Injury and Violence Prevention

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PROGRESS REVIEW

In the eleventh session in the second series of assessments of *Healthy People 2010*, ADM John O. Agwunobi, Assistant Secretary for Health, chaired a focus area Progress Review on Injury and Violence Prevention. He was assisted by staff of the lead agency for this *Healthy People 2010* focus area, the Centers for Disease Control and Prevention (CDC). Also participating in the review were representatives from other U.S. Department of Health and Human Services (HHS) offices and agencies and from the U.S. Department of Justice and the U.S. Department of Homeland Security. ADM Agwunobi noted that injuries are one of the leading causes of death and disability among many age groups in the United States and the cost to society associated with injuries is staggering. At no age, from the earliest days to the declining years, is one free from the risk for injury and the disability and death that can result.

The complete November 2000 text for the Injury and Violence Prevention focus area of *Healthy People 2010* is available online at **www.healthypeople.gov/document/html/volume2/15injury.htm**. Revisions to the focus area chapter that were made after the January 2005 Midcourse Review are available at **www.healthypeople.gov/data/midcourse/html/focusareas/fa15toc.htm**. Other more recent data used in the Progress Review for this focus area's objectives and their operational definitions can be accessed at **wonder.cdc.gov/data2010**. For comparison, the report on the first-round Progress Review (held on December 4, 2004) is archived at **www.healthypeople.gov/data/2010prog/focus15/2004fa15.htm**. The meeting agenda, tabulated data for all focus area objectives, charts, and other materials used in the Progress Review can be found at a companion site maintained by the CDC National Center for Health Statistics (NCHS): **www.cdc.gov/nchs/about/otheract/hpdata2010/focusareas/fa15-injury2.htm**.

Data Trends

In his overview of data for the focus area, NCHS Director Edward Sondik summarized the impact of injury and violence on the Nation. He noted that injury and violence resulted in approximately 167,000 deaths in 2004, affecting most strongly the age group from 1 to 44 years, among whom injury and violence are the leading causes of death. To illustrate the societal burden of specific causes of injury and violence in the United States each year, Dr. Sondik cited the following statistics: 1.4 million people sustain a traumatic brain injury (TBI); 396,000 residential fires result in 3,000 deaths and nearly 14,000 emergency department visits for injuries; one in three adults aged 65 years and older fall, resulting in about 15,000 deaths; more than one in seven children experience maltreatment; and approximately 200,000 people are victims of rape or sexual assault. The costs associated with these injuries are immense. For example, in 2000 alone, 50 million injuries required medical treatment, which will ultimately cost

$406 billion in medical expenses and lost productivity. With regard to the Injury and Violence Prevention focus area in its entirety, about half (24 of 46) of the objectives and subobjectives have met or are moving toward their targets. Nine are moving away from their targets. Dr. Sondik then examined in greater detail the objectives selected for highlighting during the Progress Review.

(Obj. 15-1): The age-adjusted rate of hospitalizations for TBI increased from 55.1 per 100,000 population in 1998 to 65.7 per 100,000 in 2005. The target is 41.2 per 100,000. Among males, the age-adjusted rate in 2005 was 88.2 per 100,000; for females, it was 44.1 per 100,000. Among males aged 15 to 24 years, the crude rate of hospitalizations for TBI was 103.3 per 100,000 in 2005. For persons aged 74 years and older, the crude rate in 2005 was 314.3 per 100,000.

(Obj. 15-25): The age-adjusted rate of unintentional residential fire deaths in 2004 was 1.0 per 100,000. For specific population groups, the age-adjusted rates in 2004 were as follows: for females, 0.7 per 100,000; for males, 1.2 per 100,000; for American Indians/Alaska Natives, 1.6 per 100,000; for non-Hispanic blacks, 2.2 per 100,000; for non-Hispanic black males, 2.9 per 100,000; for persons aged 25 to 64 years with less than a high school education, 1.8 per 100,000; for persons aged 25 to 64 years with at least some college, 0.4 per 100,000; and for persons aged 65 years and older, 2.6 per 100,000. The target is 0.2 per 100,000. On average, rates are generally higher in the southeastern states and Alaska.

(Obj. 15-27): The age-adjusted rate of deaths from unintentional falls increased from 4.8 per 100,000 in 1999 to 6.3 per 100,000 in 2004. For females, the 2004 rate was 4.8 per 100,000, compared with 8.2 per 100,000 for males. Among five ethnic and racial groups for which data were available, the rates were highest for American Indians/Alaska Natives (5.3 per 100,000) and non-Hispanic whites (6.7 per 100,000). Persons with less than a high school education had a death rate from unintentional falls of 4.1 per 100,000 in 2004, compared with a rate of 1.4 per 100,000 for persons with at least some college. The target is 3.3 per 100,000. The crude rate of deaths from unintentional falls among persons aged 65 to 84 years was 25.2 per 100,000 in 2004, and among persons aged 85 years and older, 143.3 per 100,000. Rates of death due to unintentional falls among persons aged 65 years and older are particularly high in the northern tier of states west of the Great Lakes and in the Southwest.

(Obj. 15-33a): In 2005, there were 12.1 incidents of maltreatment per 1,000 children younger than 18 years of age, compared with 12.2 incidents per 1,000 in 2000. The 2005 rates of maltreatment of male children and female children were 11.1 per 1,000 and 12.5 per 1,000, respectively. By age group, the highest rate of maltreatment in 2005 (about 17 incidents per 1,000) occurred among children aged 0 to 3 years. The target is 10.1 per 1,000.

(Obj. 15-33b): The fatality rate from maltreatment among children younger than 18 years of age increased from 1.8 deaths per 100,000 in 2000 to 2.0 deaths per 100,000 in 2005. The target is 1.5 per 100,000. In 2005, 77 percent of the deaths occurred among children aged 0 to 3 years, with 42 percent of the overall deaths occurring among children less than 1 year old. The 2005 death rates from maltreatment for female and male children were 1.9 per 100,000 and 2.3 per 100,000, respectively. In terms of the perpetrator's relationship to the child, 77 percent of the fatalities in 2005 in which the perpetrator(s) could be identified involved one or both parents.

(Objs. 15-35, 15-36): The incidence of rape or attempted rape of persons aged 12 years and older decreased from 0.9 incidents per 1,000 in 1998 to 0.5 per 1,000 in 2005, surpassing the target of 0.8 per 1,000. The incidence of sexual assault other than rape committed against persons aged 12 years and

older decreased from 0.6 incidents per 1,000 in 1998 to 0.3 per 1,000 in 2005, surpassing the target of 0.4 per 1,000. Of the incidents of rape, attempted rape, or sexual assault of other kinds committed against females in 2005, 28 percent were by intimate partners, about 7 percent were by relatives, 38 percent were by friends or acquaintances, and 26 percent were by strangers.

Key Challenges and Current Strategies

Following the data overview, presentations on the principal themes were provided by senior staff of CDC's National Center for Injury Prevention and Control (NCIPC): Paula Burgess, Acting Associate Director for Science, Division of Injury Response; David Sleet, Associate Director for Science, Division of Unintentional Injury Prevention; and Thomas Simon, Deputy Associate Director for Science, Division of Violence Prevention. Their statements and briefing materials provided to Progress Review participants for later discussion identified a number of barriers to achieving the objectives, as well as activities under way to meet these challenges, including the following:

Barriers

- Surveillance data on TBI underestimate the extent of the problem for a number of reasons—lack of consensus on definitions, clinical presentations that mimic other illnesses, non-inclusion of persons treated in military facilities or in settings other than hospitals, and the failure to seek medical care on the part of some individuals with mild cases of TBI. Rates of diagnosis and hospitalization for TBI may rise as detection improves, but in some instances, this could represent progress in the ability to estimate the true public health impact of the condition.
- An estimated 5.3 million people in the United States—2 percent of the population—are living with disabilities related to TBI, which also increases risk for other health conditions, including epilepsy, depression, and Alzheimer's disease.
- The United States stands sixth highest among 25 industrialized countries in the mortality rate from fires.
- Every year, about 1.85 million people 65 years of age and older are treated in emergency departments after suffering a fall. Medical expenditures for women who fall are two to three times higher than for men, mainly due to costs for treating fractures. Direct medical costs for fatal falls are about $180 million, while non-fatal falls cost $19 billion. By 2020, these costs are expected to reach $43.8 billion.
- According to data from the National Child Abuse and Neglect Data System, about 900,000 children each year are confirmed by state Child Protective Services to have been maltreated. However, these confirmed cases represent only a fraction of the problem because many cases are never reported.
- Despite a recent decline in rates of rape, attempted rape, and sexual assault, data from the National Crime Victimization Survey suggest that approximately 200,000 people in the United States are victims of sexual assault or rape each year. Even that number is likely an underestimation of the problem. Stigma, safety concerns, and methodological limitations make it very difficult to assess the true prevalence of sexual violence at the national and state levels.

Activities and Outcomes

- CDC has developed and implemented in primary care settings a toolkit called *Heads Up! Brain Injury in Your Practice* to improve the ability of physicians

to diagnose and manage patients with TBI. CDC has also disseminated more than 35,000 copies of another toolkit, *Heads Up: Concussion in High School Sports*, which has led to significant changes in how high school coaches view and deal with concussion.

- Recognizing that TBI is the signature injury of combat action in Iraq and Afghanistan, CDC is working collaboratively with the U.S. Department of Defense/U.S. Department of Veterans Affairs Brain Injury Center to study and track outcomes of veterans with TBI. The agency has also made reports to the Institute of Medicine to assist in the evaluation of the problem of TBI in returning veterans.
- If a residential fire occurs and there is a functional smoke alarm present, the chance of dying is reduced by 40 to 50 percent. For every dollar spent on a working smoke alarm, society can save about 69 dollars. While about 95 percent of individuals queried reported having a smoke alarm in their home, about 20 percent of these were found not to be functioning.
- CDC/NCIPC is working with partners such as the National Fire Protection Association, Underwriters' Laboratory, the Consumer Product Safety Commission, and the U.S. Fire Administration to improve fire detection and suppression technology and fire data collection systems.
- CDC/NCIPC partners with Meals on Wheels to deliver injury prevention messages to home-bound older adults. In a pilot program, that organization will be delivering fire education materials and installing smoke alarms at the time they deliver meals.
- The CDC Foundation and MetLife Foundation teamed up to produce multi-lingual action guides on fall prevention and a home hazard self-assessment tool. More than 168,000 copies of these materials have been mailed to consumers and healthcare providers. Also for the education of providers, CDC/NCIPC developed a *Compendium of Effective Fall Prevention Interventions* that gives detailed information about how each of 14 effective interventions is to be implemented, including the setting, duration, and resources needed.
- Many parenting programs have been developed and scientifically validated but not evaluated at the population level. CDC/NCIPC is attempting to address this gap by testing the Triple P (or Positive Parenting Program) on a large population of parents in a number of counties. To date, more than 600 service providers have been trained. Preliminary results show evidence of reductions in three key indicators of child maltreatment in the treatment counties relative to the control counties, suggesting that Triple P may represent a unique opportunity to have a preventive impact on child maltreatment at the population level.
- In agreeing that efforts in child maltreatment should focus on empowering caregivers and strengthening parenting practices, CDC and its partners have adopted the concept of "Safe, Stable, Nurturing Relationships" as a foundation for unifying and guiding child maltreatment prevention research and activities.
- One of the most severe forms of child maltreatment, with a 13 to 30 percent mortality rate, is abusive head trauma (AHT), also known as shaken baby syndrome. A study in New York State found that AHT could be greatly reduced by disseminating information on the dangers of shaking infants to new parents in maternity wards. This intervention resulted in a 47 percent decline in rates of abusive head injury over a 6-year period. CDC is supporting research that attempts to replicate these results in other settings.
- To address the challenge of estimating the prevalence of child maltreatment, CDC/NCIPC is publishing *Uniform Definitions for Child Maltreatment and Recommended Data Elements* in fall 2007.

- CDC/NCIPC is collaborating with the U.S. Departments of Justice and Defense to initiate a National Intimate Partner and Sexual Violence Survey in 2008. If fully implemented, the survey will provide national and state-level prevalence estimates and the opportunity to more accurately track sexual violence victimization and evaluate prevention programs and policies.
- CDC/NCIPC's Rape Prevention and Education Program (RPE) is a national effort aimed at modifying or eliminating the personal, community, and societal influences that contribute to perpetration, as well as the bystander attitudes that allow sexual violence to occur. In working to strengthen state and territorial infrastructure to address sexual violence, RPE has supported hotlines that receive 200,000 calls a year and has facilitated training in sexual violence prevention for over a quarter million professionals, such as coaches, teachers, and healthcare workers.

Approaches for Consideration

Participants in the Progress Review made the following suggestions for public health professionals and policymakers to consider as steps to enable further progress toward achievement of the objectives for Injury and Violence Prevention:

- Strengthen and refine the strategy for ensuring the capacity and quality of civilian healthcare facilities that must deal with the burgeoning number of returning war veteran reservists and National Guardsmen who have TBI.
- Take steps to enlarge the pool of data on the circumstances of fatal falls, which might lead to a better understanding of the reasons for the rising trend in death rates from falls.
- Give greater attention to finding ways to best address fracture prevention in women, who suffer disproportionately from the consequences of non-fatal falls.
- Seek new ways to persuade specific segments of the population to install and maintain smoke alarms in their homes.
- Strive to improve the accuracy of data needed to understand the extent of child maltreatment, youth violence, intimate partner violence, sexual violence, and suicidal behavior and to document prevention efforts.
- To help guide the efforts of sexual violence prevention networks seeking to incorporate evidence-based prevention strategies, ensure that etiologic and evaluation research in the field is rigorously informed by theory and practice.
- Ensure that the expansion of programs and resources to prevent injuries in older people keeps pace with the aging of the U.S. population.

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[Signed October 22, 2007]

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