

CDC's Unintentional Injury Activities – 2004

National Center for Injury Prevention and Control

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Unintentional Injuries

Unintentional injuries are a leading cause of death for Americans of all ages, regardless of gender, race, or economic status. In 2002, unintentional injuries were the leading cause of death for people ages 1 to 44 years and the fifth leading cause of death overall. More than 106,000 people died in 2002 from unintentional injuries.

Injury deaths are only part of the picture. Millions of Americans sustain nonfatal injuries each year; in 2003, more than 27 million people experienced a nonfatal unintentional injury serious enough to require a visit to an emergency department. Such injuries have a substantial impact on the

10 LEADING CAUSES OF DEATH BY AGE GROUP – 2002

Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Congenital Anomalies 5,623	Unintentional Injury 1,641	Unintentional Injury 1,176	Unintentional Injury 1,542	Unintentional Injury 15,412	Unintentional Injury 12,569	Unintentional Injury 16,710	Malignant Neoplasms 49,637	Malignant Neoplasms 93,391	Heart Disease 576,301	Heart Disease 696,947
2	Short Gestation 4,637	Congenital Anomalies 530	Malignant Neoplasms 537	Malignant Neoplasms 535	Homicide 5,219	Suicide 5,046	Malignant Neoplasms 16,085	Heart Disease 37,570	Heart Disease 64,234	Malignant Neoplasms 391,001	Malignant Neoplasms 557,271
3	SIDS 2,295	Homicide 423	Congenital Anomalies 199	Suicide 260	Suicide 4,010	Homicide 4,489	Heart Disease 13,688	Unintentional Injury 14,675	Chronic Low. Respiratory Disease 11,280	Cerebro-vascular 143,293	Cerebro-vascular 162,672
4	Maternal Pregnancy Comp. 1,708	Malignant Neoplasms 402	Homicide 140	Congenital Anomalies 218	Malignant Neoplasms 1,730	Malignant Neoplasms 3,872	Suicide 6,851	Liver Disease 7,216	Diabetes Mellitus 10,022	Chronic Low. Respiratory Disease 108,313	Chronic Low. Respiratory Disease 124,816
5	Placenta Cord Membranes 1,028	Heart Disease 165	Heart Disease 92	Homicide 216	Heart Disease 1,022	Heart Disease 3,165	HIV 5,707	Suicide 6,308	Cerebro-vascular 9,897	Influenza & Pneumonia 58,826	Unintentional Injury 106,742
6	Unintentional Injury 946	Influenza & Pneumonia 110	Benign Neoplasms 44	Heart Disease 163	Congenital Anomalies 492	HIV 1,839	Homicide 3,239	Cerebro-vascular 6,055	Unintentional Injury 8,345	Alzheimer's Disease 58,289	Diabetes Mellitus 73,249
7	Respiratory Distress 943	Septicemia 79	Septicemia 42	Chronic Low. Respiratory Disease 95	Chronic Low. Respiratory Disease 192	Diabetes Mellitus 642	Liver Disease 3,154	Diabetes Mellitus 5,496	Liver Disease 6,097	Diabetes Mellitus 54,715	Influenza & Pneumonia 65,681
8	Bacterial Sepsis 749	Chronic Low. Respiratory Disease 65	Chronic Low. Respiratory Disease 41	Cerebro-vascular 58	HIV 178	Cerebro-vascular 567	Cerebro-vascular 2,425	HIV 4,474	Suicide 3,618	Nephritis 34,316	Alzheimer's Disease 58,866
9	Circulatory System Disease 667	Perinatal Period 65	Influenza & Pneumonia 38	Influenza & Pneumonia 53	Cerebro-vascular 171	Congenital Anomalies 475	Diabetes Mellitus 2,164	Chronic Low. Respiratory Disease 3,475	Nephritis 3,455	Unintentional Injury 33,641	Nephritis 40,974
10	Intrauterine Hypoxia 583	Benign Neoplasms 60	Cerebro-vascular 33	Septicemia 53	Diabetes Mellitus 171	Liver Disease 374	Chronic Low. Respiratory Disease 1,008	Viral Hepatitis 2,331	Septicemia 3,360	Septicemia 26,670	Septicemia 33,865

Source: National Vital Statistics System, National Center for Health Statistics, CDC.

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lives of individual Americans, their families, and society. The physical and emotional effects of injuries can be extensive and wide-ranging, and in the case of disabling injuries, the effects can last a lifetime.

Unintentional Injury Prevention at CDC

CDC's efforts to reduce nonoccupational injury in the United States are concentrated in the National Center for Injury Prevention and Control (Injury Center). The Injury Center's science base and focus on public health are unique among federal agencies with activities in injury prevention and control, most of which have regulatory or enforcement roles.

The Injury Center is dedicated to reducing the number and severity of unintentional injuries through science-based, applied research and prevention programs. The Injury Center targets injuries related to transportation and home and recreation activities. Priority areas in unintentional injury prevention include alcohol-impaired drivers; older drivers; child passenger safety; falls, especially among older adults; injuries caused by residential fires; and supervision of children. Additional areas of interest include teenage drivers, pedestrian safety, and sports and recreation injuries, including drowning prevention.

PREVENTING HOME AND RECREATION-RELATED INJURIES

CDC is working to prevent home and recreation-related injuries through research projects and nearly 30 grants and cooperative agreements. Priority areas include injuries caused by residential fires, falls among older adults, and supervision of children. Additional areas of activity include sports and recreation-related injuries, including drowning prevention, and unintentional poisonings.

Fire-Related Injury Prevention

Residential fires accounted for 76% of fire-related injuries and 79% of fire-related deaths in 2002; in this year alone, more than 401,000 home fires in the United States claimed the lives of 2,670 people and injured another 14,050 (Karter 2003).

Those at greatest risk of sustaining fire-related injuries are adults age 65 years and older and children ages five years and younger; African Americans, American Indian/Alaska Natives; rural dwellers; and persons living in substandard housing or manufactured homes (CDC 1998; Runyan et al. 1992; Parker et al. 1993).



Programs

Smoke alarm installation and fire-safety education —

CDC has funded states to install smoke alarms and to provide fire-safety education in high-risk communities, targeting households with children age 5 years and younger and adults age 65 years and older. An informal sample of program homes found that since 1998, an estimated 610 lives may have been saved thus far. In addition, program staff have canvassed more than 280,000 homes and installed more than 213,000 long-lasting smoke alarms.

Challenge: To eliminate residential fire deaths by 2020 —

CDC works in partnership with the U.S. Fire Administration (part of the U.S. Department of Homeland Security), the U.S. Consumer Product Safety Commission, and several nongovernmental organizations to coordinate a national effort to eliminate residential fire deaths by the year 2020. The partners have initiated activities related to surveillance, research, community programs, and marketing.

Falls Among Older Adults

Falls are a serious public health problem among older adults. More than one third of adults age 65 or older fall each year (Hornbrook et al. 1994; Hausdorff, Rios, and Edelber 2001).

Among older adults, falls are the leading cause of injury deaths (Murphy 2000). In 2001, more than 11,600 people age 65 and older died from fall-related injuries (CDC 2004).



Older adults are hospitalized for fall-related injuries five times more often than they are for injuries from other causes (Alexander, Rivara, and Wolf 1992). In 2003, more than 1.8 million seniors were treated in emergency departments for fall-related injuries and 421,000 were hospitalized (CDC 2004). Among older adults who fall, 10% to 20% suffer moderate to severe injuries such as hip fractures or head traumas that reduce mobility and independence and increase the risk of premature death (Sterling, O'Connor, and Bonadies 2001).

The cost of fall injuries for people age 65 or older in 1994 was \$27.3 billion; by 2020, the cost of fall injuries is expected to reach \$43.8 billion (figures adjusted for inflation; Englander, Hodson, and Terregrossa 1996).

Programs

Remembering When: A Fire and Fall Prevention Program —

In October 2000, CDC began funding state health departments in Arkansas, Maryland, Minnesota, North Carolina, and Virginia to implement and evaluate *Remembering When: A Fire and Fall Prevention Program for Older Adults*. This curriculum, which was developed by the National Fire Protection Association, CDC, the U.S. Consumer Product Safety Commission, and other partners, is the first program of its kind to educate older adults about prevention of both fall- and fire-related injuries. To date, more than 510 group presentations (with 12,427 attendees) and 3,566 individual or home presentations have been conducted at the local level. More than 4,300 smoke alarms and 525 grab bars have been installed in the homes of older adults. Research is underway to measure the program's effectiveness.

Research

A Study to Evaluate the Effectiveness of Multifaceted Fall Prevention Strategies in Community Settings —

In October 2002, CDC funded the Wisconsin Department of Health, in collaboration with the University of Wisconsin, to conduct a randomized controlled trial to assess the effectiveness

of a comprehensive approach to preventing falls among high-risk adults age 65 and older. This project uses two complementary strategies: a comprehensive at-home assessment followed by individualized risk reductions, and a broad-based program to educate primary care physicians and other health practitioners.

Supervision

Unintentional injuries are the leading cause of death for children, and many of these injuries can be prevented through appropriate supervision. In 2001, 5,526 children under 14 years of age died from unintentional injuries; and in 2002, more than 6.5 million were seen in emergency departments (CDC 2004).

Many studies have described how lapses in supervision lead to injury—such as drownings, burns, and poisonings (Pollak-Nelson and Drago 2002; Landen, Bauer, and Kohn 2003; Simon, Tamura, and Colton 2003). The key for preventing many of these unintentional injury deaths and disabling



injuries among children is effective supervision, yet this behavioral component of injury prevention lacks conceptual and methodological clarity. Without this foundation it is difficult to develop and test interventions. CDC's Injury Center is taking the lead in exploring the critical link between supervision and injury prevention.

Research

Supervision in Injury Prevention Workshop —

CDC sponsored an expert meeting to assess the role of supervision in preventing unintentional injuries among children and to identify areas where more research about supervision is needed. The meeting resulted in several suggestions for developing models of supervision and supervision intervention research.

PREVENTING MOTOR VEHICLE INJURIES

CDC conducts motor vehicle injury research and oversees extramural research and program activities. Priority areas include alcohol-impaired driving, older drivers, teenage drivers, and child passenger safety.

Alcohol-Impaired Driving



An alcohol-related motor vehicle crash kills someone every 31 minutes and injures someone every 2 minutes. Each year, an estimated 120 million episodes of alcohol-impaired driving occur in the United States (Dellinger, Bolen, and Sacks 1999; Liu et al. 1997). In 2003 alone, 17,013 people died in alcohol-related motor vehicle crashes, representing 40% of the year's total traffic deaths (NHTSA 2004). More than 1.4 million drivers were arrested in 2002 for driving under the

influence of alcohol or narcotics (NHTSA 2004). Alcohol-related crashes in the United States cost about \$51 billion each year (Blincoe et al. 2002).

Alcohol-impaired driving also puts children at risk. About 400 child passengers age 14 years and younger die annually in alcohol-related crashes in the United States. More than two-thirds of these children are riding with the drinking driver (Shults 2004).

After more than a decade of declining rates in alcohol-related fatal crashes in the United States, rates have begun to climb. Since 1999, rates have increased by 4% to 10% for all age groups except for those 16 to 17 years of age (Elder and Shults 2002). To further decrease alcohol-related fatal crashes, communities need to implement and enforce strategies that are known to be effective, such as sobriety checkpoints, 0.08% blood alcohol concentration (BAC) laws, minimum legal drinking age laws, and “zero tolerance” laws for young drivers (Shults et al. 2001).

Research

Alcohol-related fatality rates still exceed Healthy People 2010 goals —

CDC scientists recently reported that during 2002, alcohol-related motor vehicle crashes resulted in 17,419 deaths in the United States, accounting for 41% of all traffic fatalities. Based on data from the National Highway Traffic Safety Administration and the U.S. Census Bureau, the rate of fatalities in alcohol-related motor vehicle crashes decreased 13% from 1993 to 2002, from 6.9 to 6.0 per 100,000 persons. However, this rate will need to substantially decline to meet the Healthy People 2010 objective of 4.0 per 100,000 persons (CDC 2003).

Stronger state DUI prevention activities may reduce alcohol-impaired driving —

CDC scientists found that in states that are working *more actively* to prevent DUI, fewer drivers report drinking and driving. The researchers examined the association between states' grades on the 1999 Mothers Against Drunk Driving (MADD) Rating the States survey, which graded states on their DUI countermeasures from 1996 to 1999 and on 1997 Behavioral Risk Factor Surveillance System (BRFSS) data on residents' self-reported drinking and driving. They found that residents of states with a MADD grade of "D" were 60% more likely to report alcohol-impaired driving than residents from states with a MADD grade of "A" (Shults et al. 2002).

Actions to decrease alcohol-related fatal crashes involving young drivers have been effective —

Over the past 20 years, alcohol-related fatal crash rates have decreased by 60% for drivers ages 16 to 17 years and 55% for drivers ages 18 to 20 years. However, this progress has stalled in the past few years. To further decrease alcohol-related fatal crashes among young drivers, communities need to implement and enforce strategies that are known to be effective, such as minimum legal drinking age laws and "zero tolerance" laws for drivers under 21 years of age (Elder and Shults 2002).

Research identifies effective interventions against alcohol-impaired driving —

In systematic reviews of published research studies, a team of researchers led by CDC evaluated the effectiveness of several interventions for reducing fatal and nonfatal, alcohol-related motor vehicle crashes. They found strong evidence for the effectiveness of 0.08% BAC laws, minimum legal drinking age laws, sobriety checkpoints, and mass media campaigns that meet certain conditions (i.e., careful audience research, adequate audience exposure, and presence of other alcohol-impaired driving prevention activities). They also found sufficient evidence of the effectiveness for lower BAC laws specific to young or inexperienced drivers (“zero tolerance” laws), and intervention training programs for alcohol servers. Finally, they found sufficient evidence that school-based education programs decrease riding with alcohol-impaired drivers (though there was insufficient evidence about the programs’ effects on alcohol-impaired driving itself). These reviews, scheduled for publication in *The Guide to Community Preventive Services* in 2005, are available online at www.thecommunityguide.org.

Sobriety checkpoints reduce alcohol-related crashes —

Fewer alcohol-related crashes occur when sobriety checkpoints (traffic stops where drivers are systematically selected for alcohol-impairment testing) are implemented, according to a CDC report published in the December 2002 issue of *Traffic Injury Prevention*. The systematic review of research shows sobriety checkpoints reduce alcohol-related crashes by about 20% (Elder et al. 2002).

Child Passenger Safety

Motor vehicle crashes are the leading cause of death among children in the United States. In the United States during 2002, 1,543 children age 14 years or younger died as occupants in motor vehicle crashes and about 227,000 were injured. That's an average of 4 deaths and 622 injuries each day (NHTSA 2003a). Of the children age 4 years and younger who were fatally injured in 2002, 50% were unrestrained (NHTSA 2003a).

Most of these injuries could have been prevented. Placing children in age-appropriate restraint systems reduces serious or fatal injuries by more than half (NHTSA 2003b). However, restraint use among young children often depends upon the driver's restraint use. Almost 40% of children riding with unbelted drivers are also unrestrained (Cody et al. 2002). In addition, many children who ride in child safety seats are improperly secured. A survey of more than 17,500 children found that only 15% of children in safety seats were correctly harnessed into correctly installed seats (Taft, Mickalide, and Taft 1999).

Children ages 12 years and younger also should ride in the back seat, the safest place in a vehicle in the event of a crash. This is especially important for vehicles with front passenger side airbags. Riding in the back seat is associated with at least a 30% reduction in the risk of injury in cars without front passenger side airbags (Braver, Whitfield, and Ferguson 1998).

An important risk factor for injuries to child passengers is drinking and driving: one in four crash-related deaths among child passengers 0 to 14 years involves alcohol (NHTSA 2003a). Among child passengers 14 years and younger who were killed in drinking driver-related crashes from 1997 through 2002, 68% were riding in the vehicle with the drinking driver (Shults 2004).

Programs

A boost for children ages 4 to 8 —

CDC funded state health departments in Colorado, Kentucky, and New York to develop, implement, and evaluate community-based programs to increase booster seat use among children ages 4 to 8. From 2000 through 2003, grantees implemented and evaluated community awareness campaigns and school-based programs, aired public service announcements, posted billboards, and conducted booster seat distribution events and car seat checkpoints. Evaluation data from Colorado showed a significant increase in booster seat use in target communities when compared with control communities. Evaluation activities continue in New York and Kentucky. Results from these intervention evaluations will help guide future efforts to increase booster seat use.



Research

Research identifies effective interventions to increase child restraint use —

CDC and the Task Force on Community Preventive Services published systematic reviews of interventions designed to increase child safety seat and safety belt use. The reviews revealed strong evidence of effectiveness for laws mandating the use of child safety seats and safety belts and programs that distribute child safety seats and educate parents about proper use (Zaza et al. 2001; Dinh-Zarr et al. 2001).

Older Drivers

In the United States, 7,544 people age 65 and older died in motor vehicle crashes during 2001. During 2002, an estimated 193,068 adults age 65 and older suffered nonfatal injuries as occupants in motor vehicle crashes (CDC 2004). In 2002, most traffic fatalities involving older drivers took place during the daytime (81%) and on weekdays (72%); 75% of the crashes involved another vehicle (NHTSA 2003c).



Drivers age 65 and older who are injured in motor vehicle crashes are more likely than younger drivers to die from their injuries (IIHS 2004a). Moreover, motor vehicle-related deaths and injuries among older adults are rising. From 1990 through 1997, the number of deaths rose 14% and the number of non-fatal injuries climbed 19% (Stevens et al. 1999). The 65-and-older age group is the fastest growing segment of the population. It is estimated that more than 40 million older adults will be licensed drivers by 2020 (Dellinger, Langlois, and Li 2002).

There are several risk factors that can contribute to motor vehicle-related injury. Age-related declines in vision, hearing, cognitive functions, and physical impairments may affect some older people's driving ability (Janke 1994). However, there are also some protective factors. Older adults wear safety belts more often than do any other age groups except infants and preschool children (CDC 1997). They also tend to drive when conditions are safest. They limit their driving during bad weather and at night, and they drive fewer miles than do younger drivers (TRB 1988). Older drivers are also less likely to drink and drive than other adult drivers (NHTSA 2003c).

Research

Older driver involvement in crashes where someone else died —

Analysis of fatality data showed that drivers age 65 years and older were less likely than drivers ages 16 to 34 to be involved in crashes where someone else died. In fact, crashes caused by older drivers were more likely to kill the older driver than to kill others involved in the crash (Dellinger et al. 2004).

Fatal crashes among older drivers —

In a study of fatal crashes among drivers age 65 years and older, CDC researchers found that although older drivers drove less, they were more likely to crash and to die in a crash (Dellinger, Langlois, and Li 2002).

Teen Drivers

Motor vehicle-related injuries are the biggest health threat to teenagers in the United States, accounting for two out of five deaths among teens ages 16 to 19 (IIHS 2004b). More than 4,700 teens in this age group died in motor vehicle crashes in 2001 (CDC 2004). In fact, drivers in this age group are four times more likely to crash per mile driven than older drivers (IIHS 2004b). Crash risk is particularly high during the first years that teenagers are eligible to drive (IIHS 2004b). The presence of teen passengers increases the crash risk for unsupervised teen drivers, and the more passengers, the greater the risk (Chen et al. 2000). In 2001, fatal and nonfatal crashes involving drivers ages 15 to 20 cost Americans \$40.8 billion (NHTSA 2003d).

Research

Young drivers and fatal alcohol-related motor vehicle crashes, 1982–2001 —

CDC researchers found that between 1982 and 2001, the rate of alcohol-related fatal crashes among drivers ages 16 to 20 years decreased almost 60%, suggesting that prevention measures specific to this age group have been effective. However, drinking and driving remains a serious public health problem for drivers of all ages (CDC 2002).

**Do parents influence teen driving behavior?
Young inexperienced drivers intervention study —**

CDC scientists collaborated with the National Institutes of Health to evaluate a brief intervention with parents and teens designed to increase parental restrictions of teen driving privileges.

Results showed that intervention parents reported more driving rules, restricted driving, limits for high-speed roads, weekend night restrictions, and



overall driving limits for their teens than did parents in the control group (Simons-Morton, Hartos, and Beck 2004).

Graduated driver licensing —

Graduated driver licensing (GDL) programs—restrictions on young drivers that are lifted as they gain driving experience and competence—are an effective strategy for promoting safe development of driving skills. CDC supported research at the Southern California Injury Prevention Research Center in Los Angeles to examine the effectiveness of GDL in California. Results from this study showed a 17% to 18% decrease in crash rates for drivers ages 16 to 17 after GDL (Rice, Peek-Asa, and Kraus 2003).

Reducing motor vehicle crashes among young drivers —

To address young driver issues, CDC helped fund and contributed to a series of five research papers, published in a September 2002 supplement of *Injury Prevention* (Simons-Morton and Hartos 2002). The articles review the current status of research on young drivers and make a compelling case for GDL programs, which gradually introduce young drivers into the driving population and are effective in reducing the high risk of crashes among teenage drivers.

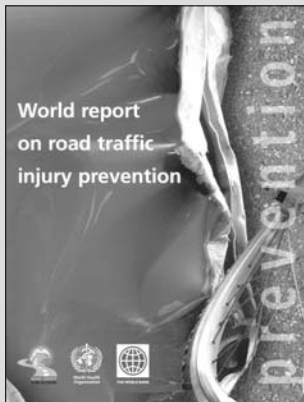
Symposium on Graduated Driver Licensing: Documenting the Science of GDL —

CDC helped fund and organize a recent symposium on the science of graduated driver licensing, at which scientists documented the effectiveness of GDL programs, the need for GDL program implementation, and the role of parents. As a result of this symposium, the National Safety Council is supporting an annual update of GDL research that will assess completed and ongoing evaluations. CDC also contributed to a special edition of the *Journal of Safety Research* (Lin 2003), a collection of 12 scientific papers and other presentations that resulted from the GDL symposium.

CDC COLLABORATES WITH WHO TO CELEBRATE WORLD HEALTH DAY 2004: ROAD TRAFFIC SAFETY

Worldwide, road traffic injuries kill more than a million people and injure tens of millions more every year. The World Health Organization (WHO) and the World Bank predict that by 2020, the number of road traffic injuries will increase more than 60%. To raise awareness of this significant public health problem, WHO made road safety the focus of its 2004 World Health Day celebration. On April 7, 2004, high-profile events were held worldwide to raise awareness about road traffic

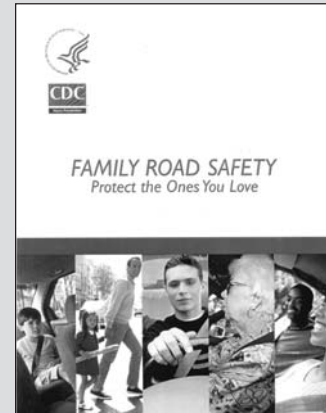
injuries and public health approaches to preventing these injuries. The theme of this celebration was “Road Safety is No Accident.” In observance of World Health Day, WHO and the World Bank released the *World Report on Road Traffic Injury Prevention*, and the United Nations launched a major global initiative dedicated to road safety.



In the United States, the Department of Health and Human Services (DHHS), the U.S. Department of Transportation (DOT), and many other partner organizations participated in World Health Day activities. CDC’s Injury Center staff represented DHHS and CDC at the WHO’s official introduction of the *World Report on Road Traffic Injury Prevention*, held in Paris, and the U.S. launch of World Health Day, held in Washington DC at the Pan-American Health Organization (PAHO) headquarters. World leaders and featured prominent speakers (the President of France and U.S. Secretary of Transportation, for example) attended these high-profile events. At the Washington DC event, the director of the Injury Center’s Division of Unintentional Injury Prevention gave a presentation about alcohol-impaired driving and CDC’s role in addressing this issue in the United States. At both the Paris and Washington DC events, a video message from the President of the United States was shown.

FAMILY ROAD SAFETY: PROTECT THE ONES YOU LOVE

CDC's theme to promote World Health Day 2004 was "Family Road Safety: Protect the Ones You Love." CDC's Injury Center coordinated a number of related events addressing road safety. Activities focused on occupant protection, impaired driving, pedestrian safety, and helmet use. The Injury Center distributed more than 3,800 World Health Day information kits, displayed World Health Day banners at injury conferences, and published information about World Health Day and the *World Report on Road Traffic Injury Prevention* in CDC's *Morbidity and Mortality Weekly Report*.



The Injury Center, in association with the University of North Carolina School of Public Health, coordinated a Public Health Grand Rounds session about traffic safety. The forum, which took place via a satellite broadcast and a Webcast, focused on the San Francisco Department of Health's Traffic Safety Project. Panelists included an injury researcher from CDC, the University of North Carolina, and the Automobile Association of America's Office of Traffic Safety Policy.

During the week of World Health Day, CDC's Injury Center addressed traffic safety within the agency by partnering with local and state of Georgia SAFE KIDS offices and the regional National Highway Traffic Safety Administration's DOT office to provide free inspections of child passenger safety seats to CDC employees.

ADDITIONAL ACTIVITIES

Research on older adult motor vehicle- and fall-related injuries —

A CDC study found that from 1990 through 1998, motor vehicle- and fall-related death rates among adults age 65 and older varied by sex, race, and ethnicity. Both motor vehicle- and fall-related death rates were higher among men. Motor vehicle-related death rates were highest among Native American and African American men, while women's rates were highest among Native Americans and Asian/Pacific Islanders. Death rates from falls were highest among whites, with the annual relative increase in deaths from falls 3.8% for both men and women (Stevens and Dellinger 2002).

World Health Organization: World Report on Road Traffic Injury Prevention —

CDC researchers participated with the World Health Organization (WHO) in planning, developing, and writing this report—the first major report jointly issued by the WHO and the World Bank on the subject of road traffic injuries. The report underscores the concern that unsafe road traffic systems (drivers, roads, and vehicles) seriously harm global public health and development. The authors contend that the level of road traffic injury is unacceptable and largely avoidable. The *World Report on Road Traffic Injury Prevention* was published on April 7, 2004, in conjunction with World Health Day (see page 16 for more about this event) (Peden et al. 2004).

Research on nonfatal drownings at recreational water sites —

CDC scientists published the first national estimate for nonfatal drowning injuries treated in emergency departments in CDC's *Morbidity and Mortality Weekly Report* (MMWR). In the United States in 2001 and 2002, more than 4,100 people sought care in an emergency department each year for nonfatal drowning injuries, with more than half requiring hospital admission or transfer for higher levels of care. Children age 4 years and younger and males of all ages were at the greatest

risk. The most common locations of nonfatal injuries for the very young children were residential pools. As children grew older, more injuries occurred in natural water settings. The study also confirmed that injuries happen most often on weekends and during summer months—times when people typically enjoy water-related activities (Gilchrist, Gotsch, and Ryan 2004).



Disseminating child safety products in urban communities —

With CDC support, the hospital-based Children’s Safety Center at Johns Hopkins University has launched a traveling Mobile Safety Center. The Mobile Safety Center van travels to clinics and selected sites serving low-income families to conduct safety interventions and provide safety products (smoke alarms, cabinet latches, stair gates, car seats, etc.). The project has developed training materials, educator protocols, and exhibits to be used by the Mobile Safety Center and the Children’s Safety Center clinic. Researchers are evaluating this dissemination strategy compared with others that are clinic based.

Evaluation of an alternative warm-up program —

CDC, in collaboration with the National Collegiate Athletic Association, the American Academy of Orthopedic Surgeons, the International Federation of Football Associations, and the Santa Monica Orthopedic and Sports Medicine Research Foundation is conducting a randomized controlled trial of



an alternative warm-up program to prevent anterior cruciate ligament (ACL) injuries in female soccer players. This research involves implementing and evaluating a physical training

program specifically designed to reduce the risk of ligamentous knee injuries by incorporating proven neuromuscular and proprioceptive training concepts into a concise on-field warm-up activity.

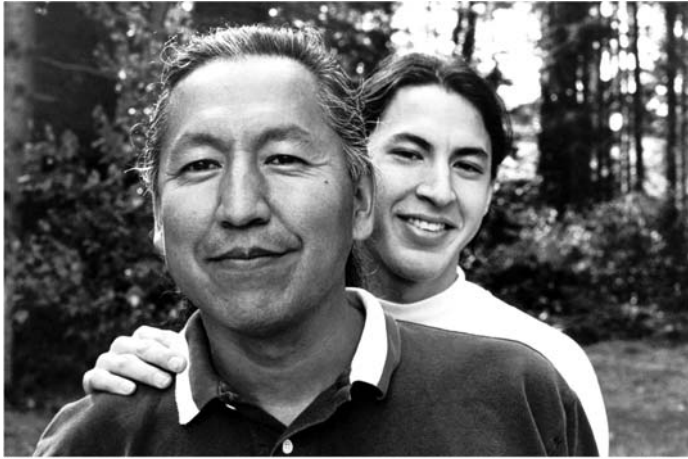
Behavioral science and injury research —

Behavioral science research activities are part of CDC's effort to identify promising, innovative, and interdisciplinary approaches to injury prevention. This initiative began in 1998 with an expert meeting on behavioral science and unintentional injury prevention. Since then, CDC's Injury Center has cosponsored or assisted in producing several special issues and journal supplements about behavioral science and health education in injury prevention, reaching more than 20,000 professionals in the field (Gielen 2002; Harborview Injury Prevention & Research Center 2003; Liller and Sleet 2004; Schwartz 2003; Sleet and Bryn 2003). In addition, CDC compiled the *Bibliography of Behavioral Science Research in Unintentional Injury Prevention* (2004) that contains more than 900 research citations combining behavioral science with unintentional injury prevention. Designed as a tool for researchers, practitioners, and students, the *Bibliography* is available as a CD-ROM and also can be found online (www.cdc.gov/ncipc/pub-res/behavioral).

Injuries Among Native Americans

American Indians and Alaska Natives, also referred to as Native Americans, have an overall injury-related death rate that is twice the rate for all racial and ethnic populations in the United States (Indian Health Service 1999). Injuries are the leading cause of death for Native Americans ages 1 to 44 years and the third leading cause of death overall (CDC 2004). Native Americans age 18 years and younger are at greater risk of preventable injury-related deaths than other children and youth in the United States (Wallace, Patel, and Dellinger 2003). Injuries and violence account for 75% of all deaths among Native American children and youth 18 years and younger (Wallace 2000).

Motor vehicle crashes and pedestrian-related injury are the two leading causes of unintentional injury-related death among Native American adults 20 years of age or older



(CDC 2004). Motor vehicle-related death rates for Native American adults were more than twice the rates for whites and nearly two times greater than those for African Americans (CDC 2004). Fire-related death rates for Native Americans were nearly twice the rates

for whites. Native American drowning rates were almost three times greater than rates for whites and more than two times greater than rates for African Americans (CDC 2004).

Research

Injury mortality among Native American children and youth —

Native Americans age 19 years and younger are at greater risk of preventable injury-related deaths than other children and youth in the United States. A 2003 CDC *MMWR* study found that injuries and violence account for 75% of all deaths among Native Americans in this age group—a rate that is about twice that of all children and youth in the United States. Motor vehicle crashes were the leading cause of injury-related death, followed by suicide, homicide, drowning, and fires. In the years 1989 through 1998, more than 3,300 Native American children and youth living on or near reservations died from injuries or violence (Wallace, Patel, and Dellinger 2003).

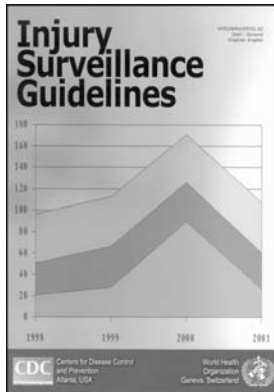
Programs

CDC and Indian Health Service interagency agreement —

Since 1985, CDC and the Indian Health Service (IHS) have had an interagency agreement to focus on surveillance, risk factor identification, technical assistance, and prevention measures to reduce injuries among Native Americans in the United States. Established in response to the high rates of injury among Native American populations, this successful partnership has become one of the longest-lived for CDC's Injury Center. Activities and products include the following:

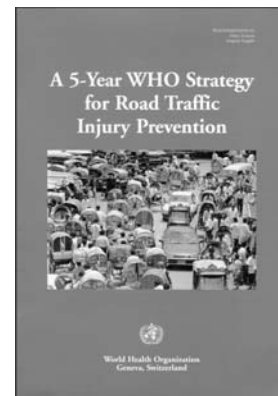
- ◆ **Native American Childhood Injury Mortality Atlas, 1989–1998.** Injury staff developed a color atlas detailing eight major causes of injury-related death, categorized by Indian Health Service regional Areas for Native Americans age 19 and younger from 1989 through 1998. The executive summary of the atlas is available on CDC's Injury Center website: www.cdc.gov/ncipc/pub-res/atlas-summary.
- ◆ **Funding for effective strategies to reduce motor vehicle injuries among Native American tribes.** CDC funds Native American tribes to tailor, implement, and evaluate evidence-based effective strategies to reduce motor vehicle-related injuries among Native American communities. These demonstration projects will apply recommendations from the Task Force on Community Preventive Services in a manner that is culturally appropriate for each Native American community.
- ◆ **Training injury prevention practitioners.** CDC's Injury Center staff serve on the IHS injury prevention training work group, which is revising and developing three week-long injury prevention training courses to educate IHS and tribal staff about community-based injury prevention. The three courses follow the Public Health Model and cover introductory material through advanced injury prevention practice. Since the first course was conducted in 1985, hundreds of IHS and tribal staff members have been trained through the original IHS Introduction to Injury Prevention course, which has been instrumental in building capacity in injury prevention.

INTERNATIONAL ACTIVITIES



World Health Organization (WHO): CDC's Injury Center collaborated with WHO to develop materials about motor vehicle injuries and injury surveillance. WHO will distribute these materials to raise the awareness of motor vehicle injury as a *preventable* public health problem and to persuade policy makers to make injury prevention a high priority in their countries. The surveillance guidelines will help countries design and establish injury surveillance

systems that fit their unique needs and settings. The Injury Center also helped WHO develop its five-year strategy for preventing road traffic injuries, which will be used by WHO's Department of Injuries and Violence Prevention.



Road Traffic Injuries and Health Equity in Developing Countries:

In 2001, the Injury Center collaborated with Harvard University's School of Public Health, WHO, the Rockefeller Foundation, the Center for Child Well-Being, and Volvo Corporation to sponsor an international conference on road traffic injuries and health equity in developing countries. Teams of representatives from 10 low- and middle-income countries met to identify specific problem areas in each country and tailor prevention strategies. The conference proceedings were published in a special issue of the journal *Injury Control and Safety Promotion*.



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International Union for Health Promotion and Education

(IUHPE): The Injury Center worked with IUHPE in 2002 and 2003 to assess injury and violence prevention activities in 30 countries. The findings were used to develop country-specific injury prevention materials and guidelines for adding injury prevention to existing health education and health promotion programs. IUHPE issued a resolution in 2004 calling on all member countries to support injury prevention activities as part of a global strategy to improve health.

National Forum on Road Traffic Injury Prevention in

Mexico: Road traffic injuries are the third leading cause of death in Mexico. In 2002, CDC helped the government of Mexico and Mexico's National Institute of Public Health hold a national



forum to address this major public health problem. Researchers, public health experts, and state and federal government injury control representatives met to develop methods to reduce road traffic injuries on or near the borders. Conference proceedings were published in 2003 by the National Institute of Public Health of Mexico. After implementing some of the plan's interventions, Mexico's pedestrian death rate dropped.

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