



Testimony
**Before the Committee on Health,
Education, Labor, & Pensions**
United States Senate

Preventing Childhood Injuries

Statement of

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Good morning Chairman Kennedy, Ranking Member Enzi, and distinguished Members of the Committee. It is my privilege to appear before you as Director of the National Center for Injury Prevention and Control (NCIPC) at the Centers for Disease Control and Prevention (CDC). At CDC, we work to ensure that all people achieve their optimal lifespan with the best possible quality of health at every stage of life. We are equally motivated to ensure that individuals get a healthy start in life, and nowhere is this more important than in the lives of children.

Regardless of gender, race, or economic status, injuries remain a leading cause of death for Americans. Unintentional or accidental injury and violence are particularly serious threats to the health and well-being of children and adolescents in the United States. CDC is leading the nation's efforts in reducing premature death, disability, human suffering and the medical costs associated with injuries and violence. Working with state and local governments, nonprofit organizations, professional societies, academic institutions, private entities, other federal agencies and international organizations, CDC is documenting the numbers and identifying the causes of injuries, finding and developing effective prevention strategies, and promoting widespread adoption of these solutions.

I will begin today by giving an overview of childhood injury and violence and explaining CDC's unique public health role in their prevention. For many, we know how to prevent injury and death from occurring. I will also give an update on CDC's research findings on specific childhood injuries and give a few examples of CDC efforts that illustrate how we contribute to a healthier nation.

Children and Injuries: Overview

Infants and young children are at greater risk for many injuries than adults. This increased risk may be attributed to several factors. Children are curious and like to explore their environment, which may lead children to sample pills in the medicine cabinet, play with matches or venture into a family pool. Young

children have immature physical coordination and cognitive abilities, and are at greater risk of falls from bicycles and playground equipment. Developing bones and muscles may make them more susceptible to injury in car crashes if they are not properly restrained. As pedestrians, children are particularly vulnerable because developmentally they cannot properly gauge the speed of traffic, and they lack the perceptual motor skills to avoid the path of on-coming traffic when they cross the road.

In general, injuries are the leading cause of death for Americans aged 1 to 44 years. In 2000, injury death and disability cost an estimated \$406 billion in lifetime medical treatment expenses and lost productivity including lost wages and benefits as well as costs that are due to inability to perform household activities for an injury sustained in 2000¹. Of that total, injuries among children ages 0-14 account for \$51 billion). Unintentional or accidental injuries remain the leading cause of death among young Americans, with the exception of Congenital Anomalies for children less than one years of age. Overall, motor vehicles and traffic related accidents are the leading cause of injury by which children are killed, followed closely by drowning and unintentional fires. Additionally, unintentional injuries remain the leading cause of childhood *nonfatal* injuries treated in hospital emergency departments across the nation.

Below are leading causes of injury deaths by age group:

Age Range	Leading Causes of Injury Death, 2005
Less than 1 year	Unintentional suffocation; unintentional motor vehicle crashes; unspecified homicide
1-3 years	Unintentional drowning; unintentional motor vehicle crashes; unintentional fire/burn
4-11 years	Unintentional motor vehicle crashes; unintentional fire/burn; unintentional drowning
12-19 years	Unintentional motor vehicle; homicide (firearm); suicide (firearm)

¹ Injury in the U.S: 2007 Chartbook, National Center for Health Statistics

Role of Public Health in Childhood Injury Prevention

To prevent childhood injuries, CDC uses a systematic public health approach. This approach has four steps: define the problem, identify the risk and protective factors, develop and test prevention strategies and assure widespread adoption of the best interventions. CDC achieves these primarily through surveillance and data sharing; research on possible interventions; community implementation and evaluation of interventions; and widespread adoption of proven interventions.

CDC conducts surveillance to inform efforts in developing effective public health programs. By knowing the magnitude of the problem and the affected populations, resources can be directly applied and capacity adjusted to control or prevent the injury by utilizing and evaluating proven interventions.

Burden of Childhood Injuries

CDC studies the burden of injury across the lifespan, but today I will focus on children and the leading causes of childhood injuries.

Child Passenger Safety and Young Drivers

Motor vehicle traffic-related injuries are the leading cause of death among children in the U.S. During 2005, the National Highway Traffic Safety Administration (NHTSA) reported that 1,451 children ages 14 years and younger died as occupants in motor vehicle crashes, and approximately 203,000 were injured --- an average of 4 deaths and 556 injuries each day. NHTSA also reported that of children ages 0 to 14 years killed in motor vehicle crashes during 2005, nearly half were unrestrained. However, many of these deaths can be prevented. We know that placing children in age- and size-appropriate restraint systems reduces serious and fatal injuries by more than half. CDC is currently evaluating state based programs to increase booster seat use among children 4 to 8 years of age, in order to inform efforts in other states to address passenger safety issues among children.

Because motor vehicle crashes are the leading cause of death for U.S. teens aged 15-19, accounting for 35% of all deaths in this age group, research funded by the AAA Foundation for Traffic Safety suggests that the most strict and comprehensive graduated drivers licensing programs are associated with a 38% reduction in fatalities and a 40% reduction in injuries of 16-year old drivers due to crashes. CDC is building partnerships to promote and strengthen Graduated Driver Licensing (GDL) Systems in states.

Child Maltreatment

The true number of children who are victims of child maltreatment in the United States is unknown, but in 2006 the Administration on Children & Families (ACF) reported 905,000 cases of confirmed or substantiated cases of non-fatal child maltreatment each year in the U.S. Child maltreatment includes physical, sexual, and emotional abuse and neglect, and is believed to be underreported. In 2006, ACF data further showed that 1,530 child deaths were officially attributed to maltreatment. Child maltreatment through blunt trauma to the head or violent shaking (also known as shaken baby syndrome) is the leading cause of head injury among infants and young children.

In addition to injuries and related health issues during childhood, child maltreatment can increase the risk factors for many of the leading causes of death among adults. CDC research shows that children who are maltreated are at an increased risk for a variety of health problems, including heart disease, cancer, chronic lung disease, liver disease, alcoholism, drug abuse and depression; and other forms of violence, such as intimate partner and family violence. Indeed, witnessing or experiencing abuse or neglect as a child can increase the risk factors for becoming a victim or perpetrator of violence. With the other work CDC is doing in violence and injury prevention, child maltreatment prevention represents an opportunity for CDC to have an impact across the lifespan.

CDC has identified programs that teach parenting skills to promote safe, stable, nurturing relationships as one solution for this problem. These methods aim to motivate positive parent child interaction and teach parents to avoid neglectful and physically abusive behavior.

Water Safety

In 2005, of all children 1-14 years old who died, 6.6% died from drowning. Although unintentional drowning rates have slowly declined, fatal drowning remains the second-leading cause of unintentional injury-related death for this age group. In addition, for every child 14 years and younger who died from drowning in 2004, four received emergency department care for nonfatal submersion injuries. Research indicates that lack of supervision and proper barriers (such as pool fencing) are primary risk factors. CDC continues to promote water safety education to caregivers by providing information to parent groups, recreation centers and schools.

Residential Fire-Related Injuries

Preschool children (age 5 and under) and older adults (age 65 and older) have the highest fire death rates in U.S. home fires. Deaths from fires and burns are the sixth most common cause of unintentional injury deaths in the U.S. and the third leading cause of fatal home injury. Residential fires caused nearly \$7 billion in property damage in 2006, with fire departments responding to 412,500 home fires in the U.S. In that same year the lives of 2,580 people were lost and another 12,925 (not including firefighters) were injured. Approximately half of home fire deaths occur in homes without smoke alarms.

Smoke alarms decrease the risk of death in a home fire by up to 50%. However, one-quarter of U.S. households lack working smoke alarms, and those least likely to have an alarm are often at higher risk of being injured in a fire.

The smoke alarm installation and fire safety education programs— funded by CDC in 17 states— provide evidence that smoke alarm installation programs save lives. A review of homes participating in CDC-funded smoke detector installation and fire safety education programs found that nearly 1,600 lives have potentially been saved to date. Program staff have canvassed over 473,000 homes and installed nearly 350,000 long-lasting or lithium-battery powered smoke alarms in high-risk homes, including those with children ages five years and younger and adults ages 65 years and older. Technology development, distribution of smoke alarms, and addressing risky behaviors are key to reducing the number of fire related deaths in the U.S.

Recreational Injuries (Playground and Sports Safety)

Children spend a lot of time participating in sports and recreation activities. While participation in sports, recreation, and exercise is an important part of a healthy, physically active lifestyle, the associated injuries present a significant public health problem. Injuries related to playground activities account for many of the injuries to youth aged 0-9. Although the mortality associated with these activities is not high (an average of 13 playground deaths per year from 1999 - 2001², more than 200,000 children visit emergency departments for treatment of a playground injury each year.

According to the CPSC's Public Playground Safety Handbook, 79% of playground injuries are due to falls from playground equipment. Fractures to upper limbs are the most common type of injury. Half of all playground injuries occur in schools and sporting facilities³. For sports-related injuries, more than half are sustained by youth between the ages of 5-18, with boys having higher rates of injury than girls⁴. Furthermore, CDC estimates that as many as 3.8 million sports and recreation related concussions occur every year. A

² Tinsworth, D. and McDonald, J. (April 2001). Special Study: Injuries and Deaths Associated with Children's Playground Equipment. Washington, D.C.: U.S. Consumer Product Safety Commission. <http://www.cpsc.gov/LIBRARY/Playgrnd.pdf> ,

³ Conn JM, Annett JL, Gilchrist J. Sports and recreation-related injury episodes in the U.S. population, 1997-1999. *Inj Prev* 2003; 9(2): 117-123

⁴ Nonfatal Traumatic Brain Injuries from Sports and Recreation Activities --- United States, 2001--2005 ; *MMWR* 2007

concussion is a brain injury caused by a bump or blow to the head, and can have severe long term consequences for children. According to the Consumer Product Safety Commission's (CPSC) economic data, the medical costs of sports and recreational injuries to children under age 18 years were over \$11 billion in 2003. Including parents' work losses, pain and suffering, and product liability and legal fees, this societal cost was approximately \$121 billion in 2003 ⁵

A CDC-sponsored School Health Taskforce produced recommendations to schools to develop, teach, implement, and enforce safety rules to address recreational injuries. Additionally, CDC has been instrumental in producing appropriate educational materials for parents and youth sports coaches in the assessment, management and prevention of traumatic brain injury or concussions. The "Heads Up: Concussion in Youth Sports" initiative offers information to youth sports coaches and parents to help ensure the health and safety of young athletes. Furthermore, CDC developed the Acute Concussion Evaluation (ACE), a tool for physicians to assess and manage patients with concussions.

Conclusion

There is now a strong and growing scientific basis for childhood injury and violence prevention and control. Injuries and violence do not have to be an accepted risk—lives can be saved and injuries can be prevented. Public health can promote the use of effective prevention strategies; yet, where science-based interventions exist, they are too-often not widely disseminated. This is equivalent to developing a life-saving medication but not telling physicians or patients that it is available, not packaging the product for public use, not having skilled pharmacists to dispense the medication, and not providing guidance about the management of its effects. To save lives, consumers and providers need support for adopting and maintaining interventions over time. To effectively address the issue, CDC is developing national initiatives and other large-scale

⁵ CPSC Directorate for Economic Analysis 2000; CPSC 2003

approaches to support and expand current research, improve program evaluation and promote widespread adoption and use of effective preventative measures. Most injuries are completely preventable and thus should never happen.

Thank you for the opportunity to discuss these important public health issues today. Thank you also for your continued interest in and support of CDC's injury prevention activities.

I will be happy to answer any questions.