



# Oklahoma

## Special Emphasis Report: Traumatic Brain Injury 2011

### Understanding TBI

Traumatic brain injury (TBI) is a serious public health problem in Oklahoma and 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 cases of permanent disability.

### Impact and Magnitude of TBI

During 2011, a TBI was sustained by 4,641 people in Oklahoma. Among those injured, 819 (21.2 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 3,822 (98.6 per 100,000), were hospitalized with a TBI alone or in combination with other injuries or conditions. An additional 9,195 Medicaid recipients (862.0 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.

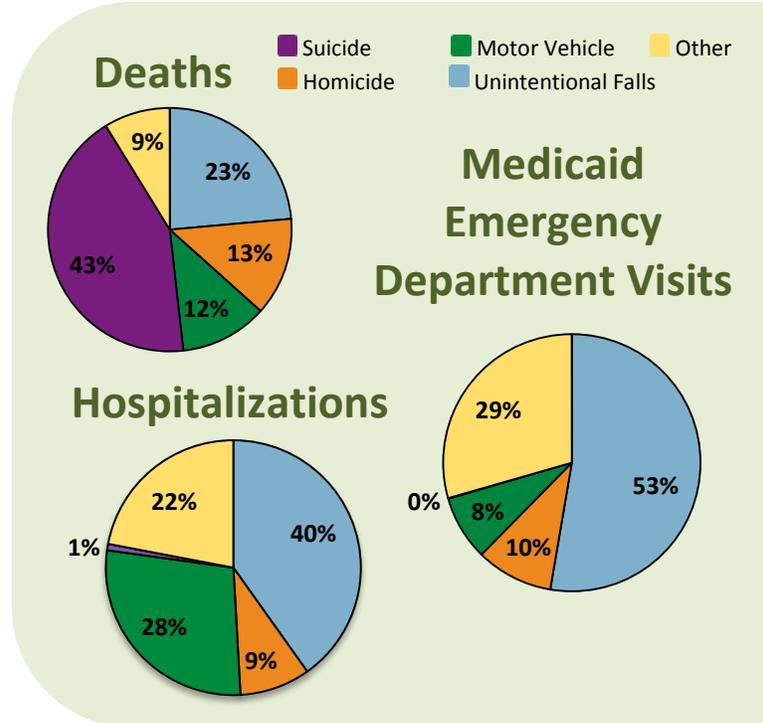
### Causes of TBI

Cause of injury varied across the three levels of severity. Suicide was 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. Likewise, 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 52% of deaths, 2% 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 2: Percentage of Annual TBI-Related Deaths,\* Hospitalizations,\*\* and Emergency Department Visits,\*\* by Age, in Oklahoma, 2011**



**Figure 1: Percentage of Annual TBI-Related Deaths, Hospitalizations, and Emergency Department Visits,\* by External Cause, in Oklahoma, 2011**  
 (\*Visits paid by Medicaid; statewide emergency department data unavailable in OK)

### TBI by Age

The highest number of TBI-related deaths\* was among persons aged 65 years and older. Among those with TBI-related hospitalizations,\*\* persons aged 65 years and older were most affected. Persons aged 0-14 years made the most TBI-related, Medicaid-paid 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 traumatic brain injury than women. The magnitude of this difference was greatest among those who died. Men accounted for 71% (31.4 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, 61% (127.9 per 100,000) of hospitalizations for TBI alone or in combination with other injuries or conditions and 50% (923.3 per 100,000) of emergency department visits for TBI alone or in combination with other injuries or conditions. For children and adults at least one year of age or older, men had higher rates of TBI-related injury deaths in all age groups compared to women. Half of all TBI-related deaths involving men were due to suicide, compared to approximately one-fourth (26%) of women.



### TBI Prevention Strategies

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

- **State Injury Prevention Programs** - The Injury Center's Core Violence and Injury Prevention Program (Core VIPP) funds state health departments to estimate the impact of TBIs and define the groups most affected. [www.cdc.gov/injury](http://www.cdc.gov/injury)
- **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)

## Oklahoma TBI Activities

### Prevention

- Distribute *Heads Up* materials across the state. Educate middle school, junior high, and high school athletic directors on concussions and the state law requiring school districts to develop policies regarding concussion management.
- Work with community sports groups to assess concussion/return to play policies and educate on TBI prevention.
- Educate interested groups on older adult fall prevention and abusive head trauma prevention.
- Distribute *Information about Concussion* booklets to TBI survivors and hospital emergency departments.

### Surveillance

- Collect data on all young people under age 25 who were hospitalized with a TBI.
  - Special emphasis on sports-related TBI and abusive head trauma.

### Partnerships

- Work to expand the *Period of PURPLE Crying*® program to all Oklahoma birthing hospitals to prevent abusive head trauma.
- Collaborate with the Oklahoma State Department of Health home visiting programs to provide basic child safety seat education and abusive head trauma prevention materials.

### Accomplishments/Successes

- Trained 175 persons in more than 40 communities as *Tai Chi: Moving for Better Balance* instructors.
- Updated the *Resources and Services Directory for Head Injury and Other Conditions*, a comprehensive community resource document for TBI survivors, families, and providers.

Oklahoma State Department of Health

<http://ips.health.ok.gov>

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