INDIANA

Special Emphasis Report: Traumatic Brain Injury 2012

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 disrupting the normal function of the brain. Each year, traumatic brain injuries contribute to a substantial number of deaths and cases of permanent disability.

Impact and Magnitude of TBI

During 2012, a TBI was sustained by more than 45,000 people in Indiana. Among those injured, 1,067 (15.8 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 4,748 (70.4 per 100,000), were hospitalized with a TBI alone or in combination with other injuries or conditions, and an additional 42,983 (665.1 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 also 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, 1.5% of hospitalizations, and 0.09% of emergency department visits related to TBI. 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, 2012

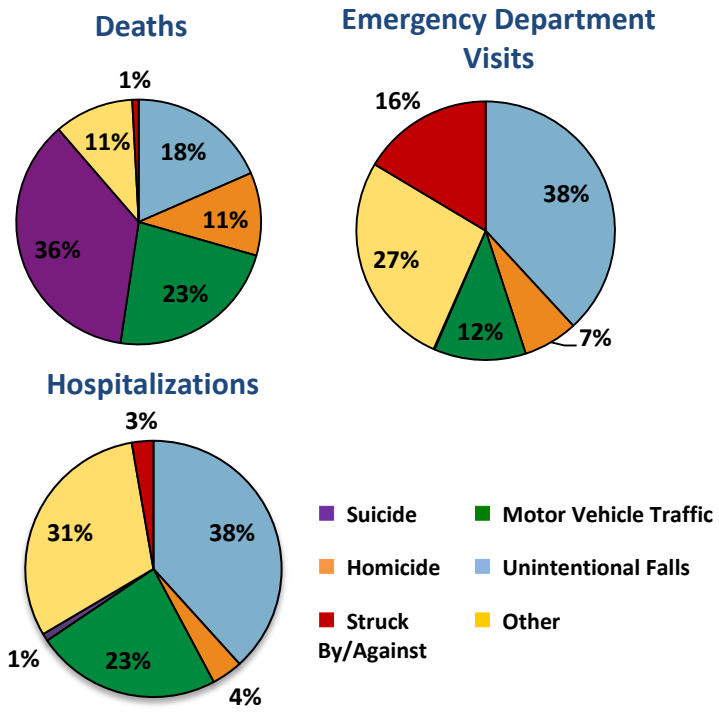
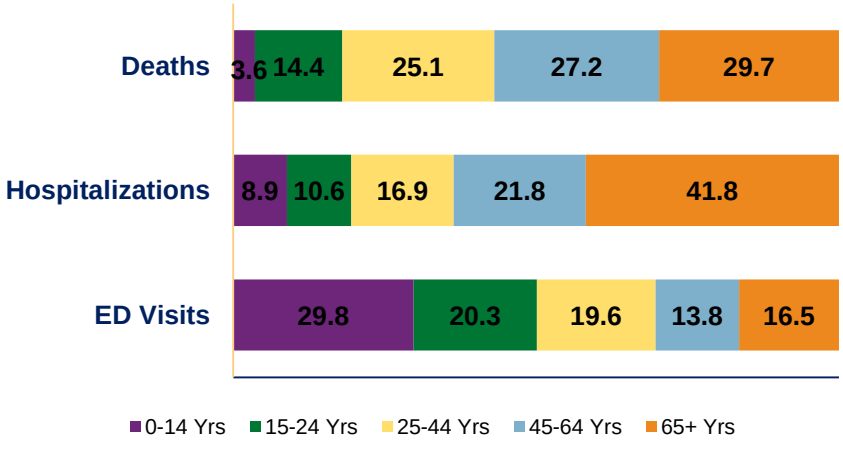


Figure 2: Percentage of Annual TBI-Related Deaths,* Hospitalizations, and Emergency Department Visits,**by Age, in Indiana, 2012**



TBI by Age

The highest number of TBI-related deaths* were among persons ages 15-24 years. Among those with TBI-related hospitalizations,** persons ages 75 years and older were most affected. Persons ages 15-24 years made the most TBI-related emergency department visits.** Adolescents and young adults have the highest rates of motor vehicle-related TBIs, while the youngest children and older adults are at highest risk for sustaining fall-related TBIs.

**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

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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 (24.9 per 100,000 compared to 7.6 per 100,000, respectively). Men accounted for 74.0% (24.9 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 59.6% (91.0 per 100,000), of hospitalizations for TBI alone or in combination with other injuries or conditions and 52.2% (709.4 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. The 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 to reduce the number and severity of preventable injuries in Indiana through leadership and advocacy.

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. The fund is expected to generate approximately $1.6 million per year, with the majority of money generated to be allocated to research projects.

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

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