Injury Prevention

To many people, the deaths and injuries that result from a car crash, a fall, or a violent act seem random and thus impossible to prevent. However, many of these tragedies are preventable. By studying the causes of injury, CDC scientists are helping individuals and communities make daily life safer—at home, at school, at work, and at play. Seat belts, helmets, safer playground surfaces, pool fencing, and other devices can prevent serious injuries—such as traumatic brain injuries or drowning.

Preventing suicides, youth violence, and violence between intimate partners involves more complicated and difficult behavior changes than wearing a helmet or putting on a seat belt, but these deadly behaviors also can be understood and prevented.

By understanding the factors that place people at risk of injury—whether it is intentional or not—we can also understand how to protect ourselves and those around us. These are tasks not only for CDC scientists and other researchers, but for entire communities. Together, we can shift the prevailing view that injuries are inevitable to a more optimistic sense that they can be prevented and controlled, averting both physical and emotional trauma for those injured and their families.

MONITORING TRAUMATIC BRAIN INJURIES

WHAT IS THE PUBLIC HEALTH ISSUE?

At least 5.3 million Americans live with disabilities resulting from traumatic brain injuries (TBIs). Each year, about 1.5 million Americans sustain a TBI. Of those injuries, about 1.1 million (75%) are concussions or other forms of mild traumatic brain injuries (MTBIs). Though labeled "mild," brain injuries of this type can cause long-term or permanent impairments and disabilities. As a result of all types of TBIs, each year:

- 50,000 Americans die.
- More than 80,000 Americans experience the onset of long-term or lifelong disability.
- More than 1 million Americans get emergency care for TBIs.
- An estimated $56 billion in direct and indirect costs is spent.

WHAT HAS CDC ACCOMPLISHED?

CDC is a leader in the study of TBI. Under the *Children's Health Act of 2000,* CDC is creating a system to monitor TBIs. CDC has funded more than 15 state health departments to determine the number of persons who seek care in the emergency department, seek other hospital care, sustain TBI-related disabilities, or die due to TBIs. States use these data to develop programs to prevent TBIs, educate the public about TBIs, and identify the need for services for persons with TBIs. CDC is also exploring the impact of TBIs in mass-trauma events by funding a study to identify possible TBIs among hospitalized survivors of the World Trade Center attacks.

In 2003, CDC published a report to Congress on the rate of occurrence of MTBIs among the U.S. population. CDC convened an expert panel, the Mild Traumatic Brain Injury Work Group, which recommended appropriate and feasible methods to measure the magnitude of the problem of MTBI in this country. The *Report to Congress on Mild Traumatic Brain Injury in the United States: Steps to Prevent a Serious Public Health Problem* presents the findings and recommendations of the work group (see www.cdc.gov/ncipc/pub-res/mtbi/report.htm).

Example of Program in Action

With funding from CDC, the Colorado Department of Public Health and Environment conducted a study to determine the effectiveness of linking people with TBI to a 1-800 number for TBI services. Letters about the helpline were sent to a random sample of persons with TBIs who were identified from a CDC-funded TBI surveillance system. As a result of the letters, the number of calls to the helpline increased four-fold. Because of the success of this small project, Colorado has since received funding from the Health Resources and Services Administration to extend the program to more persons with TBIs.

WHAT ARE THE NEXT STEPS?

TBI is a major public health problem, affecting not only injured individuals, but also their family members and society. CDC will continue its efforts to monitor and prevent TBIs. CDC has funded the University of Maryland, Baltimore County, to evaluate the effectiveness of the Florida TBI registry. This information will help other states interested in developing their own registries. In addition, CDC is developing a tool kit to raise awareness among high school coaches, athletes, parents, and school officials about sports-related concussion and the need to prevent and manage concussions.

NATIONAL VIOLENT DEATH REPORTING SYSTEM

WHAT IS THE PUBLIC HEALTH ISSUE?

- The United States has one of the highest rates of violence in the world, with roughly 50,000 deaths each year resulting from homicide or suicide.
- Homicide is the second leading cause of death for people 15 to 24 years of age in the United States, and suicide is the third leading cause of death for those 10 to 24 years of age.
- Accurate assessment of the factors that increase the risk for violence and the circumstances that surround violent deaths in the United States is necessary.

WHAT HAS CDC ACCOMPLISHED?

CDC provides funding for the National Violent Death Reporting System (NVDRS). Thirteen states (AK, CO, GA, MA, MD, NC, NJ, OK, OR, RI, SC, VA, and WI) have begun recording data on homicides, suicides, and deaths of undetermined cause. NVDRS will generate information at the national, state, and local levels that has been compiled from multiple state-based sources. These sources include medical examiners, coroners, police, crime labs, and death certificates. One goal of NVDRS is to improve the overall understanding of conditions surrounding violent deaths. Individually, these information sources provide a fragmented view of the factors leading to violence, but collectively they define its scope and nature. Through NVDRS, local governments will quickly see how their problems compare with other communities across the nation. This information can help develop, inform, and evaluate violence prevention strategies at both the state and national levels.

Example of Program in Action

San Francisco served as a pilot city for the National Violent Injury Statistics System, a prototype for NVDRS run by the Harvard School of Public Health. Data collected in San Francisco has helped hospital trauma staff identify neighborhoods with high incidence rates of violence. This information led to the development of the Wrap Around Project, an intervention designed to prevent violence-related injury from reoccurring. This program connects victims of violence with drug counseling, vocational training, and other social services. It also provides skills they can use to remove themselves from dangerous situations.

WHAT ARE THE NEXT STEPS?

Within 10 years, CDC plans to incorporate all 50 states and the District of Columbia into NVDRS. NVDRS is modeled on the Fatality Analysis Reporting System (FARS), which tracks deaths from motor vehicle crashes. Operated by the National Highway Traffic Safety Administration, FARS has led to numerous improvements in motor vehicle safety. CDC will develop state-specific data files, allowing each state to better assess its violent injury situation. CDC will also continue to work toward standardizing data collection of law enforcement agencies, medical examiners, and coroners; resulting in easier data collection and the data being more comparable.

PREVENTING ALCOHOL-RELATED INJURIES

WHAT IS THE PUBLIC HEALTH ISSUE?

- Excessive alcohol consumption contributes to more than 100,000 deaths each year in the United States.
- Nearly half of alcohol-related deaths result from motor-vehicle crashes, falls, fires, drowning, homicides, and suicides.
- An alcohol-related motor vehicle crash kills someone every 30 minutes and injures someone every 2 minutes.
- Nearly two-thirds of children ages 14 years and younger killed in alcohol-related crashes are riding with the drinking driver.
- Each year about 120 million episodes of alcohol-impaired driving occur in the United States.
- Between 20% and 30% of patients seen in U.S. hospital emergency departments (ED) have alcohol problems.

WHAT HAS CDC ACCOMPLISHED?

Funding from CDC facilitates work on several fronts to combat alcohol-impaired driving, the single most important cause of alcohol-related injuries. CDC conducts basic surveillance to assess the extent of the problem and the risk factors associated with alcohol and also evaluates the effectiveness of existing interventions in preventing alcohol-impaired driving. CDC monitors U.S. injury trends, including surveillance of impaired driving; develops and tests interventions to reduce alcohol-related injuries; and funds state health departments to implement and evaluate community-based programs to prevent motor vehicle-related injuries and death. Through these efforts, CDC can determine not only what works, but also which promising programs and policies should be emphasized. CDC works in partnership with the National Highway Traffic Safety Administration and others to coordinate efforts targeted to improve and promote alcohol-impaired driving prevention policies and programs nationwide.

Previous research has provided insight into the effect of alcohol on injuries. For example, CDC researchers analyzed data about child passenger fatalities in alcohol-related crashes. Their findings revealed that, of the more than 5,500 children ages 14 years and younger who were killed in an alcohol-related crash between 1985 and 1996, nearly two-thirds (64%) were riding in the same vehicle as the drinking driver. On the basis of these findings, Mothers Against Drunk Driving formed an expert panel to study the issue of impaired driving with child passengers as "child endangerment," and to assess what could be done about it.

Example of Program in Action

CDC and the Center for Rural Emergency Medicine at West Virginia University are conducting a clinical trial to determine the efficacy of screening ED patients for alcohol problems and counseling those who screen positive. Almost 44% of the nearly 3,000 patients who have been screened had alcohol problems. More than 1,200 have been randomized to standard treatment and counseling arms of the study, and over 95% of the patients assigned to the counseling group were willing to accept counseling.

WHAT ARE THE NEXT STEPS?

CDC will evaluate strategies to implement and disseminate known, effective interventions that reduce alcohol-impaired driving, and CDC will continue to test the effectiveness of new, innovative strategies.

PREVENTING CHILD MALTREATMENT

WHAT IS THE PUBLIC HEALTH ISSUE?

- Child maltreatment includes fatal and nonfatal physical abuse, neglect (physical, educational, emotional, or medical), sexual abuse, emotional abuse (psychological and verbal abuse or mental injury), abandonment, exploitation, and threats to harm the child.
- Every year, 900,000 to 1 million children experience nonfatal child maltreatment.
- Homicide is the fourth leading cause of death for U.S. children 1 to 9 years of age, the fifth leading cause of death for children 10 to 14 years of age, and the second leading cause of death for youth 15 to 24 years of age.

WHAT HAS CDC ACCOMPLISHED?

CDC has funded five state health departments (CA, MN, MI, MO, and RI) for 3 years to examine the feasibility of collecting mortality and morbidity data for child maltreatment. The states are comparing alternative approaches to surveillance for fatal and nonfatal child maltreatment and are testing methods for measuring the extent of violence against children. This project will help determine how useful various data sources are in producing more accurate information about the scope and nature of the problem of child maltreatment.

CDC also funded a grant to the University of South Carolina to implement and evaluate a multilevel parenting program to prevent child maltreatment by improving positive parenting skills. The university will implement the *Triple-P: Positive Parenting Program* in communities throughout South Carolina. The results from this program will identify the effect that parental skills building can have on preventing child maltreatment.

CDC funded the Child Sexual Abuse Prevention Collaboratives funded in three states (GA, MA, and MN), which focus on adult and community responsibility for preventing child sexual abuse. This perspective complements existing programs that focus on victim identification and services, thus building a comprehensive approach to child sexual abuse prevention. To date, all three states have conducted baseline statewide inventories of child sexual abuse prevention programs and random digit dial surveys to assess current knowledge and attitudes towards child sexual abuse prevention.

Example of Program in Action

CDC is developing standard definitions for child maltreatment to promote consistency in terminology and data collection. A consistent definition is necessary to monitor the incidence of and trends for child maltreatment, determine the scope of the problem, and compare the problem across jurisdictions. The standard definitions are being developed with the state health departments involved in the State Surveillance of Child Maltreatment project and a diverse group of child maltreatment experts in the fields of epidemiology, social sciences, public health, and medicine, as well as state and federal officials.

CDC is also funding research conducted by the Grady Health System and Emory University in low-income, African-American communities to examine individual, socioeconomic, and environmental factors and the link between partner violence and child maltreatment. This study will investigate factors that place youth at risk of child maltreatment or protect them from such violence.

WHAT ARE THE NEXT STEPS?

CDC will continue to identify effective approaches and programs to prevent child maltreatment. Approaches will evaluate efforts to improve positive parenting skills and emphasize research priorities to ensure preventive measures.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

PREVENTING CHILDHOOD INJURIES

WHAT IS THE PUBLIC HEALTH ISSUE?

- Unintentional injuries are the leading cause of death for children age 1 and older in the United States and homicide is the fourth leading cause of death for children 1 to 9 years of age.
- In 2001, a total of 1,579 child passengers 0 to 14 years of age died in motor vehicle crashes in the United States, and more than 250,000 sustained injuries requiring treatment in an emergency department.
- In 2001, an estimated 903,000 U.S. children experienced or were at risk for child abuse or neglect. An estimated 1,300 children died from such maltreatment.
- Each year between 20% and 25% of all children sustain a severe injury requiring medical attention, missing school, or bed rest.

WHAT HAS CDC ACCOMPLISHED?

Booster Seats

CDC-supported extramural research evaluated the effectiveness of a multifaceted community-based booster seat campaign to increase booster seat use among child passengers in motor vehicles. Fifteen months after the campaign began booster seat use nearly doubled to 26% in communities where it had been implemented.

The University of Washington was funded for a 3-year study to use ethnographic research methods to develop a deeper understanding of behavioral barriers to booster seat use among Latinos in Washington State. These results will be used to develop a tailored community-based intervention. The long-term goal of this study is to disseminate proven child safety technology to Latino families to better protect children in motor vehicle crashes.

Child Maltreatment Prevention

CDC has funded the University of South Carolina to implement and evaluate a multilevel parenting program to prevent child maltreatment by improving positive parenting skills. With this $1.5 million grant, the university is implementing the *Triple-P: Positive Parenting Program* in communities throughout South Carolina. This is an important step toward understanding the effect of parental skill building on the problem of child maltreatment.

CDC is also funding three state organizations to form statewide collaborations: Prevent Child Abuse Georgia; Project Pathfinder, Inc., in Minnesota; and Massachusetts Citizens for Children. These collaborative partnerships will develop and implement child sexual abuse prevention programs that focus on adult and community responsibility for prevention. The funding will support projects that use existing infrastructures to broaden their prevention efforts.

Sports and Recreational Injuries

CDC recently conducted a study to estimate the impact of sports and recreational injuries in the United States. Sixty-eight percent of sports and recreational injuries occur among 5 to 24 year olds, accounting for more than one-fifth of all emergency department visits in this age group.

WHAT ARE THE NEXT STEPS?

Parents and caregivers play a critical role in the prevention of injuries among children. CDC is examining the dimensions of age-appropriate, adequate parental and caregiver supervision to better understand the role it has in preventing unintentional injuries among children. Results will also help inform parenting programs working to prevent child abuse and neglect.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

PREVENTING FALLS AMONG OLDER ADULTS

WHAT IS THE PUBLIC HEALTH ISSUE?

- Among people ages 65 years and older, falls are the leading cause of injury deaths and hospital admissions. In 2001, more than 11,600 people 65 years and older died and 373,000 were hospitalized because of fall-related injuries.
- Hip fractures are the most serious fall-related fracture. Hospital admissions for hip fractures among people over age 65 have steadily increased from 230,000 admissions in 1988 to 321,000 admissions in 2000. The number of hip fractures is projected to exceed 500,000 by 2040.
- Only half of older adults who were living independently before their hip fracture were able to live on their own a year later.
- The direct cost of fall injuries for people age 65 years and older in 1994 was $20.2 billion. By 2020, the cost of fall injuries is expected to reach $32.4 billion (before adjusting for inflation).

WHAT HAS CDC ACCOMPLISHED?

CDC distributed more than 6,000 copies of its *Tool Kit to Prevent Senior Falls*, a comprehensive collection of research findings, materials, and tools, in English and Spanish, to fall prevention programs through its website. In 2001, CDC published *U.S. Fall Prevention Programs for Seniors: Selected Programs Using Home Assessment and Modification*, describing 18 model fall prevention programs. The CDC-funded National Resource Center on Aging and Injury at San Diego State University was established to collect, organize, and disseminate information about preventing unintentional and violence-related injuries. This information will be provided to public health practitioners, senior service providers, and others through an interactive website.

CDC is funding two randomized controlled trials to learn what community-based strategies are effective in preventing falls among adults ages 65 and older. The California State Health Department is studying the effectiveness of the *"No More Falls!"* program, which integrates fall prevention strategies into existing community-based public health programs for older adults. The Wisconsin Department of Health, in collaboration with the University of Wisconsin, is studying a comprehensive approach to preventing falls among high-risk seniors; this approach will use in-home assessments followed by individualized plans to reduce fall risks.

Example of Program in Action

In October 2000, CDC began funding state health departments (in AK, MA, MN, NC, and VA) to implement and evaluate *Remembering When: A Fire and Fall Prevention Program for Older Adults,* based on a curriculum jointly developed by the National Fire Protection Association and CDC. This innovative program teaches older adults how to prevent both fires and falls. In August 2002, Georgia State University was awarded a cooperative agreement to perform an in-depth evaluation of the effectiveness of this program.

WHAT ARE THE NEXT STEPS?

Injuries affecting older adults will increase as the population ages. Identifying effective science-based interventions, translating these interventions into programs, and implementing the programs in community settings nationwide are the next critical steps in fall prevention. The final step is to support local evaluations of programs so that communities can tailor effective programs to suit their specific needs.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

PREVENTING INJURIES AMONG OLDER ADULTS

WHAT IS THE PUBLIC HEALTH ISSUE?

- Injuries among older adults include injuries from falls, motor vehicle-related injuries, suicide, and elder abuse.
- Among older adults, falls are the leading cause of injury deaths and the most common cause of nonfatal injuries and hospital admissions for trauma.
- In 2000, medical expenditures to treat injuries for people age 65 years or older were over $29 billion.
- Nearly 7,500 adults ages 65 years or older die, and an estimated 259,500 suffer nonfatal injuries in motor vehicle crashes each year. The numbers are increasing. Older drivers have higher crash fatality rates than all but teenage drivers.
- In 2001, over 5,000 adults age 65 or older died by suicide.
- In 1998, the National Elder Abuse Incidence Study reported over 550,000 incidents of abuse among the elderly.

WHAT HAS CDC ACCOMPLISHED?

CDC funds the National Resource Center on Safe Aging (NRCSA), a joint effort between the Center on Aging at San Diego State University and the American Society on Aging, which provides information about injury prevention among older adults to public health professionals, senior service providers, and others through its website (www.afeaging.org). NRCSA provides information about both intentional and unintentional injuries, focusing on falls, pedestrian injuries, fires, and elder abuse.

CDC distributed more than 6,000 copies of its *Tool Kit to Prevent Senior Falls*, a comprehensive collection of research findings, materials, and tools, in English and Spanish, to fall prevention programs. Much remains to be learned about fall-related risk factors and how falls occur. In an effort to better understand these factors, CDC is supporting the expansion of the National Electronic Injury Surveillance System of the Consumer Product Safety Commission. This surveillance system will collect information about fall injuries from hospital emergency departments.

CDC also monitors trends in motor vehicle-related injuries among adults ages 65 or older and conducts research on the risk factors for this age group. Analysis of fatality data shows that older adult drivers were less likely than drivers 16 to 34 years of age to be involved in crashes where someone else died.

Example of Program in Action

Using CDC funding, the California State Health Department is studying a fall prevention demonstration program for older adults. This is the first state-level program to include home modification, medication review, and exercises that increase strength and balance. Additionally, CDC is funding state health departments in Michigan and Washington to develop, implement, and evaluate fall prevention programs. CDC has also awarded funds to the University of Iowa to evaluate the implementation and impact of state adult protective service statutes and regulations on the conduct of elder abuse investigations and outcomes.

WHAT ARE THE NEXT STEPS?

The next steps are to identify effective, science-based interventions; translate these interventions into programs; implement programs in community settings; and evaluate programs, document outcomes, and provide information that allows communities to tailor programs to serve their specific needs.

PREVENTING MOTOR VEHICLE INJURIES

WHAT IS THE PUBLIC HEALTH ISSUE?

- Motor vehicle crashes remain the leading cause of death for people 1 to 34 years of age in the United States and the leading cause of injury death for all ages, accounting for nearly 44,000 deaths in 2001.
- Impaired driving will affect one in three Americans during their lifetime. In 2002, alcohol-related motor vehicle crashes accounted for 41% of all traffic-related deaths.
- Two out of five deaths among U.S. teens are the result of motor vehicle crashes. Per mile driven, teen drivers 16 to 19 years of age are four times more likely than older drivers to crash.
- Children 4 years and younger are particularly vulnerable. Of the 459 children ages 4 years and younger who were fatally injured in 2002, 40% were completely unrestrained.

WHAT HAS CDC ACCOMPLISHED?

CDC and the Task Force on Community Preventive Services have systematically reviewed the literature on community-based interventions to reduce alcohol-impaired driving. A recent review revealed that, under certain conditions, mass media campaigns effectively prevent alcohol-impaired driving. Another review found evidence that school-based educational programs decrease riding with alcohol-impaired drivers. However, there was insufficient evidence on whether the programs effectively decreased alcohol-impaired driving (see www.thecommunityguide.org). CDC researchers found that between 1982 and 2001, the number of fatal alcohol-related crashes among drivers 16 to 20 years of age decreased almost 60%, suggesting that prevention measures targeting this age group have been effective. Analyses published in a CDC *Morbidity and Mortality Weekly Report* study showed that American Indians and Alaska Natives continue to suffer motor vehicle death rates nearly twice those of other Americans.

Learning to drive safely takes time and practical experience. Graduated drivers licensing (GDL) is one strategy that encourages skills development. This system limits young drivers by setting restrictions that are systematically lifted as driving experience and competence is gained. GDL studies worldwide have found 5% to 16% reductions in crashes among teenage drivers. CDC supported and contributed to both a special edition of the *Journal of Safety Research* documenting GDL research evidence and a special supplement of *Injury Prevention* focusing on young drivers.

Example of Program in Action

CDC funds and assists health department programs in Colorado and Michigan to implement and evaluate community-based interventions to reduce motor vehicle-related injuries. The planned interventions were selected from *The Community Guide to Preventive Services*, a systematic review of community-based interventions lead by CDC scientists. In 2004, CDC will fund two Native American tribes to implement and evaluate interventions selected from *The Guide*.

WHAT ARE THE NEXT STEPS?

CDC will conduct research to determine differences in motor vehicle-related injury rates by race in order to identify health disparities and inform effective interventions. To address the growing concern of older drivers, researchers need to better understand the transportation and safety behaviors of older adults and the consequences of driving as well as driving cessation.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

PREVENTING RESIDENTIAL FIRE-RELATED INJURIES

WHAT IS THE PUBLIC HEALTH ISSUE?

- In 2001, more than 396,500 home fires in the United States claimed the lives of an estimated 3,140 people and injured another 15,575.
- Residential fires accounted for 77% of fire-related injuries and 84% of fire-related deaths in 2001.
- Persons at greatest risk of sustaining fire-related injuries are children ages 5 years and younger and adults ages 65 and older; African Americans, American Indian and Alaska Natives, rural dwellers, and persons living in substandard housing or older manufactured homes.
- In 2001, residential fires resulted in direct property damage totaling $5.6 billion.
- About half of home fire deaths occurred in homes without working smoke alarms.

WHAT HAS CDC ACCOMPLISHED?

Since 1998, CDC has funded smoke alarm installation and fire safety education programs in high-risk communities. A survey of program homes found an estimated 499 lives have been saved thus far. Program staff canvassed almost 265,000 homes and installed more than 185,000 long-lasting smoke alarms in high-risk homes, targeting households with children ages 5 years and younger and adults ages 65 years and older. Fire safety messages have reached nearly 7.5 million people as a result of these programs. In 2002, 16 states were awarded funding for 5 years to continue these activities. CDC also funded research to develop a long-lasting (10 year) lithium battery-powered alarm with a hush button to quiet nuisance alarms. CDC collaborated with the U.S. Consumer Product Safety Commission and other partners to evaluate current and prototypic smoke alarm technologies in actual fire situations in manufactured homes and in one- and two-story houses.

Example of Program in Action

CDC is partnering with the U.S. Fire Administration, the U.S. Consumer Product Safety Commission, and a number of nongovernmental organizations to eliminate deaths from residential fires by 2020. Joint activities include research examining the risk factors for residential fire-related injuries; data collection and analysis to track trends and progress; CDC's smoke alarm installation and fire safety education project; and the recent development of 12 state Civilian Fire Safety Corps whose primary purpose is to conduct community-based fire safety education. The corps is comprised of volunteers who deliver programs in schools, senior centers, and other public settings.

CDC's fire prevention efforts also include funding five states to implement and evaluate curriculum developed by the National Fire Protection Association, the U.S. Consumer Product Safety Commission, and CDC to teach older adults how to prevent fires and falls; developing a National Fire Risk Factor Survey to collect nationally representative data on the causes, risk factors, and health outcomes related to residential fires; directing a study on the sequences of events and human behaviors that lead to home fire injuries and deaths; and partnering with the U.S. Fire Administration to evaluate fire safety and prevention programs.

WHAT ARE THE NEXT STEPS?

Eliminating deaths from residential fires can be achieved. By expanding existing smoke alarm installation and fire safety education programs and applying lessons learned from an evaluation of current programs to increase the effectiveness and efficiency of community-based programs, the United States can reduce and eradicate residential fire-related deaths.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

PREVENTING SUICIDE AND SUICIDAL BEHAVIOR

WHAT IS THE PUBLIC HEALTH ISSUE?

- More than 30,000 lives are lost to suicide each year in the United States.
- Almost 325,000 Americans are treated in U.S. hospital emergency departments (EDs) each year, after attempting to take their own lives.
- Adults ages 70 years and older have the highest suicide rate of any age group, averaging one suicide every two hours.

WHAT HAS CDC ACCOMPLISHED?

CDC is supporting groundbreaking research that has preliminary results documenting the efficacy of a community-based cognitive therapy program for preventing suicidal behavior among suicide attempters identified in EDs. While mental health issues are addressed in this program, the main intervention is to help patients develop more adaptive ways of thinking about their situation and more functional ways of responding to periods of emotional distress. Preliminary results show an impact on suicide reattempts in this high-risk population.

CDC is working with the Consumer Product Safety Commission to collect and examine data from hospital EDs. The National Electronic Injury Surveillance System-All Injury Program tracks data on all types and external causes of nonfatal injuries and poisonings treated in U.S. hospital EDs. Using these data, CDC researchers are able to generate national estimates of nonfatal injuries, including those related to suicidal behavior.

CDC established the Suicide Prevention Research Center at the University of Nevada. This center serves the Rocky Mountain region (CO, AZ, NV, UT, NM, ID, MT, and WY), which has the highest suicide rates in the country. The central feature of the center is its ability to link all sources of suicide information within the region. It provides a complete listing of all evaluated suicide prevention programs in existence for 5 years or longer, the common characteristics, and the specific population groups they serve. Information obtained is used to develop and implement suicide prevention interventions specific to the region.

Example of Program in Action

CDC is conducting an in-depth, multi-state examination of the development and implementation of state suicide prevention plans. The results will help other states develop suicide prevention plans and gain the support of stakeholders so that these plans can be put into practice. Insights gleaned from this study will help inform state-based prevention efforts in other public health problem areas such as violence against women and child maltreatment.

CDC is also funding two states (ME and VA) to develop suicide prevention programs specific to their needs. This funding provides the necessary resources to advance from data gathering and analysis to identifying best practices for suicide prevention.

WHAT ARE THE NEXT STEPS?

CDC will continue to collaborate with private and public health agencies to develop comprehensive suicide prevention activities. CDC will conduct further research and surveillance activities to identify protective and risk factors in specific populations and to provide information for targeted evaluation studies.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

PREVENTING VIOLENCE AGAINST WOMEN

WHAT IS THE PUBLIC HEALTH ISSUE?

- About one in three female homicide victims is murdered by her intimate partner.
- One in six American women has been raped at some time in her life.
- Nearly two-thirds of women who reported being physically assaulted, raped, and/or stalked after age 18 were victimized by an intimate partner.

WHAT HAS CDC ACCOMPLISHED?

CDC funds all 50 states, the District of Columbia, and eight territories to support rape prevention and education efforts. The states educate communities about the extent of sexual assault and develop programs to prevent it. CDC also funds 14 state domestic violence coalitions. The Domestic Violence Prevention Enhancement and Leadership Through Alliances program is adding a prevention focus to existing community-based domestic violence efforts and providing prevention funding to local communities.

CDC researchers demonstrated that the health-related costs of rape, physical assault, stalking, and homicide by intimate partners exceed $5.8 billion each year. Of this total, nearly $4.1 billion are for direct medical and mental healthcare services, and productivity losses account for nearly $1.8 billion. Researchers examined the data from the 1995 National Violence against Women Survey for the incidents of intimate partner violence (IPV), costs, how healthcare was used, and how much work-related time was lost for women who were assaulted by intimate partners.

Example of Program in Action

CDC is funding activities in five states (KY, OK, OR, MI, and MN) to monitor and track occurrences of IPV. The goal is to help reduce IPV in these states by collecting timely and credible data that can be used to plan, implement, and evaluate prevention programs. CDC has developed a guide for practitioners who specialize in preventing violence against women. This guide describes recent prevention and batterer intervention programs showing promising results and makes recommendations that can be incorporated into prevention programs.

CDC is also studying the linkages between dating violence, other peer violence, and suicide to assess shared and unique risks and protective factors. This information will guide decisions about using strategies to prevent many forms of violence versus taking unique approaches to prevent specific types of violence.

The *Violence against Women Outcome Evaluation Guide* is designed to help programs develop and implement outcome evaluations. The guide will provide a clear definition of evaluation research based on CDC guidelines and an overview of the issues to be considered in evaluating violence against women programs.

WHAT ARE THE NEXT STEPS?

CDC will continue to identify effective approaches and programs that prevent violence against women. These programs will focus on primary prevention and will aim at reducing perpetration. By better understanding the current social norms that influence violence against women, it may be possible to affect change in social norms and thereby reduce the violence.

PREVENTING YOUTH VIOLENCE

WHAT IS THE PUBLIC HEALTH ISSUE?

- Homicide is the fourth leading cause of death for U.S. children 1 to 9 years of age, the fifth leading cause of death for children 10 to 14 years of age, and the second leading cause of death for youth 15 to 24 years of age.
- Homicide and suicide combined account for 29% of deaths among youth.
- Everyday in the United States, an average of 17 Americans ages 24 years and younger die as victims of homicide.

WHAT HAS CDC ACCOMPLISHED?

CDC's National Academic Centers of Excellence on Youth Violence Prevention work with communities to address the public health problem of youth violence. Five centers focus on developing and implementing community response plans, training healthcare professionals, and conducting small pilot projects to evaluate effective strategies for preventing youth violence. The other five centers conduct more comprehensive activities, including researching risk factors for youth violence and evaluating prevention strategies. The centers are located at Virginia Commonwealth University, the University of California at San Diego, the University of California at Riverside, the University of Puerto Rico, the University of Michigan, Columbia University, Johns Hopkins University, Harvard University and University of Hawaii.

CDC's National Youth Violence Prevention Resource Center is a Web-based source of information and materials on preventing violence and suicide among our nation's youth. The resource center is a collaborative effort between the Department of Health and Human Services, CDC, and other federal agencies. To date, more than 21,000 publications have been ordered. Sections include critical information aimed at helping children and youth cope with disaster, youth violence news highlights from around the United States, and fact sheets addressing bullying, aggression, depression, community interventions, and school violence.

Example of Program in Action

The Thompson Island Outward Bound CHOICES Project, a project of the Harvard Youth Violence Prevention Center (HYVPC), works with middle school students in Boston to reduce interpersonal conflict, violence, and drug use by helping students learn to make positive choices in their school, home, and social lives. The intervention involves a 9-week "character education" curriculum facilitated by two Outward Bound instructors. Another intervention project helps physicians understand and deal with youth violence. In this project, each pediatrician in the state receives a handbook on youth violence prevention and access to a related Web page. The results of the project will help determine the usefulness of the materials and whether physicians find the materials instrumental in changing knowledge, attitudes, or behaviors of participating youth.

The University of Michigan's Flint Youth Violence Prevention Center (YVPC) is governed by a steering committee composed of representatives from community organizations. The YVPC promotes healthy development through collaboration among community, university, and health department partners. The YVPC Photovoice Project brought together young people from around Flint to generate dialogue about their own experiences and perceptions of the root causes and solutions for violence in their communities. Photovoice participants strengthen their own voices through a collective process of sharing photographs and writings about issues that matter to them.

WHAT ARE THE NEXT STEPS?

CDC will continue studying ways to improve the adoption of effective youth violence prevention programs at national, state, and local levels. CDC will continue its collaborative efforts to clarify the relationship between youth violence and other forms of violence and to identify prevention strategies that effectively address multiple forms of violent behavior.

For additional information on this or other CDC programs, visit www.cdc.gov/program *January 2004*

RESPONDING TO MASS TRAUMA EVENTS

WHAT IS THE PUBLIC HEALTH ISSUE?

A mass trauma event (MTE) is any large-scale natural disaster, conventional weapon attack (such as a terrorist bombing), or industrial explosion. An MTE causes widespread injuries, deaths, and disabilities. Little is known about the immediate or long-term medical needs of MTE survivors. Our current understanding of effective MTE response is limited, and more information is needed to effectively coordinate the resources and needs of first responders. More accurate information on the management of such events is also necessary. Standardized needs assessment tools and data collection instruments can help build this knowledge, but they must be readily available for immediate and comprehensive responses to MTEs.

WHAT HAS CDC ACCOMPLISHED?

CDC has developed a mass trauma preparedness and response website. It provides communities with information and tools that can help them prepare for and respond to injuries and mental health consequences of explosion-related MTEs (see www.cdc.gov/masstrauma).

In 2003, CDC developed partnerships with public health and mental health experts and advocates. These partnerships have helped CDC learn about and track psychosocial and behavioral consequences of MTEs and set priorities for dealing with the medical and psychiatric implications. CDC also is examining factors that might affect a community's ability to quickly recover from an MTE.

In April 2003, CDC hosted a meeting of experts from the fields of public health, emergency, medicine, and disaster recovery. The purpose of this meeting was to develop recommendations for data collection following an MTE. The experts recommended methods and materials needed to rapidly identify victims and pinpoint their needs. They also proposed ways in which data collection can improve MTE coordination and response efforts.

In 2002, CDC provided grants to four national organizations specializing in acute medical care, trauma, and emergency medical services (EMS). The purpose of these grants was to stimulate collaboration among the grantees, CDC, and the state and local public health programs so that they may effectively respond to terrorism MTEs. The grantees include the National Association of Emergency Medical Services Physicians (NAEMSP). In July 2003, NAEMSP, in partnership with CDC and other organizations, conducted a meeting addressing the need for better communication among responders who provide care to MTE victims. Findings from the meeting are intended to raise awareness and promote further discussion, and have been distributed to attendees and other professionals in acute care, trauma, EMS, and public health fields.

WHAT ARE THE NEXT STEPS?

CDC continues to support partnerships and collaborative efforts among professionals in acute medical care, trauma, EMS, and state and local public health agencies. CDC is developing relationships with various federal and state agencies that will be vital in acute care, trauma, and EMS response operations during MTEs. At the same time, CDC is also strengthening its internal partnerships, to make better use of the various divisions that share expertise, research, and insights in this area. This combined expertise will strengthen planning related pre-event, response, and recovery efforts during an MTE.