
Home and Leisure Injury Prevention — Contributors —

Leon Robertson, Ph.D., Chairperson, Nanlee Research, Branford, CT

Lorann Stallones, Ph.D.,* Colorado State University, Fort Collins, CO

Christine M. Branche-Dorsey, Ph.D., M.S.P.H., Executive Secretary, Division of Injury Control, National Center for Environmental Health and Injury Control, Centers for Disease Control, Atlanta, GA

Nancy Nowak, R.N., M.P.H., Assistant Executive Secretary, Division of Injury Control, National Center for Environmental Health and Injury Control, Centers for Disease Control, Atlanta, GA

Susan Baker, M.P.H., The Johns Hopkins University, Baltimore, MD

Thomas R. Bender, M.D., M.P.H., National Institute for Occupational Safety and Health, Centers for Disease Control, Morgantown, WV

Mary Dufour, M.D., M.P.H., National Institute on Alcohol Abuse and Alcoholism, Rockville, MD

John Lumpkin, M.D., M.P.H., Illinois Department of Public Health, Springfield, IL

Elizabeth McLoughlin, Sc.D., San Francisco General Hospital, San Francisco, CA

Sylvia Micik, M.D., North County Health Services, San Marcos, CA

Marcia Ory, Ph.D., M.P.H., National Institute on Aging, Bethesda, MD

Thomas W. Planek, Ph.D., National Safety Council, Chicago, IL

Fred Rivara, M.D. M.P.H., Harborview Injury Prevention and Research Center, Seattle, WA

George W. Rutherford, Jr., M.S., Consumer Product Safety Commission, Bethesda, MD

Peter C. Scheidt, M.D., M.P.H., National Institute for Child Health and Human Development, Rockville, MD

Mark Widome, M.D., M.P.H., Pennsylvania State University College of Medicine, Hershey, PA

Nicole Lezin, M.P.P., Macro International, Inc., Atlanta, GA

*Author of the background paper that was used to stimulate discussion among contributors; the paper was not published.

Home and Leisure Injury Prevention Part 1: Selected Injuries Executive Summary

Much attention has been focused on injuries related to motor vehicle crashes, yet each year tens of thousands of lives are lost or irrevocably shattered as a result of unintentional injuries in other circumstances. In 1986, 48,410 Americans died from unintentional injuries not related to motor vehicles; these deaths accounted for 32% of all injury-related deaths. In 1985, the lifetime human capital costs in lost earnings and medical care (excluding consideration for pain and suffering) totalled about \$21 billion for fall-related injuries, \$2.1 billion for drownings or near-drownings, \$8.5 billion for poisonings (including intentional poisonings), \$2.8 billion for fire- and burn-related injuries (not including property damage), and \$14.4 billion for firearm injuries (intentional and unintentional) (1). We can reduce the incidence and severity of these and other injuries by applying the traditional tools of public health: **surveillance** to identify patterns and circumstances; **research** to understand causes and to develop and evaluate interventions; and **implementation** of programs that prevent injuries or mitigate their impact.

The types of injuries addressed in this paper — those resulting from falls, drownings, poisonings, fires, burns, and firearms — are examples of the many unintentional injuries that are not related to motor vehicles. As members of the Home and Leisure Injury Prevention Panel, we chose to emphasize these injuries because of their prominence in *Healthy People 2000*, and because of their magnitude in terms of morbidity and fatalities, or because they can be prevented by effective interventions that are already available (2). These types of injuries affect different populations and vary in their causes and circumstances. As a result, the research and programs that address these types of injuries must encompass an array of academic disciplines, government and private organizations, and segments of society. No single intervention, agency, or approach can dramatically reduce the toll of unintentional injuries. We need a broad-based set of interventions that build on both research and examples of successful interventions.

Programs that have succeeded in reducing definable injuries share common elements: adequate surveillance to define the circumstances of the injury, recognition of an action that would probably reduce incidence or severity, and action by persons in positions to initiate it. This approach has reduced many types of injuries. Examples include the modification of aspirin dosages and packaging to reduce the incidence of aspirin poisonings among children, regulations requiring that children's sleepwear be made flame-retardant, and the installation of window guards in high-rise apartment buildings to prevent falls.

Recommendations for each topic addressed in this paper — falls, drownings, poisonings, fire- and burn-related injuries, and firearm injuries — are listed here and at the end of the appropriate chapter. The panel's priority recommendations are in bold print. The designated agency for implementation for each priority recommendation is listed in parentheses: federal government (FG) or state and local government (SLG).

Falls

Falls are the leading cause of all nonfatal injuries and are the second leading cause of death ~~from unintentional injuries after motor vehicles. Efforts waged by~~ a variety of organizations can curb the number and severity of these preventable injuries.

- **Require helmet use during recreational activities with significant head injury rates such as bicycling, horseback riding, surfing, and snow skiing. (SLG)**
- **Encourage research on optimal living designs, ensure that public and private building designs and codes take injury surveillance results into account, and enforce building code regulations that reduce major contributors to fall injury and its severity. (SLG)**

Federal Government

- Support epidemiologic surveillance of fall injuries to identify circumstances and specific locations of falls.
- Support analytic studies of major contributors to fall injuries, including biomedical, behavioral, and environmental risk factors for injuries and the interaction of these risk factors with age.
- Fund local injury prevention workers to interpret and act on results of surveillance and analytic studies.
- Develop and disseminate prevention programs.
- Ban baby walkers, which apparently cannot be made safer.
- Develop standards for changing-tables, high chairs, and playground equipment.
- Increase support of clinical trials to test strategies for injury reduction and rehabilitation in later life.

State and Local Governments

- Conduct surveillance of the circumstances and specific locations of fall injuries.
- Develop, revise, or enforce standards for residential facilities for the elderly on the basis of the best evidence of optimal designs for stairs, rails, and grips.

Private Organizations

- Health care providers and professional associations should encourage increased clinical counseling regarding fall risk from specific heights, cessation of the use of baby walkers, and the use of barriers for stairs.
- Insurance companies should provide financial incentives, such as lower premiums, to encourage compliance with safety standards.
- Health maintenance organizations (HMOs) and pharmacies should increase vigilance of prescribed drugs and polydrug use that is likely to impair vision, gait, coordination and judgment. In addition, HMOs and pharmacies should consider putting warning labels on drugs that may increase the incidence of falls and injuries among the elderly.
- Businesses should not serve alcohol to intoxicated persons.

Academic and Research Institutions

- Conduct analytic studies (including risk factors for falls) listed under "Federal Government."
- Conduct clinical trials to test strategies for fall injury prevention and rehabilitation in later life.
- Develop and evaluate innovative interventions, such as barriers, warnings, alarms, hip pads, and residential facility standards and staffing.

Drownings

In 1986, drownings were the third most common cause of death by unintentional injuries in the United States. Agencies are in a position to establish regulations where strategies to prevent drowning are understood. More research is needed on high-risk populations and the places and circumstances implicated in drownings.

- **Require complete four-sided isolation pool fencing at least 5 feet high with self-closing latches for all swimming pools. (SLG)**

- **Advance research on the circumstances and locations of drownings and near-drownings that result in hospitalization, with special attention to minority populations, to drownings associated with water other than that in pools, and to potential means of prevention. (FG)**

Federal Government

- Advance analytic studies of combinations of boat and motor characteristics in drownings and near-drownings and studies of alcohol involvement in drownings.
 - ~~Develop, evaluate, and disseminate drowning intervention programs.~~
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State and Local Governments

- Conduct surveillance of circumstances and specific locations of drownings and near-drownings.
- Promote cardiopulmonary resuscitation (CPR) training for all pool owners and teenagers and adults among populations with high drowning rates.
- Promote licensure and standard training for all boat operators.
- Enact and strictly enforce state laws that prohibit boat operation while intoxicated.
- Enforce requirements for having personal flotation devices for all persons on boats.

Private Organizations

- The pool industry should sell safety equipment as part of the pool purchase and develop new and more effective prevention technology, such as energy-absorbing pool bottoms to reduce diving injuries (e.g., head and spinal cord injuries).
- The insurance industry should review actuarial data and write homeowner insurance policies to reflect the presence of pools and spas, the presence of children under age 5 where a pool or spa is present, and the presence of protective barriers to a pool or spa.
- The American Red Cross and other organizations should promote isolation pool fencing, poolside phones, and CPR training for all pool owners and for teenagers and adults among populations with high drowning rates.

Academic and Research Institutions

- Conduct studies mentioned under "Federal Government."

Poisonings

We have seen a decline in fatal poisonings among young children over the last 2 decades. This has been attributed to the function of poison control centers, which have been found to be cost-effective but are now in jeopardy because of loss of funding.

- **Support continued funding for poison control centers, including funding from insurance and Medicare/Medicaid payments. (SLG)**
- **Review standards for drug packaging and tighten standards for child-resistant containers that are frequently involved in child poisonings while considering needs of the elderly. (FG)**

Federal Government

- Support surveillance of the circumstances and locations of severe and fatal poisonings.
- Support analytic research on the distribution of and access to both legal and illegal drugs.

State and Local Governments

- Provide an 800 telephone number for information on poisons for people who do not have access to a local poison control center.

Private Organizations

- Conduct campaigns to increase the availability of ipecac syrup in all households.
- Cooperate with scientists in the evaluation of campaigns against drug use.
- Discourage advertisers from linking alcohol use to sports activities and from sponsoring television programs that glamorize drug use.

Academic and Research Institutions

- Conduct analytic studies on the extent to which persons at risk for poisoning can be identified.
- Evaluate the effectiveness of poison prevention and drug use treatment programs.

Fire- and Burn-Related Injuries

Despite the widespread adoption of smoke detectors, fires and their concomitant burn injuries remain a formidable cause of death. In 1986, they resulted in nearly 5,000 deaths. Groups at higher risk for fire- and burn-related deaths include the very young, the elderly, and minority populations. Coordinated efforts can affect community standards and individual practices so that unnecessary deaths and severe disabilities are prevented.

- **Require cigarettes sold in the United States to have a low potential for igniting upholstered furniture. (FG)**

- **Develop, implement, and enforce codes to address burns in residences, including requirements for smoke detectors, sprinklers in new housing, and antiscald devices in hot water systems. (SLG)**

Federal Government

- Support surveillance of the circumstances and specific locations associated with burns that result in fatalities or hospitalizations.
- Support analytic studies of kitchen scalds, gasoline burns, clothing ignition, and burns among the elderly, coupled with research by engineers and product designers to remedy correctable hazards.
- Fund the development and evaluation of community-based prevention programs in high-risk urban and minority communities.
- Conduct in-depth investigations of clothing ignition burns among children to determine if the flammable fabrics standard for children's sleepwear is being undermined by the labeling of sleepwear as daywear.
- Apply the flammable fabrics standard to loose-fitting housecoats and bathrobes now commonly involved in burns associated with cooking and smoking.
- Regulate disposable cigarette lighters to make them child-resistant.

State and Local Governments

- Conduct surveillance of the circumstances and locations of fatal and hospitalized fire- and burn-related injuries.
- Collaborate with the Centers for Disease Control and the U.S. Consumer Product Safety Commission in conducting in-depth investigations of clothing ignitions, kitchen scalds, and burns involving gasoline.

- Require antiscald devices in new showers and tubs.
- Develop or enforce maximum hot water temperature regulations for residential institutions.

Private Organizations

- Safety organizations should form a coalition among themselves and with local fire departments to promote a campaign in the media to change batteries in smoke detectors when clocks are changed in the fall.
- Utility companies should check hot water temperatures when meters are read and recommend settings at 120° or less, if necessary.
- The American Association of Retired Persons should push for flame retardant clothing for the elderly.
- Insurance companies should support the installation of sprinklers in multifamily homes through reductions in insurance premiums.

Academic and Research Institutions

- Conduct analytic studies listed under "Federal Government."
- Evaluate fire department, community, and school-based fire- and burn-related injury prevention education.
- Study the characteristics of appliances and utensils that may affect the incidence and severity of burns.

Firearm Injuries

Many of the Violence Panel's recommendations apply to unintentional as well as intentional firearm injuries. (For the full text of the Violence Panel's recommendations, see its position paper.) We fully endorse all of the Violence Panel's recommendations. In particular, we endorse the panel's suggestions on the need to (a) minimize ready access to handguns and other firearms through a variety of strategies focused on three broad areas: educational or behavioral change interventions, technological or environmental interventions, and enhanced and new legislative or regulatory efforts; and (b) continue rigorous scientific research to delineate with greater precision the risks and benefits of ready access to firearms. In addition, we make the following recommendations on firearm injury prevention:

- **Recognize firearms as a public health problem and establish the regulatory authority for promulgating safety standards for firearms, addressing the problems of trigger locks, muzzle velocity, and visible indication as to whether the gun is loaded. (FG)**

- **Develop and disseminate prevention programs, including strategies to store guns in facilities outside of homes. (FG)**

Federal Government

- Establish the regulatory authority for promulgating safety standards for all ammunition, applying the international laws (Geneva Convention) and current military ammunition safety standards.
- Support surveillance of firearm injuries, including a history of the involved firearm, ~~its make and model, characteristics of the weapon and ammunition,~~ circumstances of the injury, storage of the weapon, and means of access.
- Support analytic studies of characteristics of firearms and ammunition that are thought to increase the incidence and severity of injury.
- Evaluate the effects of firearm safety training on injuries.

State and Local Governments

- Collaborate with CDC in increased surveillance.
- Enact legislation requiring waiting periods and background checks for firearm purchases and building codes for firearm storage.
- Enforce extant regulations.

Academic and Research Institutions

- Conduct analytic studies of characteristics of firearms and ammunition involved in injury.
- Conduct evaluation of the effectiveness of firearm education and gun control laws and regulations.
- Conduct research on the psychological, social, and economic effects of firearm injuries on the injured, the shooters, the families of both, and communities.

Alcohol As a Contributing Factor

In addition to its specific recommendations regarding the types of injuries addressed in this paper, the panel notes that alcohol is implicated as a contributing factor in many of these types of injuries. Since policies that restrict the inappropriate consumption of alcohol affect home and leisure injuries as well as motor vehicle injuries, the panel reiterates and endorses the following recommendations of the Surgeon General's Workshop on Drunk Driving:

- **Equalize federal excise tax rates by ethanol (pure alcohol) content for all beverages by raising rates for beer and wine to that of distilled spirits. Adjust the resulting equalized excise tax rate to reflect the change in the Consumer Price Index since 1970, and in the future, annually adjust the resulting excise tax rate to reflect changes in the price index for the previous year. (FG)**
- **Strengthen enforcement of underage drinking laws with penalties for purchasers, sellers, and servers. (SLG)**

References

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2. Public Health Service. Healthy people 2000: national health promotion and disease prevention objectives: full report, with commentary. Washington DC: U.S. Government Printing Office, 1991:DHHS Publication No. (PHS) 91-50212.