

Activity Report 2001

CDC's Unintentional Injury Prevention Program

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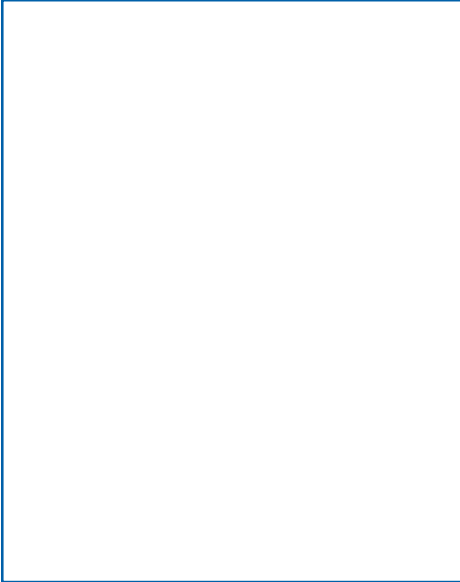
ACTIVITY REPORT 2001

CDC's UNINTENTIONAL INJURY PREVENTION PROGRAM

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AN OVERVIEW OF CDC'S UNINTENTIONAL INJURY PREVENTION PROGRAM 2000–2001

In recent years, injury prevention at the Centers for Disease Control and Prevention (CDC) has experienced tremendous change and growth. In December 2000, Sue Binder, MD, was appointed the new director of the National Center for Injury Prevention and Control (Injury Center), charting a new course for the injury program. Working with key partners and constituents, CDC's injury prevention scientists and program staff participated in an 18-month process to produce the *CDC Injury Research*

Agenda. In this document, CDC articulates its highest priorities in injury prevention, focusing on the research that will rapidly affect how we prevent injuries and reduce their consequences. The agenda will serve as a guide for injury prevention research at the agency, and we have implemented staffing changes and strategies to streamline research and program activities accordingly.

In the midst of these changes, our mission in unintentional injury prevention remains: to save lives and reduce the number and severity of unintentional injuries that occur outside of occupational settings through science-based applied research and prevention programs. Over the last few years, CDC has reshaped its unintentional injury priorities to focus attention, staffing, and financial resources on four critical injury areas: residential fire-related injuries, injuries resulting from alcohol-related motor vehicle crashes, older adult fall injuries, and injuries to older drivers. These priorities are consistent with those of the larger injury program. While we continue to address other unintentional injuries, including pedestrian and bicycle safety and injuries resulting from sports and recreation activities, our priorities occupy our greatest attention and resources.

I will highlight just a few of the many unintentional injury prevention activities CDC has advanced during 2000–2001, the years of this report. In 2001, the U.S. Fire Administration, within the Federal Emergency Management Agency; the U.S. Consumer Product Safety Commission; and CDC issued a challenge to the United States to eliminate residential fire deaths by 2020. Together, we began planning a national campaign, and by spring 2002, we had gathered partners from other federal and state agencies as well as the private sector to outline the steps needed to achieve this bold and ambitious goal see page 31 for more information.

The National Highway Traffic Safety Administration, part of the U.S. Department of Transportation, provided the original funding for CDC's Injury Center 10 years ago and has been one of our most consistent partners ever since. Together, we have shared many successes, including three landmark publications released during 2000–2001: *The Guide to Community Preventive Services*, *National Strategies for Advancing Child Pedestrian Safety*, *National Strategies for Advancing Bicycle Safety*, and the motor vehicle injury reviews for. See pages 14, 30, and 31 to learn more about these activities.

Finally, we have had new opportunities in the international arena. CDC lent its expertise in unintentional injury prevention to UNICEF and the Vietnamese government to assist in developing Safe Vietnam's nationwide program to prevent unintentional childhood injury. I am pleased to report that the program is being implemented, as noted on page 35.

On June 25, 2002, CDC's Injury Center celebrated its tenth anniversary. To mark the occasion, events were held throughout the month of June in five American cities to give CDC and its injury partners a chance to showcase 10 years of achievements. As you will see in this report, we have accomplished much in unintentional injury prevention. Of course, there is much more to be done to reduce the number of deaths from and consequences of unintentional injuries. We look forward to working with you on this challenge.

Christine M. Branche, PhD,
Director of CDC's Unintentional Injury Prevention

THE EFFECTS OF UNINTENTIONAL INJURY

Unintentional injuries are a leading cause of death for Americans of all ages, regardless of gender, race, or economic status. In 1999, they were the *leading* cause of death for persons ages 1 to 34 years and the fifth leading cause of death overall. Nearly 98,000 people died in 1999 as a result of unintentional injuries. In fact, on average, every six minutes someone in the United States dies from causes such as motor vehicle crashes, falls, poisonings, drownings, fires, bicycle crashes, suffocation, or pedestrians being struck by motor vehicles.

Injury deaths are only part of the picture. Millions of Americans experience nonfatal injuries each year, and in 2000, 1 in 10 people experienced a nonfatal injury serious enough to require a visit to an emergency department. Such injuries have a substantial impact on

10 Leading Causes of Death by Age Group - 1999

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 5,473	Unintentional Injuries 1,898	Unintentional Injuries 1,459	Unintentional Injuries 1,632	Unintentional Injuries 13,656	Unintentional Injuries 11,890	Malignant Neoplasms 16,732	Malignant Neoplasms 46,681	Malignant Neoplasms 89,067	Heart Disease 607,265	Heart Disease 725,192
2	Short Gestation 4,392	Congenital Anomalies 549	Malignant Neoplasms 509	Malignant Neoplasms 503	Homicide 4,996	Suicide 5,106	Unintentional Injuries 15,231	Heart Disease 34,994	Heart Disease 64,167	Malignant Neoplasms 390,122	Malignant Neoplasms 549,838
3	SIDS 2,648	Malignant Neoplasms 418	Congenital Anomalies 207	Homicide 246	Suicide 3,901	Homicide 4,231	Heart Disease 13,600	Unintentional Injuries 11,639	Bronchitis Emphysema Asthma 11,297	Cerebrovascular Diseases 148,599	Cerebrovascular Diseases 167,366
4	Maternal Pregnancy Comp. 1,399	Homicide 376	Homicide 186	Suicide 242	Malignant Neoplasms 1,724	Malignant Neoplasms 4,005	Suicide 6,466	Chronic Liver Disease 6,368	Cerebrovascular Diseases 9,652	Bronchitis Emphysema Asthma 108,112	Bronchitis Emphysema Asthma 124,181
5	Respiratory Distress 1,110	Heart Disease 183	Heart Disease 116	Congenital Anomalies 221	Heart Disease 1,069	Heart Disease 3,066	HIV 6,232	Cerebrovascular Diseases 5,563	Diabetes Mellitus 9,097	Influenza & Pneumonia 57,282	Unintentional Injuries 97,860
6	Placenta, Cord and Membranes 1,025	Influenza & Pneumonia 130	Benign Neoplasms 64	Heart Disease 161	Congenital Anomalies 434	HIV 2,729	Chronic Liver Disease 3,302	Suicide 5,081	Unintentional Injuries 7,285	Diabetes Mellitus 51,843	Diabetes Mellitus 68,399
7	Unintentional Injuries 845	Perinatal Period 92	Bronchitis Emphysema Asthma 49	Bronchitis Emphysema Asthma 90	Bronchitis Emphysema Asthma 209	Diabetes Mellitus 582	Homicide 3,206	Diabetes Mellitus 4,735	Chronic Liver Disease 5,637	Alzheimer's Disease 44,020	Influenza & Pneumonia 63,730
8	Bacterial Sepsis 691	Septicemia 87	Septicemia 47	Influenza & Pneumonia 47	HIV 198	Cerebrovascular Diseases 580	Cerebrovascular Diseases 2,574	HIV 3,907	Suicide 2,896	Unintentional Injuries 32,219	Alzheimer's Disease 44,536
9	Circulatory System Disease 667	Benign Neoplasms 63	Influenza & Pneumonia 46	Cerebrovascular Diseases 39	Cerebrovascular Diseases 182	Congenital Anomalies 465	Diabetes Mellitus 1,942	Bronchitis Emphysema Asthma 3,110	Nephritis 2,864	Nephritis 29,938	Nephritis 35,525
10	Atelectasis 647	Bronchitis Emphysema Asthma 54	HIV 38	Benign Neoplasms 37	Influenza & Pneumonia 179	Chronic Liver Disease 407	Influenza & Pneumonia 1,063	Influenza & Pneumonia 1,697	Septicemia 2,714	Septicemia 24,626	Septicemia 30,680

Source: National Center for Health Statistics, (NCHS) Vital Statistics System
Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.

the 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, they can last a lifetime. The financial costs are also staggering: in 1995 dollars, injury costs were estimated at \$260 billion.

Everyone is at risk of injury at work, at home, and on the road. Consider these additional facts about injuries in the United States:

- **Motor vehicle crashes.** Despite increased use of safety belts, enactment of child passenger safety laws, and installation of air bags, motor vehicle crashes remain the leading cause of injury death in the United States, accounting for more than 42,000 deaths in 1999, including 5,700 teenagers.
- **Residential fires.** In 2000, fire departments responded to 368,000 home fires in the United States that claimed the lives of an estimated 3,420 people and injured another 16,975. Children and older adults are at greatest risk.
- **Alcohol-impaired driving** will affect one in three Americans during their lifetimes. In 2000, 16,653 people in the United States died in alcohol-related motor vehicle crashes, representing 40% of all traffic-related deaths.
- **Falls** are the leading cause of injury death and the most common cause of nonfatal injuries and hospital admissions for trauma among people ages 65 and older. In 2000, 1.6 million seniors were seen in emergency departments for fall injuries and 353,000 were hospitalized.
- **Drowning** claimed 4,153 lives in 1999, including the lives of 971 children ages 14 and younger.

Although everyone is vulnerable to injury, some groups are at higher risk for unintentional injuries. For example, among all ethnic groups in the United States, American Indians/Alaska Natives have the highest unintentional injury death rate (i.e., 61 per 100,000 population compared with 41 per 100,000 for blacks and 36 per 100,000 for whites in 1999). At any age, nearly twice as many males as females die of unintentional injuries each year. And for some types of unintentional injury deaths, such as those related to residential fires, low-income groups are at increased risk.

CDC's UNINTENTIONAL INJURY PREVENTION ACTIVITY

CDC's efforts to reduce non-occupational injury in the United States are concentrated in the National Center for Injury Prevention and Control (Injury Center). The Injury Center was established in June 1992 with the mission to prevent premature death and disability and to reduce the human suffering and medical costs caused by non-occupational injuries. Its 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. As the lead U.S. federal agency for non-occupational injury prevention, the Injury Center works closely with other federal agencies; national, state, and local organizations; state and local health departments; and research institutions across the country.

To prevent injuries and minimize their consequences when they occur, the Injury Center uses the public health approach, a systematic process to define the injury problem, identify risk and protective factors, develop and test prevention strategies, and ensure widespread use of effective interventions and other strategies.

This division of the Injury Center is dedicated to reducing the number and severity of unintentional injuries through science-based, applied research and prevention programs. The division 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 water safety. Additional areas of interest include teen drivers, bicycle-related injuries, pedestrian safety, sports and recreation injuries, and dog bites.

"Injuries occurring in the home and in the community represent a significant public health burden in health care costs, injuries, and deaths. CDC's Injury Center can lessen this burden by developing, evaluating, and promoting effective interventions on the road, in the home and in the community."

*Sue Binder, MD
Director
National Center for
Injury Prevention
and Control*

UNINTENTIONAL INJURY RESEARCH

Motor Vehicle Research

CDC conducts research in motor vehicle injury prevention and supports research through partners, including CDC-funded injury control research centers (ICRCs), academic institutions, non-governmental organizations, state health departments, and other federal agencies. Priority areas include alcohol-impaired driving, older drivers, young drivers, child passenger safety, and pedestrian safety. Highlights from 2000–2001 motor vehicle injury prevention research include:

Alcohol and Driving

- Each December, CDC scientists analyze new data on alcohol involvement in fatal motor vehicle crashes and publish results in CDC's *Morbidity and Mortality Weekly Report*. Analysis of data from the National Highway Traffic Safety Administration's Fatality Analysis Reporting System indicated that the number of alcohol-related fatalities in 2000 was 4.2% higher than in 1999. In 2000, the fatality rate for alcohol-related crashes was 5.9 per 100,000 persons. This rate will need to decline 32% to meet the Healthy People 2010 objective of 4.0 per 100,000 persons. *CDC. Notice to Readers: Alcohol involvement in fatal motor-vehicle crashes—United States, 1999–2000. MMWR 2001;50(47):1064–5.*
- To assess the effectiveness of prevention activities to reduce alcohol-impaired driving, CDC scientists analyzed data from the Behavioral Risk Factor Surveillance System, a national telephone survey, and from Mothers Against Drunk Driving (MADD). The researchers examined the association between states' grades on the 1999 MADD Rating the States survey and residents' self-reported drinking and driving. They found that drivers from states with lower MADD grades were more likely than drivers from states with higher grades to report drinking and driving. *Shults RA, Sleet DA, Elder RW, Ryan GW, Sehgal M. The association between state-level drinking and driving countermeasures and self-reported alcohol-impaired driving. Injury Prevention 2002; 8:106–10.*

- CDC's research findings about the number of children killed in cars driven by drunk drivers have led legislators in several states to introduce bills to help protect children from drinking drivers. These bills create special penalties under state child abuse laws for persons who transport children ages 15 and younger while driving drunk. The research, published in the *Journal of the American Medical Association* in May 2000, found that nearly two-thirds of children killed in drinking driver-related crashes were riding with the impaired driver. *Quinlan KP, Brewer RD, Sleet DA, Dellinger AM. Child passenger deaths and injuries involving drinking drivers. JAMA 2000;283(17):2249-52.*

Older Drivers

- CDC scientists worked with the University of California, San Diego, to survey drivers ages 55 and older living in community settings to find out why they stopped driving. The most common reasons for stopping were medical conditions and poor vision. This research provides insight into why older drivers decide that they are no longer fit to drive, which can help public health practitioners develop programs to reduce motor vehicle-related injuries in this population. *Dellinger AM, Sehgal M, Sleet DA, Barrett-Connor E. Driving cessation: What older former drivers tell us. Journal of the American Geriatrics Society 2001;49(4):431-5.*
- To determine whether older drivers were more likely than younger drivers to be involved in crashes when someone else died, CDC researchers analyzed three years of motor vehicle crash data. They found that, in fact, older drivers were involved in fewer of these crashes than were drivers 16 to 34 years old. Crashes caused by older drivers were more likely to kill the older driver than to kill others involved in the crash. This study helps dispel the myth that older drivers present an unacceptable threat to others on the road.



- CDC researchers explored fatal crash involvement rates for older drivers by assessing the contributions of the crash fatality rate (risk of death), incidence density (risk of crash), and exposure prevalence (amount of driving) to the fatal crash involvement rates of older drivers. Although fatal crash involvement rates increased with the driver's age, the components of the involvement rates did not. The crash fatality rates and the incidence densities increased with age, while the exposure prevalence decreased. In other words, although older drivers drove less, they were more likely to crash and to die in a crash.

Dellinger AM, Langlois JA, Li G. Fatal crashes among older drivers: Decomposition of rates into contributing factors. American Journal of Epidemiology 2002;155(3):234-41.
- CDC researchers analyzed annual mortality data to identify differences in motor vehicle- and fall-related death rates among older adults by sex, race, and ethnicity. From 1990 to 1998, overall motor vehicle-related death rates remained stable, while death rates from unintentional falls increased among older Americans. Both motor vehicle- and fall-related death rates were higher among men. Motor vehicle-related death rates were higher among people of color; death rates from falls were higher among whites. Among whites, the annual relative increase in deaths from falls was 3.8% for both men and women. Fall death rates were higher among non-Hispanics than Hispanics.
- With CDC funding, researchers at the University of Washington are investigating the relationship between older drivers' crash risk and the time since last license renewal. The interval between license renewals is an issue of public policy, and states must balance the risk of crashes caused by drivers who have become impaired against the cost and inconvenience of more frequent renewals. The results of this study will help decision makers determine the appropriate interval between license renewals for older drivers.

Teen Drivers

- Between 1991 and 1997, teens' drinking-and-driving behavior did not change appreciably. Consistently, more than one-third of students reported that in the past month, they had ridden with a driver who had been drinking alcohol, and one in six had driven after drinking alcohol. These findings, from CDC's 1991, 1993, 1995, and 1997 Youth Risk Behavior Surveys, point to a need for stronger incentives to prevent adolescent drinking and driving. *Everett SA, Shults RA, Barrios LC, Sacks JJ, Lowry R, Oeltmann J. Trends and subgroup differences in transportation-related risk and safety behaviors among high school students, 1991–1997. Journal of Adolescent Health 2001;28:228–34.*
- CDC scientists are working with the National Institutes of Health to examine parental influences on teen driving behavior and motor vehicle crashes. This research will help determine whether persuasive communication, setting clear driving expectations, supervising teens' driving, limiting driving in high-risk conditions, and penalizing unsafe driving will result in teens' engaging in fewer risky driving behaviors, having fewer traffic violations, and most important, having fewer crashes.
- Learning to drive safely takes time and practice. Graduated driver licensing (GDL) is one strategy that allows for skills development. This system places restrictions on young drivers that are systematically lifted as teens gain driving experience and competence. GDL studies around the world have found 5% to 16% reductions in crashes among teenage drivers. Thirty-four states and the District of Columbia have some form of GDL law, but the strength of the components varies widely. CDC supports research at the Southern California Injury Prevention Research Center in Los Angeles to examine the effectiveness of particular components of GDL. Results from this research will help in the development of informed, science-based policies and practices.



Child Passenger Safety

- In a survey conducted by CDC scientists in collaboration with the Injury Prevention Section of the Georgia Division of Public Health, only 44% of children were observed riding in age-appropriate restraints in the back seat of motor vehicles, as is currently recommended. In May and June 2001, police officers at road blocks across the state recorded age, restraint type, and seating position of 1,858 children ages 12 and younger. Results from this survey showed that 58% of children in the state rode in age-appropriate restraint systems, and 75% of children sat in the back seat. Infants were frequently observed riding incorrectly in forward-facing car seats (29%) and/or in the front seat (21%). Only 6% of children ages 5 to 8 were seen riding in booster seats, and 9- to 12-year-olds were observed riding in the front seat 39% of the time. Results reveal the need for improved child occupant safety in Georgia and highlight areas of particular concern.



- CDC scientists found that the number of children ages 4 to 8 who died in motor vehicle crashes remained stable—about 500 per year—between 1994 and 1998. Only one-third of children killed were restrained at the time of the crash. Only about half were riding in the back seat, the recommended seating position for children ages 12 and younger. This research points to a need to increase efforts to promote passenger safety for children in this age group. *CDC. Motor-vehicle occupant fatalities and restraint use among children aged 4–8 years—United States, 1994–1998. MMWR 2000;49(7):135–7.*

Pedestrians

- CDC researchers studied why children don't walk to school more often. Analysis of the 1999 HealthStyles Survey, which assesses how individuals think, feel, and act regarding personal health issues, found that 19% of children walked and 6% of children biked to or from school at least once during an average week. Parents reported multiple barriers that inhibit walking and biking to school: long distances (55%), traffic danger (40%), weather (24%), crime (18%), and school policy (7%). The 16% of children whose parents reported no barriers were three times more likely to walk or bike to school than the population as a whole, and six times more likely than children with one or more reported barriers. *CDC. Barriers to children walking and biking to school—United States, 1999. MMWR 2002;51(32);701–4.*
- Researchers at Johns Hopkins University are studying community characteristics that may affect interventions to prevent child pedestrian injuries. They are comparing four neighborhoods that vary by risk of pedestrian injury and by median household income. The researchers will assess several key community characteristics that may affect acceptance of interventions, including environmental characteristics such as traffic patterns, roadways, and play areas; parents' perceptions of risk; parents' knowledge of and willingness to support environmental changes and other pedestrian safety programs; level of parental supervision; amount and patterns of walking by children in the community; and injury experiences of child pedestrians. Data from this CDC-funded study will help researchers and practitioners identify potential strategies to reduce injury risks among child pedestrians, as well as barriers against such efforts. Project results will help guide development of safety interventions for child pedestrians in similar communities.



Motor Vehicle Crashes

- Scientists at CDC examined rates of motor vehicle-related deaths in a U.S. military population over a 15-year period and compared fatality rates with the U.S. population overall. They found that motor vehicle death rates among U.S. Army personnel have decreased 50% since the early 1980s. Factors such as decreased alcohol use and higher rates of seat belt use among U.S. Army personnel have likely contributed to this decline. *Jones BH, Amoroso PJ, guest editors. Injuries in the U.S. Armed Forces: Surveillance, research, and prevention. American Journal of Preventive Medicine 2000;18(3 Suppl).*
- Injuries sustained during low-speed, rear-end car crashes, and the injury-related pain that follows, have become national and international problems, costing society billions of dollars annually. CDC-funded researchers at the Medical College of Wisconsin are examining what happens to the head and neck to cause pain during low-speed, rear-end crashes. Current scientific literature about this topic is diverse and confusing. Findings from this research will help guide development of interventions to prevent acute and chronic pain resulting from low-speed, rear-impact crashes.
- Little information exists about the disabling conditions endured by seriously injured crash survivors. CDC is analyzing data from the 1995 disability supplement of the National Health Interview Survey to estimate the prevalence of disability resulting from motor vehicle crashes among adults ages 18 years and older in the United States; to describe the chronic conditions associated with disability; to estimate the number of adults whose ability to work was affected by motor vehicle crash-related disability; and to compare the age distributions of persons with disabilities resulting from motor vehicle crashes with those whose disabilities are the result of other causes.

- CDC is funding Colorado State University to evaluate an intervention to reduce anger among drivers. High anger drivers report having more motor vehicle crashes during their lifetimes and more minor crashes in the past year than do low anger drivers. The intervention now being evaluated teaches high anger drivers to use relaxation and other coping skills to reduce their anger. Results so far have shown that drivers who participated in the intervention reduced their frequency of risky driving behavior. This effect was maintained one month after intervention.

Motor Vehicle Occupant Safety Technology

- Wheelchairs and their associated seating systems have not typically been designed to function as motor vehicle seats and consequently do not offer their users the same level of safety as vehicle seats. CDC-funded researchers at the University of Pittsburgh have tested wheelchair seating systems and found them unable to withstand many crash scenarios. Based on the results of these tests, researchers are developing standards for wheelchair seating systems used in motor vehicles that will reduce the risk of motor vehicle injuries among persons with disabilities. These standards will help translate research into prevention by providing manufacturers with design guidelines and testing methods they need to produce safer products.
- Researchers at Harborview Medical Center in Seattle, with funding from CDC, are testing a device to reduce the whiplash motions that an occupant may experience during a rear-end motor vehicle crash. The device is a relatively inexpensive seat cushion that can be retrofitted to an existing motor vehicle seat. The retrofit cushion would more closely fit the shape of the occupant, thus reducing head and torso motions during a crash and absorbing a greater amount of energy from the crash. This research may lead to engineering solutions that reduce the number and severity of neck and upper back injuries resulting from rear-impact crashes.

GUIDE TO COMMUNITY PREVENTIVE SERVICES

COMMUNITY-BASED INTERVENTIONS TO REDUCE MOTOR VEHICLE-RELATED INJURIES

EVIDENCE OF EFFECTIVENESS FROM SYSTEMATIC REVIEWS

Many community-based interventions have been developed to address motor vehicle-related injuries as a public health problem. To assess which community-based interventions are effective in reducing motor vehicle injuries, CDC scientists conducted systematic reviews of the literature on community-based interventions to reduce alcohol-impaired driving, increase child safety seat use, and increase safety belt use.

These reviews were used by the Task Force on Community Preventive Services—an independent, nonfederal panel of community health experts—to develop recommendations on the use of these interventions. In November 2001, the reviews and recommendations were published in a supplement of the *American Journal of Preventive Medicine*. In 2003, they will be compiled into *The Guide to Community Preventive Services*, a resource for policymakers and public health practitioners. The findings can be used to support or expand local programs to prevent motor vehicle injury and to promote the adoption, maintenance, or strengthening of state and national traffic safety laws. To access the full text articles and learn more about *The Guide to Community Preventive Services*, visit www.thecommunityguide.org.

Zaza S, Thompson RS, guest editors. *The guide to community preventive services, reducing injuries to motor vehicle occupants: Systematic reviews of evidence, recommendations from the Task Force on Community Preventive Services, and Expert Commentary. American Journal of Preventive Medicine 2001;21(4 suppl): 23-30.*

CDC. *Motor-vehicle occupant injury: Strategies for increasing use of child safety seats, increasing use of safety belts, and reducing alcohol-impaired driving. A report on recommendations of the Task Force on Community Preventive Services. MMWR Recommendations and Reports 2001;50(RR-7);1-13.*

Key Review Findings:

Interventions to increase child safety seat use

Based on strong evidence of effectiveness, the Task Force recommended two interventions to increase child safety seat use: laws mandating the use of child safety seats (all 50 states currently have such laws) and programs that distribute child safety seats and educate parents about their use. They also recommended two other interventions based on sufficient evidence of effectiveness: community-wide information and enforcement campaigns, and incentive and education programs.

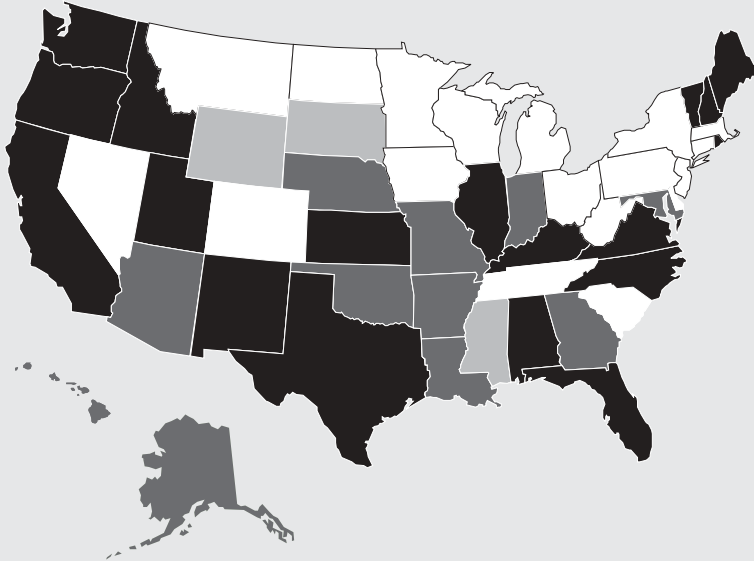
Zaza S, Sleet DA, Thompson RS, Sosin DM, Bolen JC. *Task Force on Community Preventive Services. Reviews of evidence regarding interventions to increase use of child safety seats. American Journal of Preventive Medicine 2001;21(4 Suppl):31-47.*

Interventions to increase safety belt use

Based on strong evidence of effectiveness, the Task Force recommended all three reviewed interventions to increase safety belt use: safety belt use laws, primary enforcement laws (versus secondary enforcement laws), and enhanced enforcement programs.

Dinh-Zarr TB, Sleet DA, Shults RA, Zaza S, Elder RW, Nichols JL, et al. *Task Force on Community Preventive Services. Reviews of evidence regarding interventions to increase use of safety belts. American Journal of Preventive Medicine 2001;21(4 Suppl):48-65.*

STATES WITH .08 BAC LAWS – JULY 2002



- Passed 0.8 BAC law before the new national standard
- Passed 0.8 BAC law in 2001
- Passed 0.8 BAC law in 2002

Interventions to reduce alcohol-impaired driving

Based on strong evidence of effectiveness, the Task Force recommended three interventions to reduce alcohol-impaired driving: sobriety checkpoints, 0.08% blood alcohol concentration (BAC) laws, and minimum legal drinking age laws. They also recommended two interventions based on sufficient evidence of effectiveness: zero tolerance laws for young drivers, and training programs for people who serve alcohol.

The systematic review of the effectiveness of 0.08% BAC laws revealed that states that lowered the legal BAC for drivers from 0.10% to 0.08% reduced alcohol-related fatalities by a median of 7%, which translates to 500 lives saved annually. These findings were helpful in the debate that led Congress to pass a new national standard for alcohol-impaired driving. In October 2000, the President signed the fiscal year 2001 transportation appropriations bill, requiring states to pass a 0.08% BAC law by October 2003 or risk losing federal highway construction funds. By September 2002, 13 additional states had enacted 0.08% BAC laws, bringing the total number of states with such laws to 32.

Shults RA, Elder RW, Sleet DA, Nichols JL, Alao MO, Carande-Kulis VG, et al. Task Force on Community Preventive Services. Reviews of evidence regarding interventions to reduce alcohol-impaired driving. American Journal of Preventive Medicine 2001;2(4 Suppl):66-88.



In June 2001, DUI staff received the Secretary's Award for Distinguished Service for their scientific contribution to the national debate on this law. From left: Randy Elder, MEd; Tommy G. Thompson, Secretary of the Department of Health and Human Services; Ruth Shults, PhD, MPH; and David Sleet, PhD, FAAHB.

Home and Recreation Research

CDC supports research on home and recreation injury prevention conducted by staff scientists and partners, such as injury control research centers and state health departments. Priorities include residential fires, older adult falls, and drowning and water safety. Highlights of CDC-supported research in this area during 2000–2001 include:

Fire-Related Injuries

- CDC is working with the U.S. Consumer Product Safety Commission, National Institute of Standards and Technology, National Fire Protection Association (NFPA), Underwriters Laboratories, U.S. Fire Administration, Department of Housing and Urban Development, and other partners to fund evaluation of how current and prototypic smoke alarm technologies perform in real fires. Researchers are testing the responses of various types of alarms to serious residential fires. In addition, researchers are evaluating how well the different types of alarms resist sounding when a fire is not present (i.e. nuisance alarms).
- To develop recommendations for the installation of home smoke alarms, CDC is funding a randomized trial of two types of smoke alarms installed in standardized positions on the main living floor in 784 owner-occupied dwellings in King County, Washington. Researchers will determine the proportion of functional alarms for each type at 9- and 18-month intervals. They will also identify reasons for nonfunctioning alarms, determine the incidence of nuisance alarms, and examine correlations between functioning smoke detectors and sociodemographic features of the population.

Fall-Related Injuries Among Older Adults

- CDC scientists determined that from 1989 to 1998, the rate of deaths resulting from fall-induced traumatic brain injury (TBI) among older adults increased 60%, from 19.3 per 100,000 population to 30.8. The proportions of TBI deaths from falls increased 58% among males (from 12% to 18%) and 42% among females (from 18% to 25%). Potential reasons for these increases include more sophisticated methods of diagnosing TBI, changes in reporting fall-related events on death certificates, and changes in demographic characteristics and health behaviors.

“Because of major strides in medicine and public health, we Americans are continuing to live longer—and healthier lives. As a result, injuries among older Americans now ranks with heart disease and stroke as a major contributor to death and disability among this population.”

Statement by David W. Fleming, MD, Acting Director, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services on Falls Among Older Americans: CDC Prevention Efforts before the Senate Sub-committee on Aging Committee on Health, Education, Labor and Pensions June 11, 2002 <http://www.hhs.gov/asi/testify/t020611.html>

Further research is needed in this area to determine factors that contribute to fall risk. *Stevens JA, Adekoya N. Brain injury resulting from falls among elderly persons [letter to the Editor]. JAMA 2001;286(21):2665-6.*

- Vanderbilt University is conducting a CDC-funded randomized controlled trial in 112 nursing homes. This research project will evaluate whether the Tennessee Fall Prevention Program (TFPP), a statewide program to train nursing home staff in safety practices, reduces serious injuries from falls among nursing home residents. Results from a pilot study showed that residents' recurrent falls were reduced 19%. If effective, the TFPP will provide a model for feasible, cost-effective injury prevention programs in long-term care settings.



Water Safety

- CDC researchers analyzed data collected during the first Injury Control and Risk Survey to assess how well American adults thought they could swim. They found that more than one third of the adult population reported that they were unable to swim at least one pool length or 24 yards. Younger respondents reported greater swimming ability than did older respondents, and self-reported ability increased with level of education. African Americans reported the most limited swimming ability, and more women than men reported limited ability, despite much lower drowning rates among women. These data will help public health practitioners identify groups at greater risk for drowning and better target water safety messages and swimming education efforts. *Gilchrist J, Sacks JJ, Branche CM. Self-reported swimming ability in U.S. adults, 1994. Public Health Reports 2000;115(2):110-1.*



Sports and Recreation Injuries

- CDC researchers used data from civilian and military studies to conduct a review of exercise-related injuries among women. The review provided basic recommendations for injury prevention. Women who are starting exercise programs should be realistic about their goals and should progress slowly from levels of frequency, duration, and intensity that are commensurate with their current physical fitness condition. *Gilchrist J, Jones BH, Sleet DA, Kimsey CD. Exercise-related injuries among women: Strategies for prevention from military and civilian studies. MMWR 2000;49(RR-2):13-33.*
- CDC researchers conducted a systematic review of interventions to prevent sports-related shin splints, common overuse injuries for which many prevention and treatment measures have been promoted. Few controlled studies regarding prevention have been completed. Shock absorbing insoles are the only intervention for which data suggest a benefit. *Thacker SB, Gilchrist J, Stroup DF, Kimsey CD. The prevention of shin splits in sports: A systematic review of literature. Medicine & Science in Sports & Exercise 2002;34(1):32-40.*
- CDC is collaborating with the American Academy of Orthopaedic Surgeons, the National Collegiate Athletic Association, the International Federation of Football Associations, and the Santa Monica Orthopedic and Sports Medicine Research Foundation to evaluate an intervention to prevent knee injuries (including anterior cruciate ligament, or ACL, injuries) among female soccer players. During the fall 2001 soccer season, nine NCAA Division I women's soccer teams piloted the intervention and study mechanisms to assess the feasibility of conducting a large, randomized controlled trial of the intervention. Both the program and the reporting mechanisms were well received. Recruitment for the randomized controlled trial is underway for the fall 2002 soccer season.



Playground Injuries

- Shredded rubber performed best in a CDC-funded test of loose-fill playground surfacing materials, according to a study conducted by CDC scientists and the National Program for Playground Safety (NPPS), a non-profit organization based at the University of Northern Iowa. The researchers used a standard testing procedure to evaluate various playground surfaces. Following shredded rubber, result showed sand, wood fibers, and wood chips also performed adequately, with little difference among the three. Pea gravel provided the least resilience, making it a poor choice for playground surfacing. *Mack MG, Sacks JJ, Thompson D. Testing the impact attenuation of loose-fill playground surfaces. Injury Prevention 2000;6(2):141-4.*

Injuries from Dog Bites

- CDC researchers examined data about fatal dog attacks that occurred during 1979-1998. They found that at least 25 breeds of dogs had been involved in the fatal attacks. Of the 227 fatal attacks for which data were available, more than two-thirds involved a single dog, and more than half involved dogs that were unrestrained on their owner's property. The findings of this study provide insight into the circumstances surrounding deadly dog attacks and will help shape prevention efforts. *Sacks JJ, Sinclair L, Gilchrist J, Golab GC, Lockwood R. Breeds of dogs involved in fatal human attacks in the United States 1979-1988. Journal of the American Veterinary Medical Association 2000;217:836-40.*

School Health

- CDC researchers in unintentional injury, violence, and adolescent and school health worked with their partners to produce *School Health Guidelines to Prevent Unintentional Injuries and Violence*. This document, part of a series of CDC school health guidelines, addresses strategies schools can implement to reduce unintentional injuries and violence within a framework of comprehensive school health. *CDC. School health guidelines to prevent unintentional injuries and violence. MMWR 2001;50 (RR-22):1-46.*

STATE AND COMMUNITY INJURY PREVENTION PROGRAMS

CDC awards cooperative agreements and grants to state health departments, injury prevention units within large city or municipal health authorities, and universities to conduct community-based unintentional injury prevention programs throughout the United States. During 2000–2001, programs addressed residential fires, child passenger safety, falls among older adults, and dog bite injuries.

Fire-Related Injury Prevention Programs

The United States currently has the third highest overall fire death rate of all industrialized countries. Residential fires are the most important cause of fire-related mortality. In 2000, approximately 85% of all U.S. fire deaths occurred in homes. That year, fire departments responded to 368,000 home fires in the United States that claimed the lives of an estimated 3,420 people and injured another 16,975. Residential fires disproportionately affect young children, older adults, African Americans, and Native Americans. During 2000, residential fires accounted for more than \$5 million in direct property damage.



Functional smoke alarms cut the chances of dying in a house fire by 40% to 50%. However, at least one-quarter of U.S. households lack working smoke alarms.

Smoke Alarm Installation and Fire-Safety Education

Based on the success of previous programs, in October 2001, CDC awarded five-year cooperative agreements to 13 states—Alabama, Alaska, Georgia, Kansas, Kentucky, Minnesota, Mississippi, New York, North Carolina, Oklahoma, South Carolina, Virginia, and Washington—to install long-lasting, lithium-powered smoke alarms and to provide fire-safety education in homes in high-risk communities. High-risk communities are those with fire death rates higher than state and national averages and median household incomes below the poverty level. Homes with children and older adults—those at highest risk—are especially targeted for inclusion in the program.

CDC funded 14 states for three years (1998–2000) to implement similar measures in high risk communities. Program staff canvassed nearly 160,000 homes and installed more than 116,000 smoke alarms. Fire safety messages have reached nearly 7.5 million people as a result of these programs. An estimated 346 lives potentially have been saved when alarms installed in program homes gave residents early warning of a fire.

Falls Among Older Adults

Falls are the leading cause of injury death for Americans 65 years and older. Each year, about 35% to 40% of adults 65 and older fall at least once. In 1999, more than 10,000 people ages 65 and older died from fall-related injuries. Direct costs from this type of injury are high. The estimated cost of fall-related injuries among older adults was \$20.2 billion in 1994; by 2020, it may reach \$32.4 billion.

More than 330,000 older adults—80% of them women—were hospitalized for hip fractures in 1999. Hip fractures result in more hospital admissions than any other injury, and 12% to 20% of older adults who sustain hip fractures die within a year. Of hip fracture patients who survive, most experience decreases in their mobility or their ability to function independently. Only half of the healthy, community-dwelling older adults who suffer fall-related hip fractures are able to live independently one year later.

Who is most at risk? Women are three times more likely than men to be hospitalized for fall-related injuries. However, older men are 22% more likely than older women to die as the result of a fall. This may be because men 65 and older have more chronic conditions than do women of the same age or because they engage in risky behaviors, such as climbing on ladders. Older adults who have fallen previously or who stumble frequently are two to three times more likely to fall within a year, as compared with older adults who have not fallen or do not stumble regularly. Frail adults—those with impaired strength and balance—are three times more likely to fall as healthier persons of the same age, and they sustain more severe injuries when they fall.

SUCCESS STORIES

In Arkansas, three children had been left home alone for only a few minutes when a fire started. The two older children, ages 5 and 9, heard the smoke alarm and followed the escape plan they had learned through the CDC-funded fire safety and smoke alarm program. The youngest child, age 4, crawled under a bed; neighbors who heard the smoke alarm rushed in and saved the child.

In Virginia, the life of an 83-year-old woman was spared, thanks to a smoke alarm installed through the CDC-funded program. On an August night just two weeks after installation, the smoke alarm woke the woman, who was home alone. The alarm's warning gave her enough time to escape the fire without injury.

In Washington, through the CDC-funded program, firefighters installed a smoke alarm in the mobile home of a Shoreline mother and her 3-year-old son. Weeks later, the alarm woke the mother, who found a portion of her home ablaze. She grabbed her sleeping child and escaped before the home became fully engulfed. She was treated for smoke inhalation and released; her son was unharmed.

In Oklahoma, a young boy awoke to the sound of the smoke alarm that had been installed in his home the year before through the CDC-funded program. A candle that had been left burning near a recliner had set the chair on fire. Upon hearing the alarm, the boy awakened his mother and they both escaped without injury. The fire destroyed the house; the smoke alarm saved its residents.

Multifaceted Program to Prevent Falls

CDC funds the California State Health Department to design, implement, and evaluate the "No More Falls!" program, a community-based fall prevention demonstration project for older adults. This program includes four elements: education, exercise to increase strength and balance, home assessment and modification, and medication review. Results of the program's evaluation will help guide future efforts to develop multifaceted fall prevention programs.

Preventing Fire- and Fall-Related Deaths Among Older Adults

Persons ages 65 years and older are at higher risk for injury and death from falls and fires than the population at large. To reduce injury from fire and falls among older adults, CDC is funding five states to implement and evaluate *Remembering When: A Fire and Fall Prevention Program for Older Adults*, a program that teaches life-saving lessons. It includes lesson plans, brochures, fact sheets, game cards, and more. This program was developed by the National Fire Protection Association (NFPA), with assistance from the U.S. Consumer Product Safety Commission, CDC and other partners.

Child Passenger Safety

Motor vehicle crashes continue to be the leading cause of death among children in the United States. In 2000, motor vehicle crashes

took the lives of more than 2,000 child passengers ages 15 and younger and seriously injured another 327,500. Many of these injuries could have been prevented. Of the children fatally injured, more than two-thirds were not in age-appropriate restraints or were completely unrestrained. Child safety seats reduce the risk of death by about 70% for infants and 55% for toddlers ages 1 to 4, and booster seats decrease injuries for children ages 4 to 8 years when compared with seat belt use alone. For children 9 years and older, seat belts reduce the risk of death by about 50%.



A Boost for Children Ages 4 to 8

CDC funds 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. During 2001, these grantees collected baseline data, assessed barriers to booster seat use, developed program materials, and began building partnerships with state and local organizations. In Colorado, program staff developed and aired two radio PSAs about the importance of booster seats. In Kentucky, program staff established a booster seat help-line and posted billboards in a high-traffic area of the intervention community. In New York, staff commissioned two songs to be used in the elementary school-based component of the program and adapted them for use in radio PSAs. Program evaluations, expected in 2003, will help guide future efforts to increase booster seat use.

Kids in the Back for a Safer Ride

Seating position is another key safety consideration for child passengers. All children ages 12 years and younger should ride in the back seat every time they ride in a vehicle. This greatly reduces the injury risk when front passenger-side airbags deploy and places children in the safest part of the vehicle in the event of a crash. Riding in the back seat is associated with a 46% reduction in the risk of fatal injury in cars with a front passenger-side airbag and at least a 30% reduction in the risk of fatal injury in cars with no front passenger-side airbag. A 2000 telephone survey found that 24% of children ages 0 to 12 years rode in the front seat at least half the time. And unfortunately, as children became older, they were increasingly likely to ride in the front seat.

With CDC funding, the Center for Risk Analysis at the Harvard School of Public Health developed and implemented the iKids in the Back/Niños Atrás program. This three-year, community-based intervention aims to increase the number of children ages 12 and younger who ride properly restrained in the back seat of motor vehicles. Project investigators organized a community task force, developed educational materials for both English- and Spanish-speaking parents and children, and implemented an incentive program to further motivate parents and children to adopt the desired behavior. Investigators are currently collecting follow-up data and evaluating the program.

SUCCESS STORY

A New York family took part in a CDC-funded education program about the importance of booster seats. The program also provided the family a free booster seat for their child. Soon after, the family's mini-van was totaled in a severe car crash but the child riding in the new booster seat was unharmed.

Bicycle Safety

Bicycle-related injuries are a significant public health problem. Bicycle-related head injuries alone account for about 500 deaths, 17,000 hospitalizations, and 153,000 emergency room visits each year. Two key risk factors for bicycle-related injuries are age and



gender. Children ages 5 to 15 show the highest bicycle-related injury rates, and the rate of death from bicycle-related injuries is highest among children ages 10 to 14 years. On any given bicycle trip, males are 2.4 times more likely than females to be killed. Helmet use can significantly reduce bicycle-related injuries and deaths. Universal helmet use could save one life each day, and prevent one head injury every four minutes.

CDC supports efforts to promote bicycle safety in a hard-to-reach population—teens and

young adults. Research has shown that middle school, high school, and university students have the lowest helmet use rates (a mere 3%), and they frequently disobey traffic laws while cycling. In October 2000, CDC funded researchers in Phoenix to conduct a three-year program to increase bicycle safety and helmet use among these populations. A theoretical model, Stages of Change, is being applied to bicycle safety practices in this age group to determine participants' readiness for behavior change. Findings will guide development of bike safety interventions for these groups.

Dog Bites

Every 40 seconds, someone in the United States seeks medical attention for a dog bite-related injury. Each year, more than 4.7 million people are bitten by dogs, and nearly 800,000 seek medical care for the bite. Children, especially boys ages 5 to 9, have the highest incidence rate of emergency department visits resulting from dog bites. Many children do not know how to behave around a dog. Children's small size and inability to fend off an attack may put them at additional risk. CDC supports research and programs to prevent these injuries from man's best friend.

CDC is funding the Georgia Division of Public Health to conduct a dog bite prevention campaign in Chatham, Bullock, and Effingham counties. During 2001, program staff used the Community Readiness Model to complete a needs assessment. In 2002, program staff will use educational materials and media outreach to teach children, parents, dog owners, health care providers, and other adults about the risk of dog bite-related injuries and about strategies for preventing such injuries. Project staff will evaluate whether the campaign changes people's beliefs and actions and reduces the number of dog bite-related injuries occurring in the three counties. Results of this effort will guide future efforts to prevent dog bites and associated injuries and deaths.

ADDITIONAL PROGRAMS AND ACTIVITIES TO PREVENT UNINTENTIONAL INJURY

Injury is a complex problem requiring multifaceted solutions. Making a lasting difference requires collaboration between many groups working together to prevent injuries. CDC worked with numerous organizations on injury prevention programs and activities during 2000–2001. These activities include:

Audio-Conference on Evaluation for Injury Prevention Practitioners

CDC and the Association of State and Territorial Directors of Health Promotion and Public Health Education jointly sponsored a two-hour audio-conference for injury prevention researchers and practitioners entitled, "Evaluation in the Real World." Professors from Emory University and The Johns Hopkins University outlined the process of program evaluation using relevant examples from their own experience. Participants received copies of the CDC publication on which the training was based: *Demonstrating Your Program's Worth: A Primer on Evaluation for Programs to Prevent Unintentional Injury*.

The Edward R. Roybal Institute for Applied Gerontology

With CDC funding, the Roybal Institute for Applied Gerontology at the University of Southern California in Los Angeles developed and pilot tested a "train-the-trainer" program for community organizations and agencies that serve older Hispanics in East Los Angeles. The goal of this program is to educate agency staff about the importance of preventing fall injuries among older adults and to enable these organizations to integrate fall injury prevention activities into their existing service delivery programs.

Fire PALS

CDC is funding implementation of the Fire PALS (Prevent Accidents, Live Safe) Injury Prevention Program and the *Learn Not to Burn* program in schools in Waterloo, Iowa. During the 2000–2001 school year, the programs were introduced in 11 public and parochial schools. Uniformed Waterloo Fire Rescue firefighters serve as Fire PALS instructors. The program targets elementary and preschool children, and includes classroom instruction and presentations, safety fairs, arson intervention

presentations, and bicycle rodeos. Head Start preschools at 13 sites used the National Fire Protection Association's *Learn Not to Burn Preschool Program*, reinforced with teacher training and interactive visits from the Waterloo Fire and Rescue Unit.

Healthy People 2010

Healthy People 2010 outlines a comprehensive, nationwide health promotion and disease prevention agenda to promote health and prevent illness, disability, and premature death. It is designed to serve as a roadmap for improving the health of all people in the U.S. during the first decade of the 21st century. CDC's injury prevention staff coordinated development of the chapter on injury and violence prevention. The goal is to reduce injuries, disabilities, and deaths due to unintentional injuries and violence. Reducing deaths caused by motor vehicle crashes was identified as a leading health indicator for the nation. The leading health indicators reflect the major public health concerns in the United States and were chosen based on their ability to motivate action, the availability of data to measure their progress, and their relevance as broad public health issues.

National Program for Playground Safety

To reduce the high numbers of children injured on playgrounds, CDC supports the National Program for Playground Safety (NPPS), based at the University of Northern Iowa. NPPS educates parents, teachers, manufacturers, and others about supervision of children on playgrounds, age-appropriateness of equipment, proper surfacing to prevent injuries from falls, and equipment maintenance. In 2001, NPPS sponsored a National Playground Safety Day and Playground Safety School. For more information about program activities, visit the NPPS online at www.uni.edu/playground/home.html.

National Resource Center on Aging and Injury

Funded by CDC, the National Resource Center on Aging and Injury (NRCAI) is a joint effort between the San Diego State University Center on Aging and the American Society on Aging. NRCAI applies technology to evaluate and share information about preventing injuries among older adults. NRCAI's goal is to increase awareness about injuries among older adults and to collect, organize, and evaluate information about preventing these injuries. Through the end of fiscal year 2001, the center had enrolled

360 participants in web-based seminars; tracked 8,207 visits to its interactive web site (www.olderadultinjury.org); and provided information through conferences and print and electronic media to more than 2.2 million people, including health care professionals, care givers, and others working to reduce injuries among older adults.

Student Fellowship in Unintentional Injury Prevention

CDC and the Society for Public Health Education (SOPHE) jointly sponsor the Student Fellowship in Injury Prevention. The one-year fellowship is designed to recognize, assist, and train graduate students working on research or practice-based unintentional injury or violence prevention projects from the perspective of health education or the behavioral sciences. Projects have included an evaluation of tailored injury prevention messages designed to help parents prevent childhood injuries; the application of the transtheoretical model to an educational program targeting older drivers; implementation and evaluation of the KIDS process, an innovative program designed to promote the proper use of child safety seats; an exploration of potential determinants for falls among older adults and an examination of the short-term outcomes of a multidimensional risk intervention program; and an implementation of parenting education classes for Latino-Hispanic women with young children to address basic safety measures and unintentional injury prevention. Starting in 2002, the fellowship will be expanded to include projects involving violence prevention.

Tool Kit to Prevent Senior Falls

Developed by injury researchers at CDC, *The Tool Kit to Prevent Senior Falls* is a comprehensive collection of fall prevention materials for health professionals. The *Tool Kit*, originally published in 1999, contains fact sheets, health education materials including a brochure, and a home assessment checklist designed to reduce falls and related injuries among older adults. Materials are based on the published literature as well as research conducted and sponsored by CDC since the late 1980s. In 2001, CDC made available Spanish versions of the brochure and check list from the *Tool Kit*. More than 6,000 recipients have used the *Tool Kit* in fall prevention programs and have distributed the materials to clients at senior centers, hospitals, and health departments. The materials have also been used in professional presentations and for teaching nursing and health care students.

INDIAN HEALTH SERVICE

In 1985, CDC entered into an interagency agreement with the Indian Health Service (IHS) to focus on surveillance, risk factor identification, and prevention measures to reduce injuries among Native Americans. 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 prevention program. During 2000–2001, activities included:

- **Native American Childhood Injury Mortality Atlas.** Injury staff have been developing a color atlas that will describe eight major causes of injury-related death among Native American children ages 0 to 19 during 1985–1996.
- **United Tribes Technical College.** Graduates and current students of the associate degree program in injury prevention at the United Tribes Technical College (UTTC), supported by CDC and IHS, are now working for tribal health departments as injury prevention practitioners; performing internships in traffic safety with the National Highway Traffic Safety Administration and the State Offices of Highway Safety; and continuing their education toward four-year degrees. Established in 1998, the two-year injury degree program trains Native Americans to use the public health approach to prevent injuries and prepares them for work as injury prevention practitioners. The Injury Prevention Program continues to be one of the most popular degree programs among students at UTTC and has been instrumental in building tribal capacity to prevent injuries.
- **Grantee Conference.** CDC and IHS conducted a grantee orientation and training conference for staff of the 25 tribal core injury prevention programs funded by IHS. CDC assisted in conference planning; trained IHS project officers to manage cooperative agreements and work with grantees; and provided information to grantees about effective intervention strategies. These programs, now in their second year of a five-year funding commitment, receive \$50,000 annually to enhance their capacity to address injury problems specific to their tribes.
- **Training Injury Prevention Practitioners.** CDC Injury staff recently helped revise and teach the week-long *Introduction to Injury Prevention* training course used to educate IHS and tribal staff about community-based injury prevention. This course has trained hundreds of IHS and tribal staff members since it was first conducted in 1985. CDC is currently working with the Alaska Department of Health to help prepare this course for Alaska's public health workers as well.
- **Traumatic Brain Injury (TBI) Among American Indians and Alaska Natives.** CDC scientists studied the impact and leading causes of TBIs requiring hospitalization among American Indians and Alaska Natives to raise awareness of this major cause of disability. From 1992 to 1996, IHS, tribal, or contract-care hospitals recorded nearly 4,500 TBI-related hospitalizations among American Indians and Alaska Natives resulting in more than 21,000 hospital days. The average length of stay for a TBI hospitalization was 4.7 days. *CDC. Traumatic brain injury—American Indians and Alaska Natives—United States, 1992–1996. MMWR 2002;51(14):303–5.*

PARTNERSHIPS, WORKING GROUPS, AND EXPERT PANELS

CDC works with state and federal agencies, nongovernmental organizations, and universities to prevent unintentional injuries. Scientists regularly convene and serve on expert panels and working groups, an important part of these partnerships. The science-based injury prevention recommendations and guidelines that are developed through such collaborations are vital to strengthening state and local injury prevention programs and promoting injury prevention as a public health discipline. Examples of partnership activities for 2000–2001 include:

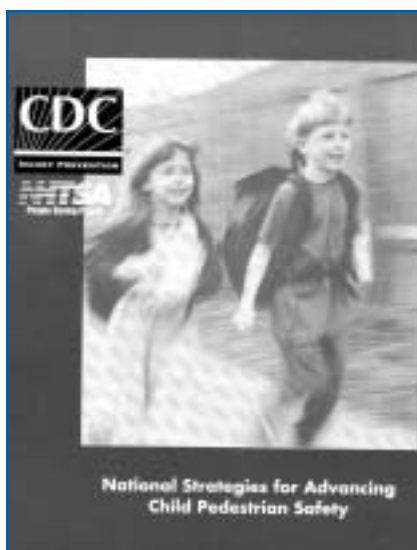
Alliance to Prevent Falls as We Age

CDC has joined with other agencies, organizations, and professional groups to form the Alliance, dedicated to preventing older adult falls and related injuries. CDC and the National Safety Council co-chair the Alliance, which is currently planning a summit in 2003 to develop a National Blueprint to Prevent Senior Falls and Related Injuries. For more information about fall safety and Alliance members go to www.nsc.org/fallsalliance.

National Action Plan for Child Pedestrian Safety

CDC, the National Highway Traffic Safety Administration, the National SAFE KIDS Campaign, and Nestlé co-sponsored a meeting of experts to discuss barriers and potential solutions

to the problem of child pedestrian injuries. This groupóthe Panel to Prevent Pedestrian Injuriesóconsisted of nearly 100 experts from the United States, Canada, the United Kingdom, and Australia and represented more than 25 professions, including city planning, motor vehicle safety, public health, child development, school safety, health education, and engineering. The product of the meeting, *National Strategies for Advancing Child Pedestrian Safety*, was published in October 2001. These strategies will guide national and community efforts to increase safety for our nationís youngest pedestrians. *Schieber RA, Vegega ME, editors. National Strategies for Advancing Child Pedestrian Safety. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2001.*



National Bicycle Safety Network

CDC initiated the National Bicycle Safety Network (NBSN) in 1994 and continues to co-chair it with the National Highway Traffic Safety Administration. During 2000–2001, the NBSN continued its activities with nearly 20 key partners in government agencies, non-profit organizations, and advocacy groups that work to promote safe bicycling. A key product of this working group was the 2001 publication of *National Strategies for Advancing Bicycle Safety*. This five-point plan is the result of discussions held at a multidisciplinary conference in July 2000 that addressed critical bicycle safety issues for riders of all ages. It calls for policies and programs to help motorists better share the road; to educate bicyclists about the rules of the road; to encourage police and the courts to enforce these rules; to encourage departments of transportation to build bicycle paths and lanes and consider bicycling in their long-range transportation plans; and to encourage bicyclists to wear helmets while riding. Since publication of these national strategies, previously adversarial groups have joined together to work on common goals for bicycling safety. *National Highway Traffic Safety Administration, Centers for Disease Control and Prevention, Federal Highway Administration. National Strategies for Advancing Bicycle Safety. Washington (DC): U.S. Department of Transportation, National Highway Traffic Safety Administration; 2001.*

Task Force on Community Preventive Services

Scientists from the CDC injury program participate on a technical working group that conducts systematic reviews of community-based interventions to reduce motor vehicle occupant injuries. The working group has reviewed interventions to reduce alcohol-impaired driving and to increase use of seat belts and child safety seats, and it is currently reviewing mass media interventions to reduce alcohol-impaired driving. Based on review findings, the Task Force on Preventive Services—an independent, nonfederal group of experts—has issued recommendations for the use of interventions found to be effective. These reviews will be published in *The Guide to Community Preventive Services*, which will cover a wide range of preventive interventions. To read more about the *Community Guide*, see page 14, or visit the web site at www.thecommunityguide.org.

CHALLENGE: TO ELIMINATE RESIDENTIAL FIRE DEATHS BY 2020

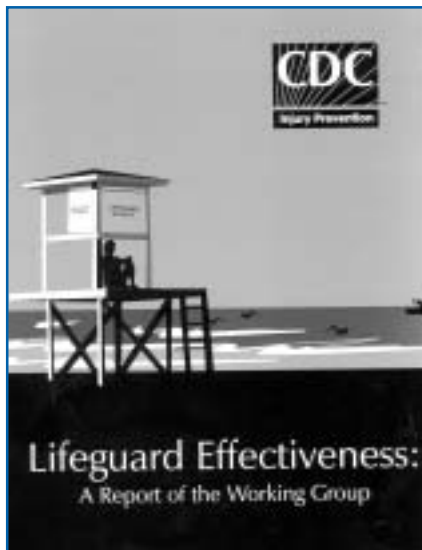
The United States Fire Administration, part of the Federal Emergency Management Agency; the U.S. Consumer Product Safety Commission (CPSC); and CDC began working together in 2001 to plan a national effort to reduce injuries and deaths associated with fires in homes. The agencies formed the Federal Fire Partnership, whose challenge to the United States is to eliminate residential fire deaths by the year 2020. In support of this effort, Congress appropriated \$5 million in fiscal year 2002 to be used by the three agencies for a new fire safety campaign targeting high-risk populations—older adults, children, and firefighters. The Partnership has planned an agenda of surveillance, research, community programs, marketing, and collaboration activities. The Partnership will work with representatives from other federal agencies and non-governmental organizations to shape the national effort to eliminate residential fire deaths.

Task Force on Dog Bite Prevention

CDC scientists participated on the American Veterinary Medical Association's Task Force on Canine Aggression, which published *A Community Approach to Dog Bite Prevention* in 2001. The report will assist state and local leaders in designing effective community-based programs to reduce dog bite injuries and deaths. The report offers representative national statistics about dog bites; guidelines about how to mobilize a community and the infrastructure needed to establish a program; recommended prevention strategies; educational and communication approaches and targets; recommendations for reporting and tracking dog bites; and model dog-control ordinance and legislation for control of dangerous dogs. *Task Force on Canine Aggression. A community approach to dog bite prevention. Journal of the American Veterinary Medical Association 2001; 219:1733-49.*

Working Group on Lifeguard Effectiveness

An October 2001 report by CDC assesses lifeguarding services as a strategy for preventing drowning and water-related injuries. The



report was the product of a panel of experts convened by CDC's injury staff and a review of data from the United States Lifeguard Association (USLA) and others. Data show that during 1988-1997, more than three-quarters of drownings at USLA sites occurred when beaches were unguarded and that the chance of drowning at a beach protected by lifeguards trained under USLA standards is less than 1 in 16 million. This report will help communities, local government officials, and owners of private water recreational areas make informed decisions about whether to begin, retain, or discontinue lifeguard services. *Branche CM, Stewart S, editors. Lifeguard effectiveness: A Report of the Working Group. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2001.*

INTERNATIONAL INJURY PREVENTION

In recent years, CDC has provided consultation and technical assistance for unintentional injury prevention outside the United States and has worked with public health organizations around the globe to combat injuries and associated deaths and disabilities.

Strategy to Prevent Road Traffic Injuries Worldwide

CDC contributed to the development of a World Health Organization (WHO) five-year strategy to reduce road traffic injuries (RTI) worldwide. RTI killed an estimated 1.2 million people around the globe in 1998, making it the leading cause of injury death. If current trends continue, by 2020, RTI will kill 2.3 million people annually. The five-year strategy aims to integrate RTI-prevention programs into all countries, especially lower- to middle-income countries, which bear the greatest burden of RTI. Specific objectives include building capacity at national and local levels to monitor the magnitude, severity, and impact of RTI; encouraging the incorporation of RTI prevention in public health agendas worldwide; and promoting action-oriented strategies and best practices to prevent motor vehicle crashes. *Peden MM, Krug E, Mohan D, Hyder A, Norton R, MacKay M, et al. Five-year WHO Strategy on Road Traffic Injury Prevention. Geneva (Switzerland): World Health Organization, 2001[cited 1 Sept 2002]. Available at URL: www.who.int/violence_injury_prevention/.*

Injury Surveillance Guidelines

CDC worked with the WHO† Injury Unit in Geneva to develop guidelines for injury surveillance. The guidelines are available online at www.who.int/violence_injury_prevention/index.html.

International Conference on Motor Vehicle Injury Prevention in Developing Countries

Low-income countries account for 89% of the world's motor vehicle-related deaths. In April 2001, CDC collaborated with the International Health Division of the Harvard University School of Public Health, WHO, the Rockefeller Foundation, the Center for Child Well Being, and the Volvo Corporation to sponsor an international conference on motor vehicle injury prevention in developing countries.† Proceedings of the conference, which attracted teams from 11 low-income countries, will be published in 2003.

International Union for Health Promotion and Education (IUHPE)

CDC worked with IUHPE to assess the injury prevention activities of 30 member countries and determine the resources needed to improve these activities. Results from the report will be used to develop a plan of action to promote injury prevention in countries with strong health promotion programs.

International Collaborative on Injury Coding

CDC staff took part in a worldwide collaboration, sponsored by the World Health Organization, to develop the International Classification of External Causes of Injury (ICECI). The ICECI is a surveillance tool for capturing injury data that improves on previous methods in that it is based on best practices of injury surveillance and on international consensus about how external causes may be described. ICECI helps researchers and prevention practitioners to define more precisely the domain of injuries they are studying, answer questions on the circumstances of the injuries, and provide more detailed information about specific injury categories, like home and recreation injuries or traffic injuries. This comprehensive data dictionary will facilitate international standardization of injury data.

International Technical Assistance

CDC provided injury prevention technical assistance to numerous countries and U.S. territories, including Canada, Puerto Rico, Jamaica, Colombia, Brazil, Mexico, Taiwan, China, Thailand, and Vietnam (see Safe Vietnam Initiative on Page 35).

SAFE VIETNAM INITIATIVE

In 1996, injuries were the leading cause of death in Vietnam, outranking deaths caused by infectious disease symptoms such as diarrhea and pneumonia, and chronic conditions such as hypertension. In 1998, CDC began studying the problem of injury in Vietnam, with the objective of developing injury prevention strategies that would be useful and effective to the Vietnamese people. Staff members found that undercounting of injuries and lack of data standards were two major obstacles to accurately assessing injury rates.

In January 2000, CDC made a long-term commitment to develop the Safe Vietnam initiative and to work with UNICEF to implement this initiative. CDC also gained financial support for this effort: In response to a CDC proposal, the U.S. Fund for UNICEF pledged \$10 million to support children's injury prevention activities in Vietnam over the next five years.

Safe Vietnam's objectives are to reduce injury morbidity and mortality among Vietnamese children and to integrate injury prevention into all child survival programs in Vietnam. CDC staff collaborated with the Ministry of Education and Training to develop an injury prevention curriculum for primary schools. By March 2002, teachers from 39 provinces had been trained to integrate this curriculum into their environment and health coursework. CDC staff also assisted with door-to-door assessment of injury risks in local villages. Based on these assessments, CDC worked with an advertising agency in Vietnam to develop a television public service announcement to promote injury prevention among children. These activities were incorporated into UNICEF's Country Program plan for 2001–2005.

CDC also supported a UNICEF liaison to the U.S. Embassy and other international agencies to develop Safe Vietnam strategies and activities. The Safe Vietnam initiative has received strong support from U.S. officials, and the iHelmets for Kids campaign was launched in Ho Chi Minh City in November 2000.

Perhaps most significantly, CDC's efforts have contributed to national policy change in Vietnam. On December 27, 2001, Vietnam Prime Minister, Phan Van Khai approved and announced a National Policy on Injury Prevention 2002–2010. This policy, which addresses injury prevention on the road, in workplaces and homes, and at schools and public places is designed to reduce injuries in Vietnam by 30% to 40% by the year 2010. The Safe Vietnam initiative has helped Vietnam mobilize policymakers and the population to address the prevention of unintentional injuries, the number one health threat for Vietnamese children.



English translation: "Protect your intelligence."

TRAINING AND TECHNICAL SUPPORT

CDC supports and encourages the development of experts on unintentional injury prevention to broaden and enrich the field of injury prevention. To this end, CDC staff recruits and trains injury prevention and control scientists and program specialists. Staff members also provide technical support for training and other programs conducted by partner organizations.

Epidemic Intelligence Service (EIS)

This two-year, postgraduate program trains health and health-related professionals—physicians, sociologists, anthropologists, psychologists, nurses, veterinarians—in the practice of epidemiology and public health. Recent investigations by EIS officers working in unintentional injury include validation of drowning surveillance data; assessment of deaths and injuries resulting from choking; improvement of child passenger safety in Georgia; and evaluation of barriers that prevent children from walking and biking to school. In addition, EIS officers responded to the events of September 11, 2001, by assisting New York City emergency departments with surveillance of health problems associated with the attacks. EIS officers also assisted in the anthrax investigations in New York City and Washington, D.C., and provided antibiotics and anthrax education to postal workers.

Association of Schools of Public Health (ASPH) Fellowships

ASPH awards one- to two-year fellowships to graduates of accredited schools of public health and provides them an opportunity to work at CDC. Recent projects completed by ASPH fellows include an investigation of the characteristics and magnitude of injuries reported in the emergency department due to incidents involving motor vehicles and bicycles.

Visiting Scientist/Fellows Program

This program affords visiting fellows, academic researchers, scientists, and injury prevention practitioners an opportunity to work at CDC on a variety of projects for terms ranging from three months to two years. Visiting fellows from Australia recently studied children's playground injuries and elderly pedestrian injuries; assessed the relationship between alcohol, injuries, and health promotion; developed measures of exposure for falls and

drownings; developed an injury prevention instrument to measure fire protection behaviors; and compared unintentional poisoning deaths in the United States and Australia. Visiting fellows also lectured at CDC about drowning prevention, the burden of injuries, and injury and trauma outcomes research.

Public Health Prevention Service (PHPS)

This three-year CDC training program helps individuals develop skills in planning, implementing, and evaluating programs and interventions. During the first year, all prevention specialists work in two different program areas for six months each. Prevention specialists are then assigned to a two-year field placement in a state or local health department. Prevention specialists in unintentional injury recently evaluated a CDC bicycle helmet promotion program; assisted in developing the study protocol and in managing a pilot test for an intervention to decrease anterior cruciate ligament injuries among female athletes; and helped select state health departments develop a comprehensive logic model for their injury program.

Visiting Students and International Scholars

Graduate students and scholars from the United States and other countries work with CDC on injury-related research. Recent work by graduate students includes promoting the application of behavioral science to unintentional injury prevention in domestic and international settings, and assisting with research on bicycle safety. Recent work by an international scholar from the National Institute for Public Health, Ministry of Health and Welfare in Japan included adapting the NFPA Risk Watch Program for use in the Japanese school system.

Technical Assistance for Injury Prevention Degree Program

CDC also provides technical assistance and resource support to the injury prevention degree program at the United Tribes Technical College (UTTC) in Bismarck, North Dakota. This two-year associate degree program trains Native American tribal members to become injury prevention practitioners and to work at the tribal community level. Along with the Indian Health Service, CDC is currently supporting UTTC's program.

ADDITIONAL UNINTENTIONAL INJURY RESOURCES

CDC's injury program provides data and statistics, information about funding, and publications for injury prevention professionals and members of the general public. All CDC publications are available free of charge and can be ordered online. In some cases, full text is available online. Please visit CDC's injury prevention web site at www.cdc.gov/injury to review a complete list of CDC's injury-related publications and to order copies.

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UNINTENTIONAL INJURY PREVENTION STAFF CENTERS FOR DISEASE CONTROL AND PREVENTION



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