



# Indiana

## Special Emphasis Report: Traumatic Brain Injury, 2014

### Understanding TBI

Traumatic brain injury (TBI) is a serious public health problem in the United States. 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 cases of permanent disability.

### Impact and Magnitude of TBI

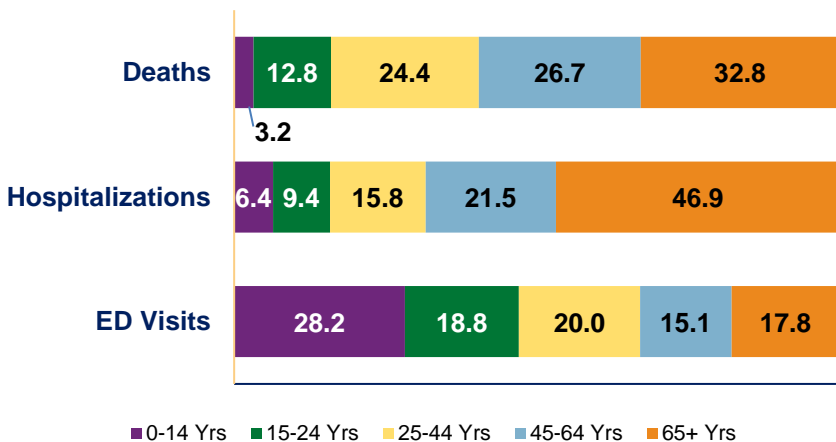
During 2014, TBIs were sustained by *more than 50,000 people in Indiana*. Among those injured, *1,108 (16.2 per 100,000)* died where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions. Another *4,642 (66.8 per 100,000)* were hospitalized with a TBI alone or in combination with other injuries or conditions, and an additional *46,269 (708.5 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

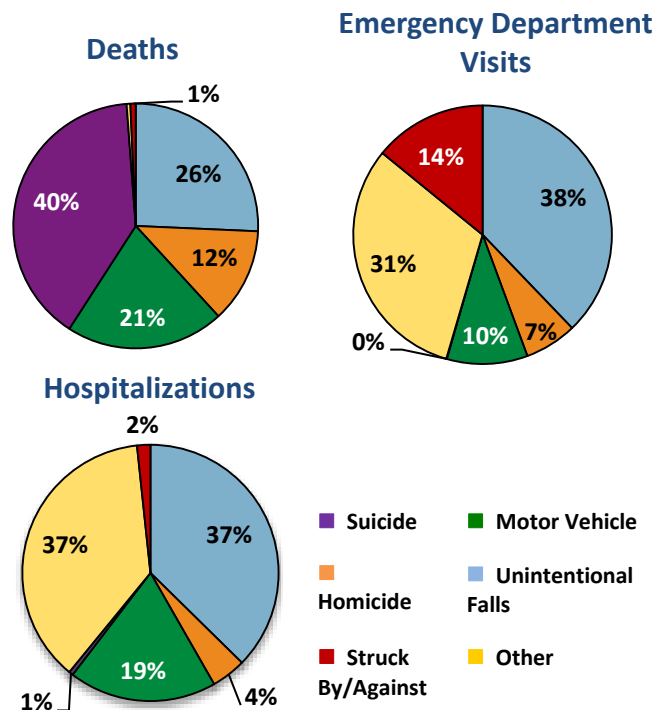
Causes of injury vary across three levels of severity. *Firearms* were the leading cause of injury among those who died where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions. *Unintentional falls* were the leading cause of injury 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 44.1 percent of deaths, 1.4 percent of hospitalizations, and less than 0.1 percent 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 2: Percentage of annual TBI-related deaths,\* hospitalizations,\*\* and emergency department visits,\*\* by age in Indiana, 2014**



**Figure 1: Percentage of annual TBI-related deaths, hospitalizations, and emergency department visits, by external cause in Indiana, 2014**



### TBI by Age

The highest number of TBI-related deaths\* occurred among persons ages 45-54. Among those with TBI-related hospitalizations,\*\* persons ages 75-84 were most affected. Persons ages 15-24 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





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### TBI by Gender

Men were more likely to sustain a severe or fatal TBI than women. The magnitude of this difference was greatest among those who died. Men accounted for 75 percent (25.9 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, 58.7 percent (85.7 per 100,000) of hospitalizations for TBI alone or in combination with other injuries or conditions. However, women make up 50.4 percent (34.3 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. Buckle your child in the car using a size and age-appropriate child safety seat, booster seat or seat belt.
2. Wear a seat belt every time you drive or ride in a motor vehicle.
3. Never drive while under the influence of alcohol or drugs or while distracted by cell phones, GPS, or other disruptions.
4. Wear a helmet and make sure your children wear helmets while bicycling and playing contact sports.
5. Make 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;

CDC's National Center for Injury Prevention and Control (Injury Center) is committed to protecting people from 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](http://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](http://www.thecommunityguide.org/mvoi) [www.cdc.gov/motorvehiclesafety](http://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.

**Preventing Injuries in Indiana: Injury Prevention Resource Guide** mobile app contains 10 injury topics, including TBI, and provides a description of the scope of the problem in Indiana and the United States, how the problem is being addressed, and links to resources. The mobile app is intended to provide easily accessible and understandable data and information on the size and scope of specific injury problems in Indiana to allow for implementation of appropriate injury-related interventions.

Apple store: <https://itunes.apple.com/us/app/preventing-injuries-in-indiana/id1037435460?mt=8>

Android store: <https://play.google.com/store/apps/details?id=doh.in.gov.indianaprevention&hl=en>

The **Spinal Cord and Brain Injury Fund** per Indiana Code 16-41-42.2, is utilized to: establish and maintain a state medical surveillance registry for TBIs and spinal cord injuries (SCIs); fulfill the duties of the board; fund research related to treatment and cure of TBIs and SCIs; fund post-acute extended treatment and services for individuals or facilities that offer long term activity based therapy services for SCI and TBIs requiring extended post-acute care; and 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](http://Indianatrauma.org)

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