burns, and bicycle accidents, and specific people have been designated to coordinate and manage surveillance programs. In short, a trend can be observed toward consolidating ECI research and establishing preventive programs, although there is a long way to go.

Progress is also reflected in the concrete actions taken by PAHO and the governments of the Region. The declaration from the first meeting of the Ministers of Health of the Americas on injury and violence prevention that took place in Mérida, Mexico, in March 2008, and was sponsored by the country's Secretariat of Health and PAHO, called upon all the Region's health ministries and secretariats to prevent ECI through whatever actions necessary and, as organizations charged with each of their country's public health, to take measures to: collect reliable data; put in place appropriate public policies; design, implement, and evaluate violence- and ECI-prevention programs; and to offer adequate services to the injured and their families (8). The ministries agreed that additional efforts are needed to solve this grave problem that is affecting public health and development; they committed to bolstering prevention and promotion activities, data collection, intersectoral cooperation, and the development of national plans for violence and ECI prevention, among other agreements. More recently, the 48th Directing Council of PAHO that took place in October 2008, approved a reference document and a resolution on the topic, wherein several PAHO and the Member States committed to strengthen

measures already in place, further research, intensify community participation, and undertake all possible health sector actions, working with other sectors, to decrease the high prevalence of ECI, in all its forms (9). This document acknowledges that although the Directing Council of PAHO has approved resolutions on violence prevention in the past, broadening the plan of action to include all injuries from external causes is now important, not just because of the high number of cases, but because there are proven interventions available that can have protective effects regarding risk factors common to different forms of ECI.

This special issue of the *Revista Panamericana de Salud Pública/Pan American Journal of Public Health* presents a sample of what is being done. On the bright side, we can say that progress is being made, though it is not enough and needs reinforcement. The hope is that we will continue to find, in this and other publications, new signs of progress that will help confront this challenging and intractable task.

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