Indiana

Special Emphasis Report: Traumatic Brain Injury, 2013

Understanding TBI

Traumatic brain injury (TBI) is a serious public health problem in the United States. A TBI is caused by a bump, blow, jolt or penetration to the head that disrupts the normal function of the brain. Each year, traumatic brain injuries contribute to a substantial number of deaths and permanent disability.

Impact and Magnitude of TBI

During 2013, a TBI was sustained by more than 50,000 people in Indiana. Among those injured, 1,164 (17.1 per 100,000) died where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions, another 4,567(66.3 per 100,000) were hospitalized with a TBI alone or in combination with other injuries or conditions and another 46,079 (396.7 per 100,000) were treated and released from emergency departments with a TBI alone or in combination with other injuries or conditions. An unknown number of individuals sustained injuries that were treated in other settings or went untreated.

Causes of TBI

Cause of injury varies across the three levels of severity. *Firearms* were the leading cause of injury among those who died where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions. *Unintentional falls* were the leading cause of injury among those who were hospitalized with a TBI alone or in combination with other injuries or conditions. *Unintentional falls* were the leading cause of injury among those who were treated and released from emergency departments with a TBI alone or in combination with other injuries or conditions.

Notes: *Firearm-related injuries were reported but excluded from the etiology graphic due to overlap with multiple categories (e.g., homicide/assault, suicide). Firearms were related with 44% of deaths, 1.3% of hospitalizations, and >0.1% of emergency department visits. Completeness of external-cause coding for TBI-related cases can impact the accuracy of the cause classifications for hospitalizations and emergency department visits.*

Figure 1: Percentage of Annual TBI-Related Deaths, Hospitalizations, and Emergency Department Visits, by External Cause, in Indiana, 2013

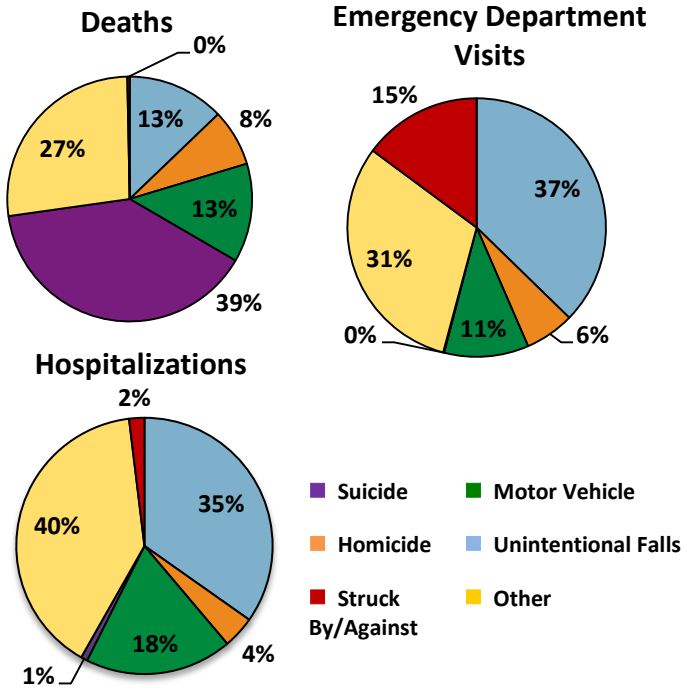
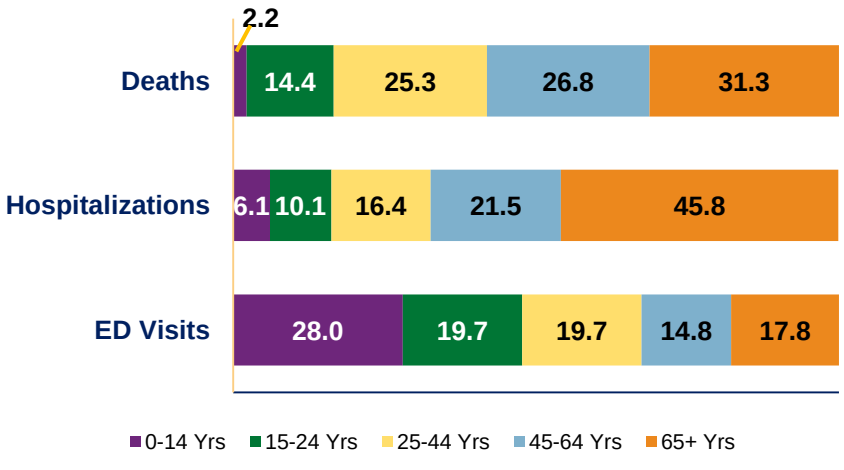


Figure 2: Percentage of Annual TBI-Related Deaths,* Hospitalizations, and Emergency Department Visits,**by Age, in Indiana, 2013**



TBI by Age

The greatest number of TBI-related deaths* were among persons ages 25-34. Among those with TBI-related hospitalizations,** persons ages 85 and older were most affected. Persons ages 15-24 years made the most TBI-related emergency department visits.**

**TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions*

*** TBI alone or in combination with other injuries or conditions*

Indiana State Department of Health
Trauma and Injury Prevention

This document was produced in conjunction with CDC's Core Violence and Injury Prevention Program under Cooperative Agreement 11-1101.

Indiana

Special Emphasis Report: Traumatic Brain Injury, 2013

TBI by Gender

Men were more likely to sustain a traumatic brain injury than women. The magnitude of this difference was greatest among those who died. Men accounted for 72.7% (26.5 per 100,000) of deaths where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions. Men accounted for 60.0% (87.0 per 100,000), of hospitalizations for TBI alone or in combination with other injuries or conditions and 50.8% (725.2 per 100,000) of emergency department visits for TBI alone or in combination with other injuries or conditions. Men were more likely to be hospitalized for motor vehicle traffic-related TBI compared to women.

TBI Prevention Strategies

There are many simple ways to reduce the chance of sustaining a TBI, which include:

1. Buckling your child in the car using a size and age-appropriate child safety seat, booster seat or seat belt.
2. Wearing a seat belt every time you drive or ride in a motor vehicle.
3. Never driving while under the influence of alcohol or drugs.
4. Wearing a helmet and making sure your children wear helmets while bicycling and playing contact sports.
5. Making living areas safer for seniors through home modifications, such as:
    - Removing tripping hazards such as throw rugs and clutter in walkways;
    - Using nonslip mats in the bathtub and on shower floors;
    - Installing grab bars next to the toilet and in the tub or shower and handrails on both sides of stairways;
6. Making living areas safer for children by installing window guards to keep young children from falling out of open windows, and using safety gates at the top and bottom of stairs when young children are around.
7. Making sure the surface on your child's playground is made of shock-absorbing material, such as hardwood mulch or sand.

CDC's National Center for Injury Prevention and Control (Injury Center) is committed to protecting people against preventable TBI by putting science into action.

- ***Heads Up*** – Injury Center campaigns with free tools for health care providers, school administrators, nurses, teachers, coaches and parents to help them recognize and respond to a TBI. www.cdc.gov/traumaticbraininjury
- **Motor Vehicle Safety** – Motor vehicle crashes are a leading cause of death, injury and TBI in the US. CDC's primary prevention focuses on child passenger safety, seat belt use and reducing impaired driving. www.thecommunityguide.org/mvoi www.cdc.gov/motorvehiclesafety

Indiana TBI Activities

The Indiana Trauma Registry is a repository into which statewide trauma data has been brought together to support three foundational activities: identification of the trauma population, statewide process improvement activities, and research.

Indiana Injury Prevention Advisory Council works to reduce the number and severity of preventable injuries in Indiana through leadership and advocacy. The **Indiana Statewide Trauma System Injury Prevention Plan** includes facilitating opportunities for collaborative injury prevention efforts in traumatic brain injury.

The **Spinal Cord and Brain Injury Fund** is utilized to: 1) establish and maintain a state medical surveillance registry for traumatic spinal cord and brain injuries; 2) fulfill the duties of the board; and 3) fund research related to treatment and cure of spinal cord and brain injuries; 4) fund post-acute extended treatment and services for an individual with a spinal cord injury or facilities that offer long term activity based therapy services for spinal cord injuries requiring extended post-acute care; 5) fund post-acute extended treatment and services for an individual with a brain injury or facilities that offer long term activity based therapy services for brain injuries requiring extended post-acute care and 6) develop a statewide trauma system.

Note: TBI-related cases were identified by first limiting the datasets to injury cases based on external cause of injury (deaths), primary diagnosis (hospitalizations), or both (emergency department visits). All fields were then searched for TBI diagnostic codes. Reference to any commercial entity or product or service on this page should not be construed as an endorsement by the Government of the company or its products or services.

Indiana State Department of Health

Division of Trauma and Injury Prevention

Indianatrauma.org

Released September, 2015