CDC's Injury Response Activities

2006-2007

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CDC's Injury Response Activities 2006–2007

National Center for Injury Prevention and Control

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Letter from the Director

Richard C. Hunt, MD, FACEP,
Director, Division of Injury Response

This report represents one and a half years (January 2006–June 2007) of work in the Division of Injury Response (DIR) at CDC's National Center for Injury Prevention and Control (CDC's Injury Center). Our Division is unique in that we focus on prevention and injury response by decreasing injuries and their adverse health effects. We seek to improve outcomes for those who have survived severe injuries, and to improve acute injury care practices. To meet this challenge, we work with national and international organizations spanning the continuum of injury prevention and acute injury care including emergency medical services, emergency medicine and trauma surgery, as well as public health, other federal agencies and the corporate sector. While the work is challenging, our efforts are paying off.

DIR recognizes that despite our best efforts at prevention, injuries continue to occur, and their health consequences must be addressed. In 2004, to better identify this role and to articulate a defined vision, mission, and goals, the Division initiated a direction setting process. This process was used to develop a clear statement about what is valued and what strategies will be required to act on those values. Most importantly, the direction setting process enabled the Division to best utilize its resources and talents to accomplish a defined, focused, and very important mission. The Division's name was changed from the Division of Injury and Disability Outcomes and Programs to the Division of Injury Response in 2006 to better reflect our mission and activities.

This report is intended as a reference for policy makers, educators, service providers and others interested in learning more about the impact of CDC's efforts in injury response. I've selected DIR's most important achievements for 2006 and 2007 to include in this report. Although the Division has accomplished many more, space prohibits discussion of all that we've achieved. No less important, our other activities also support the mission of CDC's Injury Center and advance our efforts to prevent and respond to injuries from every threat. I am pleased to present this report highlighting our work with partners who are dedicated to realizing our vision of "A World without Injury."

Sincerely,

Richard C. Hunt, MD, FACEP
Director
Division of Injury Response
National Center for Injury Prevention and Control

CDC and Health Protection

As the United States government's principal agency for protecting the health and safety of all Americans, CDC is committed to achieving true improvements in the nation's health. To do this, the agency has developed the following health protection goals to guide CDC priorities in policy, program and research investments:

1. **Healthy People in Every Stage of Life:** All people, and especially those at greater risk of health disparities, will achieve their optimal lifespan with the best possible quality of health in every stage of life.
2. **People Prepared for Emerging Health Threats:** People in all communities will be protected from infectious, occupational, environmental, and terrorist threats.
3. **Healthy People in Healthy Places:** The places where people live, work, learn, and play will protect and promote their health and safety, especially those at greater risk of health disparities.
4. **Healthy People in a Healthy World:** People around the world will live safer, healthier and longer lives through health promotion, health protection, and health diplomacy.

Julie Gerberding, MD, MPH
Director, Centers for Disease Control and Prevention

National Center for Injury Prevention and Control

The National Center for Injury Prevention and Control (CDC's Injury Center) plays a critical role in meeting CDC goals. From protecting infants and toddlers against injuries in the home, to preventing youth violence, to researching how communities can best prepare for and handle large-scale emergencies, the Injury Center is leading our nation's efforts to reduce premature death, disability, human suffering, and medical costs caused by injuries and violence. CDC makes progress toward this goal by conducting research and collecting injury data to help public health professionals, policy makers, and researchers better understand the injury problem. CDC also uses data to develop strategies to reduce injury problems and to promote the widespread adoption of these solutions around the world.

CDC's Injury Center works with a network of partners to prevent injuries and violence and to identify ways of keeping people safe. Partners include federal agencies, state and local health departments, national nonprofit organizations, academic institutions, international agencies, and private industry. Together, CDC and its many partners are moving the field of injury from research to real life – saving lives and preventing injuries and violence.

Current Priorities

In 2006, the Injury Center examined its major programs in terms of stakeholder support, demonstrable and measurable impact, feasibility of interventions, burden of injury, evidence base for interventions, alignment with agency-wide goals, consistency with CDC's role, and scope of impact.

Prevention of child maltreatment, falls among older adults, and injuries related to residential fires ranked highest in these areas. Programs that were not identified as top priorities at that time will be highlighted in the years ahead as they reach different stages of readiness.

Division of Injury Response (DIR)

Vision: A world without injuries

Mission: To increase the capacity to prevent injuries and their adverse health effects by working with partners to develop, evaluate and promote evidence-based surveillance, prevention and care practices.

DIR Focus Areas:

1. Conduct research to improve injury care
2. Build capacity for injury prevention and control
3. Monitor and communicate injury information

Doing the Work

The Division of Injury Response consists of 32 people; 10 with master's degrees in public health; 4 board-certified emergency physicians, 6 with doctorate degrees in epidemiology, and 5 contractors with a variety of advanced degrees and experiences.

Major DIR Accomplishments—2006–2007

- Supporting Development of TBI Screening Instruments
- Translating Alcohol and Drug Treatment Research into Practice
- Supporting Independent Research in Emergency Care
- Revising Field Triage Guidelines
- Partnering to Improve Crash Response
- Improving Booster Seat Usage in Utah
- Promoting Safety through Public-Private Partnerships in Florida
- Developing Emergency Medical Services (EMS) and Public Health Relationships
- Evaluating the Concussion Tool Kit for Coaches
- Identifying Best Practice Model Communities
- Developing and Disseminating Blast Injury Care Information
- Assessing Real-time Dissemination of Blast Injury Care Information
- Responding to and Learning from Terrorist Events Globally
- Addressing the Challenges of Surge Capacity
- Supporting Development of Prehospital Trauma Care Systems in Low and Middle Income Countries

Conducting Research to Improve Injury Care

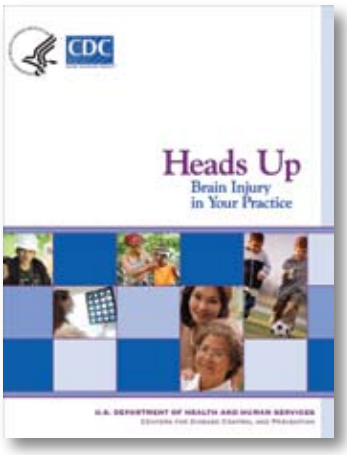
CDC Goal: Healthy People in Every Stage of Life

Leading the Way in Traumatic Brain Injury (TBI) Prevention and Management

CDC supports multiple activities and programs, including those that protect people from traumatic brain injury (TBI), determine factors that lead to TBI, and monitor the impact of TBI on the nation. CDC promotes improved identification, diagnosis, and assessment of TBI, especially concussion and mild TBI. Based on this research, CDC developed educational tool kits for health care providers and athletic coaches to prevent, recognize and respond to TBI. Future efforts will focus on developing materials aimed at preventing TBIs due to falls among older adults and preventing Shaken Baby Syndrome.

Supporting Development of TBI Screening Instruments

CDC supported the development of the Acute Concussion Evaluation (ACE) and a related version for use in pediatric settings (PACE). These screening tools, for use in emergency departments and other outpatient health care settings, offer an efficient and practical approach to identifying concussions and other mild TBI's. A unique feature of the tool is the inclusion of recommended management strategies to help ensure that these potentially disabling injuries are diagnosed, the potential for full recovery is enhanced, and the risk of devastating re-injury is minimized. The ACE is included in an updated version of "Heads Up: Brain Injury in Your Practice," CDC's TBI tool kit for health care providers.



- Of the 1.4 million who sustain a TBI each year in the United States, 50,000 die, 235,000 are hospitalized, and 1.1 million are treated and released from emergency departments.
- Direct and indirect medical costs, such as lost productivity due to a TBI, totaled an estimated $60 billion in the United States in 2000.

Addressing Priorities of CDC's Acute Injury Care Research Agenda

CDC's Injury Center updated its Research Agenda to clearly state its highest priorities for acute care research, focusing on research that will ultimately make a difference in improving acute injury care systems and the care individuals receive when they are injured. To this end, DIR is funding four new research grants that began September, 2006. Researchers receive approximately $400,000 each for three years to explore methods of improving care for the acutely injured. Funded projects are described below.

Nancy Kassam-Adams
Joseph Stokes, Jr. Research Institute, Children's Hospital of Philadelphia

Project Title: Stepped preventive care to reduce the impact of acute pediatric injury.

One in six children with unintentional injuries develop persistent, impairing symptoms of post traumatic stress disorder (PTSD) but most go undiagnosed and untreated. To address effects of unintentional injuries and their emotional impacts, this study will evaluate the impact of an intervention on PTSD and depression symptoms; evaluate impact on health outcomes; and provide preliminary data to inform cost-effectiveness analyses.

Ellen J. MacKenzie
Bloomberg School of Public Health
Johns Hopkins University School of Medicine

Project Title: Improving Trauma Outcomes: A Patient Centered Approach

Despite substantial improvements over the last two decades in the organization and delivery of trauma care, severe injuries often result in poor long term functional outcomes for working age individuals. The purpose of this study is to evaluate the American Trauma Society's Trauma Survivor's Network (TSN) and the effectiveness of the TSN Program in improving primary, secondary and intermediary outcomes for trauma patients.

James Frederick Holmes
University of California, Davis

Project Title:
Clinical Decision Rule to Identify Children with Intra-abdominal Injuries

Trauma is the leading cause of death in children. Intra-abdominal injuries (IAI) are a frequent cause of morbidity and mortality due to trauma. Some IAIs are difficult to identify and failure to identify these injuries results in preventable deaths and disabilities. Abdominal computerized tomography (CT) is the reference standard for the diagnosis of IAI's. CT scanning, however, has important risks, primarily the risk of development of radiation-induced malignancy. The objective of this study is to develop highly sensitive, specific and generalizable decision rules for the evaluation of children seen in emergency departments with blunt abdominal trauma. These decision rules may then serve to generate evidence-driven guidelines for the evaluation of these children, and when implemented will result in more efficient use of CT scans.

E. Brooke Lerner
Medical College of Wisconsin

Project Title:
Evaluation of the Mechanism-of-Injury Component of the Trauma Triage

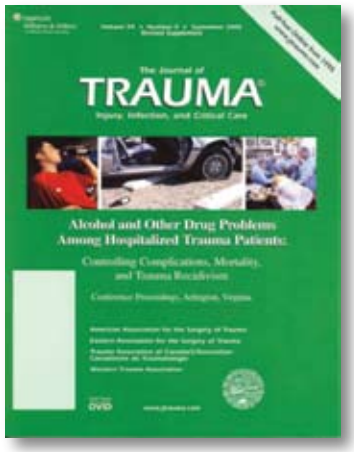
Emergency Medical Service (EMS) providers must appropriately identify which patients will benefit from the special resources of a trauma center. This requires them to have evidence-based trauma triage tools. This multi-center study in Milwaukee, WI; Rochester, NY; and Royal Oak, MI examines the most commonly used tool, the American College of Surgeon's Field Triage Criteria. Over 1,000 patients have been enrolled to date. Specifically, the mechanism-of-injury component of the Criteria are being evaluated to determine which conditions are predictive of trauma center need.

Learn more about CDC-funded injury research at http://www.cdc.gov/ncipc/erpo/default.htm

Translating Alcohol and Drug Treatment Research Into Practice

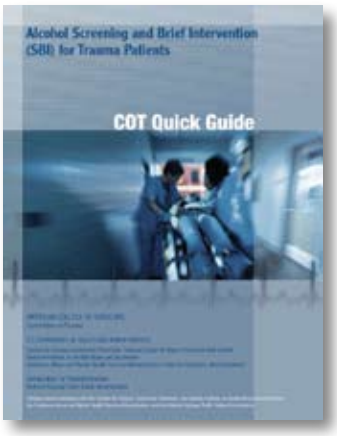
CDC Goal: Healthy People in Healthy Place; Healthy Communities Ensuring Essential Services

In 2003, CDC convened a conference entitled "Alcohol and Other Drug Problems: Controlling Complications, Mortality, and Trauma Recidivism." The goal of this conference was to develop a set of research and policy



recommendations to improve clinical alcohol and drug prevention and intervention services for trauma patients. Participants included government representatives, trauma surgeons, and substance abuse treatment researchers. Conference proceedings include recommendations, papers, and detailed summaries of discussion sessions. The proceedings were published as a special supplement to the Journal of Trauma in December 2005.

In fall 2006, in part, because of these recommendations, the American College of Surgeons Committee on Trauma (ACS-COT) began requiring Levels I and II trauma centers to have a mechanism to identify patients who are problem drinkers. Level I centers must also have the capability to provide an intervention for patients identified as problem drinkers. In 2007 DIR collaborated with the Substance Abuse and Mental Health Services Administration (SAMHSA) and the National Highway Traffic Safety Administration (NHTSA) to support implementation of that new requirement by developing and providing 12 training sessions across the U.S. for trauma center staff. DIR also took a leadership role in developing a quick guide to providing and implementing these services in trauma centers.



What's the Impact?

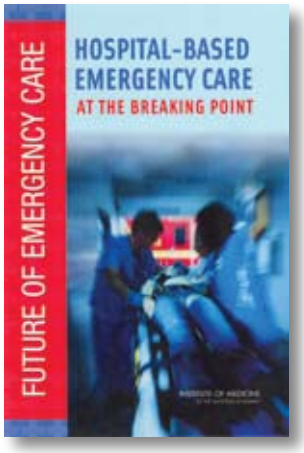
Up to 50% of trauma patients experience alcohol or drug problems, both of which are major risk factors for injury. Therefore, routinely implementing evidence-based identification and intervention strategies with these patients has the potential to prevent much injury-related morbidity and mortality.

Supporting Independent Research in Emergency Care

CDC Goals: People Prepared for Emerging Health Threats; Healthy People in Healthy Places

The New England Journal of Medicine (NEJM) published a study supported by CDC and authored by Ellen MacKenzie, PhD, Fred Rivara, MD, MPH, Jerry Jurkovich, MD, and colleagues on the effectiveness of Level I trauma centers. This analysis of data from the Injury Center-funded "National Study on the Costs and Outcomes of Trauma" is among the first to provide strong evidence that Level I trauma centers can effectively prevent deaths from injuries by up to 25%.

Despite this evidence, the nation's emergency medical system as a whole is "overburdened, underfunded, and highly fragmented," as stated by this series of reports from the Institute of Medicine (IOM). As a result, ambulances are turned away from emergency departments once every minute on average and patients in many areas may wait hours or even days for a hospital bed. Moreover, the system is ill-prepared to handle surges from disasters such as hurricanes, terrorist attacks, or disease outbreaks.



In collaboration with other national agencies and organizations, CDC supported the development of a comprehensive series of reports based on findings by the Institute of Medicine (IOM). "The Future of Emergency Care in the United States" report presents new information on the challenges and limitations in emergency care research and steps to improve data that will facilitate development of better emergency care systems. Detailed recommendations are also provided to improve emergency services. CDC has collaborated with the Health Resources and Services Administration, Emergency Medical Services for Children, and the National Highway Traffic Safety Administration since this study's inception. The IOM's reports were released in June, 2006.

Building upon the work that DIR is already engaged in, the Injury Center is responding to the IOM reports by leading development, translation, dissemination, evaluation, and improvement of evidence-based treatment and system guidelines to decrease morbidity and mortality from injuries that occur daily or from disasters.

Trauma-Center Care Significantly Lowers Risk of Death

Care at a Level-I trauma-center lowers the risk of death for injured patients by 25 percent compared to treatment received at non-trauma centers, according to the results of a nationwide study conducted by researchers at the Johns Hopkins Bloomberg School of Public Health and the University of Washington School of Medicine. CDC helped to fund this study.

Revising Field Triage Guidelines

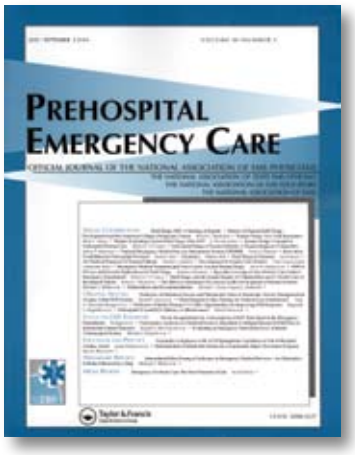
The Injury Center has already made great strides toward improving the emergency care system. In collaboration with the National Highway Traffic Safety Administration, DIR led several meetings to conduct a multidisciplinary review of the 1999 field triage decision scheme. The field triage decision scheme is used by Emergency Medical Services (EMS) providers to help them triage severely injured patients to the right medical facility.

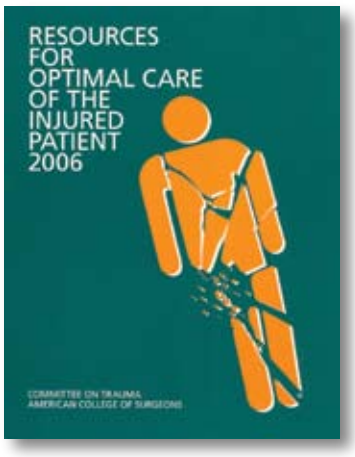
Meeting participants represented the continuum of injury care, public health, the Institute of Medicine, the corporate sector, and federal partners. Presentations, deliberations and decisions made at the meeting provide the foundation for making sure that injured patients are triaged most effectively. Proceedings from the May, 2005 field triage meeting were published in the July/September issue of *Prehospital Emergency Care*.

As a result of this review, in 2006, a revised decision scheme was published in the latest editions of the American College of Surgeon's *Optimal Resources for the Care of the Injured Patient* (Green Book) and the Prehospital Trauma Life Support (PHTLS) course textbook, *PHTLS Basic & Advanced Prehospital Trauma Life Support.*

What's the Impact?

By triaging crash victims to the right level of care faster, this revised field triage decision scheme promises to result in decreases in injures and disabilities as well as increases in numbers of lives saved.





Partnering to Improve Crash Response

To maximize use of technological advances such as Advanced Automatic Crash Notification in concert with recent field triage research findings, OnStar and the GM Foundation awarded the CDC Foundation a $250,000 grant that allows CDC to conduct a vehicle telematics initiative. In June, 2007, CDC convened a panel of more than 20 emergency medical physicians, trauma surgeons, public safety and vehicle safety experts to consider how real-time crash data from OnStar's Advanced Automatic Crash Notification (AACN) vehicle telematic system and similar systems from other companies can be used to determine whether occupants need care at a trauma center.

Using a collection of sensors, vehicle telemetry systems like OnStar send crash data to an advisor if the vehicle is involved in a moderate or severe front, rear or side-impact crash.

Depending on the type of system, the data includes crash severity information, along with data on the direction of impact, air bag deployment, multiple impacts, and a rollover (if equipped with appropriate sensors). The goal of this initiative is to develop evidence-based protocols that will allow the emergency medical community to effectively use automotive telemetry data to assist in reducing morbidity from vehicle crashes.

From Left to Right: Richard Hunt, director, Division of Injury Response, CDC; Rod Gillum, president, GM Foundation; Charles Stokes, president, CDC Foundation; Chet Huber, president, OnStar, at the Press Club in Washington, DC on March 21, 2007.

*As a federal agency, CDC does not promote or endorse specific products.

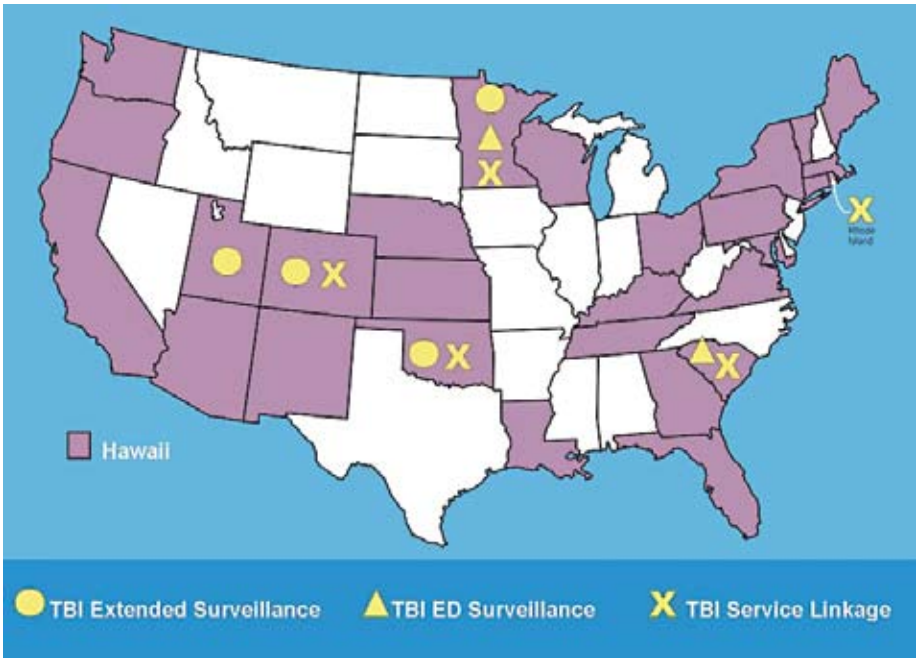
Building Capacity for Injury Prevention and Control

CDC Goal: Healthy People in Every Stage of Life; Healthy People in Healthy Places

Public Health Injury Surveillance and Prevention (PHISP): A Program that Works

CDC is committed to expanding our capacity to prevent injuries, reduce physical and emotional disabilities caused by injuries, and lower the excessive costs due to injury-related medical treatment and lost wages. The purpose of this funding is to enable state public health agencies to develop or strengthen their state's infrastructure in order to conduct injury surveillance and create state-based programs focused on the prevention and control of injuries, particularly programs related to traumatic brain injury (TBI).

Under the Public Health Injury Surveillance and Prevention Program (PHISP), CDC funds 30 states to develop, enhance, and integrate injury prevention, control, and surveillance programs. The Integrated Core Injury Prevention and Control Program (ICIPC) component of PHISP helps states build capacity and strengthens essential infrastructure. This program demonstrates how adequate resources and effective collaborative partnerships impact state injury prevention programs and significantly affect the burden of injury across the country. As additional resources become available, CDC will enhance efforts in high impact health areas and address new preventive needs that arise from emerging threats. With funding from PHISP, many state injury prevention programs have expanded their injury prevention efforts. Examples of state successes are highlighted on pages 15 and 16.



Improving Booster Seat Usage in Utah

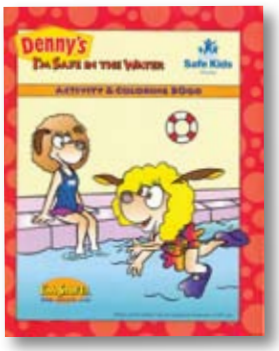
On average, 673 Utahans die each year because of injuries, making injury the leading cause of death for people ages 1 – 44 years and the leading cause of years of potential life lost in Utah. Motor vehicle crashes have been the leading cause of injury deaths for the past 24 years (1981-2004) in Utah. Hospital and emergency room charges added up to over $227 million in Utah for the treatment of injuries in 2003, an annual average of $94 per person in Utah, per year.

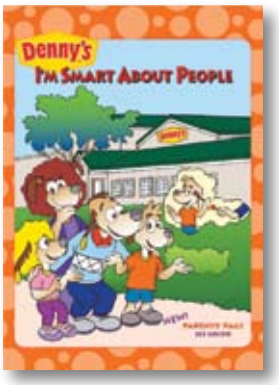
Placing children in car seats is one of the most important things parents can do to protect their children. Children in booster seats are 59% less likely to be injured in a motor vehicle crash than those wearing only a seat belt.

The Utah Department of Health implemented a statewide program to increase booster seat use for children ages 4-8 years. Local health districts in Utah performed interventions with these funds to increase booster seat use as part of a statewide campaign. During 2005, interventions included:

- Promoting booster seat use to over 29,000 children and parents through conducting awareness activities at day care centers, schools, churches, doctors' offices, and businesses;
- Distributing over 2,000 child safety seats;
- Conducting 126 car seat checkpoints;
- Inspecting over 4,300 car seats for correct use;
- Educating the public on booster seats through 44 media activities including public service announcements, press conferences, and news releases;
- Implementing booster seat policies in pre-schools and day care centers;
- Conducting observational surveys at day care centers, schools, parks, and stores to find out booster seat use.

An estimated forty-four Utahans are alive as a result of the injury death rate decreasing 6% from 2002 - 2004. Booster seat use increased 10% in Utah from 2002-2005.





Promoting Safety through Public-Private Partnerships in Florida

Florida's Office of Injury Prevention has partnered with Denny's restaurant chain to develop and implement the Kid's Safety Zone Campaign targeting children and their parents and caregivers. The restaurant environment offers teachable moments for parents to share safety messages with children while waiting for their food. Campaign materials include injury prevention and safety messages that were distributed at all 175 Denny's restaurants. During the year-long campaign, a new safety message on the topics of drowning prevention, child passenger safety, issues related to strangers and crowds and hurricane safety were disseminated each quarter. "In the wake of Hurricanes Katrina, Rita and Charley, it became evident that post-hurricane preparedness needs to be addressed," said Bob Eadie, J.D., Deputy Secretary for the Florida Department of Health. "The damage and debris left behind by severe storms can be very dangerous, and by working together with Denny's and other community partners, we are providing Florida's families with valuable safety information that can help prevent illness and injury."

Developing Emergency Medical Services (EMS) and Public Health Relationships

Discussions between emergency service providers and public health workers have revealed that the two disciplines are not mutually exclusive. Because each discipline can benefit by using the relevant knowledge and practices of the other, CDC, with support from the National Highway Traffic Safety Administration (NHTSA), supported the American Public Health Association (APHA) in 2004 to develop an outline for a curriculum for training on the interface between EMS and public health. The outline was recently developed into the full curriculum, *Emergency Medical Services and Public Health: Forging a More Powerful Relationship.* The course identifies opportunities and methods to integrate public health and emergency service practices. It is intended for senior and mid-level managers of EMS and public health organizations at regional, state, and local levels.
This curriculum is a first step towards professional training that integrates public health and emergency service practices that can improve the working relationship between EMS and public health.

Monitoring and Communicating Injury Information

CDC Goal: Healthy People in Every Stage of Life

Evaluating the Concussion Tool Kit for Coaches

In 2005, CDC's multimedia educational tool kit, "Heads Up: Concussion in High School Sports," became available to high school coaches across the country. A high school basketball coach and health teacher in Iowa is using tool kit materials on the field and in his classroom to teach his students about the risks of concussion. Parents of young athletes have also benefited from the materials. A concerned mother in Texas ordered the kit after her son sustained two concussions within an 18-day period while playing high school football. The football coach told her son to "shake it off;" however, she used the materials in the kit and got her son the medical attention he needed. She also shared the information in the kit with her son's coach to educate him on the seriousness of concussions, and the coach is now using the materials as well. Her son has recovered and is planning to present the information in the kit as part of a classroom project.

While stories like these are important in conveying the impact of CDC programs on individuals, CDC uses more rigorous methods to evaluate its overall communication efforts. CDC began a one-year evaluation study in 2006 following the national launch of "Heads Up."

Evaluation of the tool kit demonstrated positive changes in high school coaches' knowledge, attitudes, behavior and skills related to concussion prevention and management.

- 50% of coaches reported viewing concussions more seriously after using the tool kit.
- 68% of coaches reported using the tool kit to educate others about concussion, including athletes, athlete's parents and other coaches.
- 34% of coaches reported that the tool kit increased their knowledge about how to prevent and manage concussions.
- 38% of coaches reported making changes in how they dealt with concussion including placing more emphasis on training techniques and safety equipment that minimize the risk of concussion.

This study is particularly important, because it evaluates a federal agency's first concussion awareness campaign targeting high school coaches. The follow-up study of the tool kit will also help to inform future efforts and the development of additional concussion-related educational materials.

Disseminating and Exchanging Information on Injuries from Terrorism

CDC Goal: People Prepared for Emerging Health Threats

In collaboration with the Director's Emergency Operations Center (DEOC), the Injury Center contributes to CDC's overall emergency response effort by continually developing, disseminating and evaluating communication products that provide effective information regarding the physical and psychological injuries associated with mass casualty events.

The Institute of Medicine Report, The Future of Emergency Care states, "Federal disaster planning has paid much more attention to biological and chemical threats than to explosive attacks by terrorists. . . Few EMS personnel have any training or experience assessing the scene of a terrorist bombing, or evaluating casualties for a range of potential injuries."

Madrid rail car bombed on March 11, 2004

The Terrorism Injuries Information, Dissemination and Exchange (TIIDE) Project generates and disseminates critically needed information to and from CDC to prepare for and respond to bombings. TIIDE supports collaboration between national organizations of professionals in emergency medical services (EMS), emergency medicine, and trauma surgery with state and local public health programs to efficiently and effectively respond to mass casualty events resulting from terrorism. The project has begun to translate blast injury information for injury care providers using the most effective methods of communication for these audiences.

Through a cooperative agreement, TIIDE-funds partner organizations to participate in many CDC activities that address the health consequences of terrorism-related events including development of a field triage protocol for mass casualties; developing clinical primers and blast injury training for health care professionals; and translating injury care practices from the military to the civilian sector. 2006 partners are listed on the next page.

TIIDE Partners

American College of Emergency Physicians (ACEP)

American College of Surgeons (ACS)

American Medical Association (AMA)

American Trauma Society (ATS)

National Association of Emergency Medical Service Physicians (NAEMSP)

National Association of Emergency Medical Technicians (NAEMT)

National Association of State Emergency Medical Service Officials (NASEMSO)

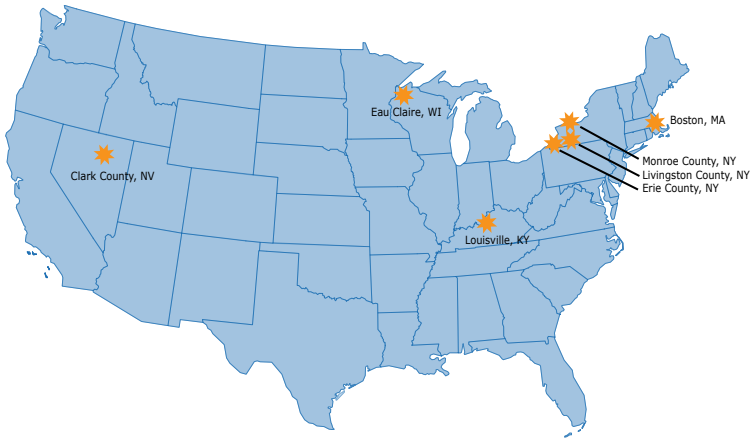
National Native American Emergency Medical Services Association (NNAEMSA)

State and Territorial Injury Prevention Directors Association (STIPDA)

Identifying Best Practice Model Communities

Communities with good working relationships between their emergency care and public health communities may provide useful information in establishing and strengthening relationships in other communities. CDC's Terrorism Injuries Information, Dissemination and Exchange (TIIDE) Project selected seven communities from across the nation as best practice models for emergency medical services (EMS) and public health collaboration. Representatives from each of the selected communities accepted awards from CDC during the 2006 State and Territorial Injury Prevention Directors Association (STIPDA) Annual Meeting. Model Communities are listed below and indicated on the map.

- Boston, MA
- Clark County, NV
- Eau Claire, WI
- Erie County, NY
- Livingston County, NY
- Louisville, KY
- Monroe County, NY



Model Communities Recipients, STIPDA, and CDC Staff at the STIPDA Annual Meeting– September 21, 2006

Developing and Disseminating Blast Injury Care Information

CDC developed three fact sheets on blast injury diagnoses and management:

- Blast Lung Injury: An Overview for Prehospital Care Providers
- Blast Lung Injury: What Clinicians Need to Know
- Blast Injuries: Essential Facts

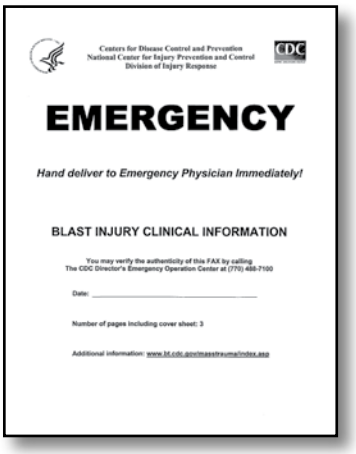
"Blast Lung Injury: An Overview for Prehospital Care Providers" was also published as a special contribution to the April issue of *Prehospital Emergency Care (PEC)*, the official journal of the National Association of EMS Physicians, National Association of State EMS Officials, National Association of EMS Educators and National Association of EMTs. The article provides a thorough review on blast lung injury and its unique triage, diagnostic, and management challenges.

CDC simultaneously promoted the article and the newly posted Web page of the same title, "Blast Lung Injury: An Overview for Prehospital Care Providers" among its acute care partner media outlets and trade organizations. With a monthly readership of approximately 285,000 EMS providers and administrators, the *Journal of Emergency Medical Services (JEMS)* published "CDC and EMS: Preparing for Terrorist Explosions," a two-page feature in its April 2006 issue that includes the CDC-developed blast lung injury management protocol.

To continue and expand the dissemination of information, CDC's Terrorism Injuries Information, Dissemination and Exchange (TIIDE) Project has been working with experts to develop fact sheets on other types of blast injuries, such as traumatic brain injury, tympanic membrane rupture and burns. These fact sheets will be developed for health care audiences such as EMS providers, in-hospital clinicians and state and local trauma system coordinators. Another product developed through the TIIDE project is "Bombings: Injury Patterns and Care," a course designed to provide the latest clinical information regarding blast-related injuries from terrorism. The course is available in multiple formats including a CD-Rom with Power Point presentations and a curriculum. A Web-based interactive course is planned for release later in 2007.

Assessing Real-time Dissemination of Blast Injury Care Information

In May, CDC partnered with the Wisconsin Division of Public Health, Hospital Disaster Preparedness Program and the Medical College of Wisconsin to pilot a method of real-time information dissemination to acute care providers in southeast Wisconsin. A two-page fact sheet, "Blast Injuries: Essential Facts" was faxed to 13 hospitals. The goal of the project was to time the process and evaluate the fact sheet in the scenario of a large scale explosion. Although there were limitations, results indicate that faxing is a viable method for disseminating real-time information to emergency departments. Emergency physicians received the faxes in an average of 23 minutes from the time the exercise started.


Centers for Disease Control and Prevention
National Center for Injury Prevention and Control
Division of Injury Response

CDC

EMERGENCY

Hand deliver to Emergency Physician Immediately!

BLAST INJURY CLINICAL INFORMATION

You may verify the authenticity of this FAX by calling
The CDC Director's Emergency Operation Center at (770) 488-7100

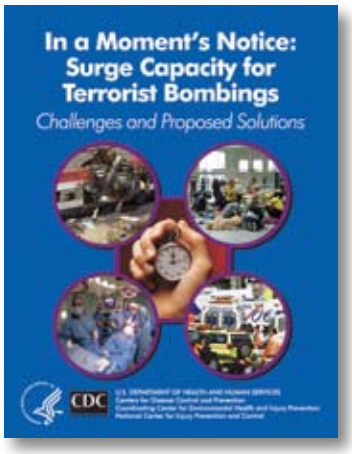
Date: _____

Number of pages including cover sheet: 3

Additional information: www.bt.cdc.gov/masstrauma/index.asp

Addressing the Challenges of Surge Capacity for Terrorist Bombings

CDC convened expert panel meetings to identify creative strategies and solutions for surge capacity. "In a Moment's Notice: Surge Capacity for Terrorist Bombings" reflects the opinions and recommendations of the experts. This document includes a description of system-wide and discipline-specific challenges as well as recommended solutions to address these challenges.



Global Responses

CDC Goal: Healthy People in a Healthy World

Responding to Terrorist Events Globally

Although most terrorist incidents involve bombs or explosions, many injury care providers in the U.S. report having little knowledge and experience treating blast injuries. To provide available treatment information on blast injuries, CDC disseminated the two-page fact sheet, "Blast Injuries: Essential Facts" to the World Health Organization, the Red Cross/Red Crescent, India's Ministry of Health and others for distribution to affected hospitals in Mumbai after the train bombings there in July, 2006. Fact sheets were also posted on the CDC web site in both English and Marathi within hours of the terrorist event.

The United Kingdom's Health Protection Agency (HPA) posted CDC's fact sheet, "Blast Lung Injury: What Clinicians Need to Know" to its web site in the hours following the attack on London's public transportation system in 2005. Based on experience from these responses, the Injury Center, in consult with the CDC's Office of Global Health and the Director's Emergency Operations Center, was able to provide blast injury information even more quickly to health professionals in West Bengal State after bombings in November 2006.

London bus bombed on July 7, 2005

Learning from Other Countries' Response to Terrorist Events

Certain problematic themes are recurrent in mass casualty events. Events such as the 2004 Madrid bombings, the 2005 London bombings, and the experience in Iraq may identify new information and provide insight for the response and mitigation of problems related to terrorist bombings. To learn from these events, CDC convened a meeting of international participants with experience in blast physics, public health, public safety, and the care of persons with blast injuries. Additionally, CDC visited Spain in 2006 to learn about the experiences of Madrid's public health and

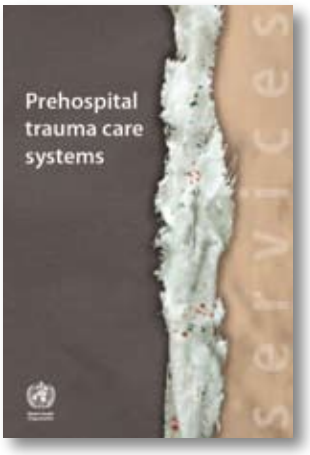
CDC representatives meet with representatives from Madrid's Emergency Response Community

acute care communities following the March 11, 2004 bombings. While in Madrid, CDC participated in on-site visits, presentations and discussions with leaders from epidemiology, train security, the Madrid 112 system (equivalent to the USA 911 system), emergency medical services, hospitals that received the majority of the March 11th bombing victims, a military hospital, and the Director General's Office of Civil Protection in the Ministry of the Interior.

Supporting Development of Prehospital Trauma Care Systems in Low and Middle Income Countries

In reaction to the global increase in deaths from road traffic injuries, policy makers around the world are calling for guidance in designing prehospital care systems that are simple, basic and cost-effective. In response to this call, CDC convened a meeting in Vienna, Austria, in 2004 for the 7th Annual World Injury Conference for individuals and organizations interested and active in providing prehospital care in these countries. In June 2005, WHO released *Prehospital Trauma Care Systems,* a monograph covering the conference in Vienna. To coincide with the release of the publication, WHO and CDC hosted a meeting of 30 participants in Geneva, Switzerland that resulted in a strategic plan to improve prehospital systems in developing countries.

In September 2006, a follow up meeting was held in Geneva, Switzerland to discuss progress on implementing the plan and the benefits and challenges of utilizing existing resources within low and middle income countries to develop sustainable prehospital trauma care systems. The plan is currently in use in Mozambique, Ghana, India, Vietnam, Thailand, Mexico, and Colombia. Four countries (Romania, Mexico, Colombia and Gurjarat State in India) are developing legislation for emergency medical services based on principles outlined in the strategic plan. These efforts resulted in the World Health Assembly Executive Board adopting a Resolution on Emergency Care Systems. This is an important document that draws the attention of governments to the need to strengthen pre-hospital and emergency trauma care systems (including mass casualty management efforts) and describes a number of steps governments could take. In addition, it invites WHO to strengthen programs and support countries in their prehospital care efforts.



Resources

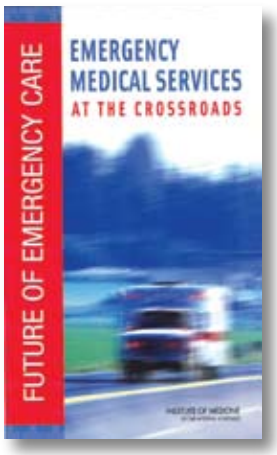
Alcohol Screening and Brief Interventions

For more information on alcohol screening and brief intervention in the health care setting, visit http://www.cdc.gov/ncipc/Spotlight/2003_Alcohol_Conference_Proceedings.htm

Blast Injuries and Mass Casualty Events

Learn more about CDC's TIIDE project at http://www.bt.cdc.gov/masscasualties/tiidefacts.asp.

More information on preparing for and responding to a mass casualty event is available at http://www.bt.cdc.gov/masscasualties/.

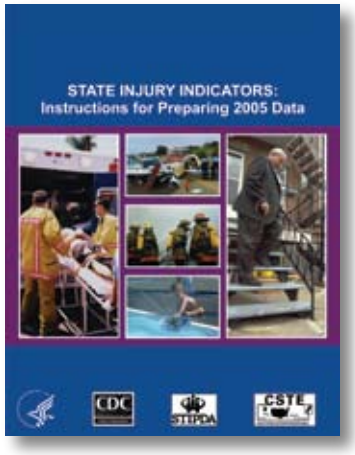


Institute of Medicine Reports

Institute of Medicine Reports are available to read or purchase at http://www.iom.edu/CMS/3809/16107/35010.aspx.

Injury Data

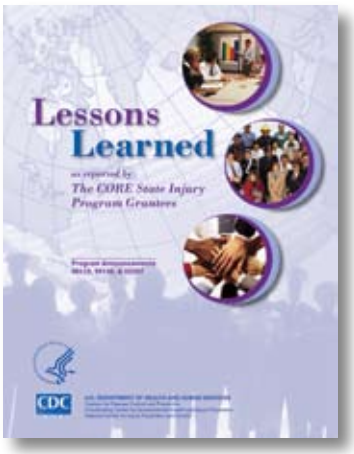
The State Injury Indicators: Instructions for Preparing 2004 Data manual was developed and disseminated to guide states and U.S. territories on the collection, preparation, and submission of injury surveillance data. This manual also includes a CD-ROM with spreadsheets that provide states and U.S. territories with a standardized and straightforward tool for calculating injury surveillance rates. All states and U.S. territories are eligible and encouraged to voluntarily submit data for inclusion in the *State Injury Indicators Report*. Information obtained will be reviewed and assembled in the 2005 edition of the report.



View or download the instructions manual at http://www.cdc.gov/ncipc/dir/StInjuryIndicators2005.pdf.

Lessons Learned About Core Injury And Surveillance Programs

This report compiles information from CDC's State Injury Program grantees about lessons learned during the implementation of state programs. "Lessons Learned" provides useful tips to help state health departments and their partners to plan and conduct injury prevention activities. Check www.cdc.gov/injury for the report's availability.



The Trauma Information Exchange Program

The Trauma Information Exchange Program (TIEP) is a program of the American Trauma Society in collaboration with the Johns Hopkins Center for Injury Research and Policy. The program is funded by CDC. TIEP maintains a database of trauma centers in the U.S., collects data and develops information related to the causes, treatment and outcomes of injury, and facilitates the exchange of information among trauma care institutions, care providers, researchers, payers and policy makers.

The program now has names and locations for all trauma centers in the U.S. to contact in a mass casualty event. TIEP is working to get this information into a Geographic Information System format. The program is also compiling data on burn centers. Learn more about TIEP at http://www.amtrauma.org/tiep/tiepabout.html.

State Program Products

Many of the products developed or supported by CDC's Public Health Injury Surveillance and Prevention Program are now available online at www.cdc.gov/injury.

To learn more about CDC's Public Health Injury Surveillance Prevention Program (PHISP), visit www.cdc.gov/ncipc/profiles/core-state/default.htm

Traumatic Brain Injury Products

Many CDC products providing information on TBI and TBI services are available for view or download at http://www.cdc.gov/ncipc/tbi/TBI_Publications.htm.

Contact Information

National Center for Injury Prevention and Control
Division of Injury Response
Mailstop F-41
4770 Buford Highway NE
Atlanta, GA 30341-3724
Phone: 770-488-4031
Fax: 770-488-4338
E-mail: ncipcdirinfo@cdc.gov

For information about any CDC activity or health topic
E-mail: OHCINFO@cdc.gov
800-CDC-INFO
888-232-6348 (TTY)
cdcinfo@cdc.gov

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National Center for Injury Prevention and Control
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