



# TENNESSEE

## Special Emphasis Report: Traumatic Brain Injury 2011

### Understanding TBI

Traumatic brain injury (TBI) is a serious public health problem 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.

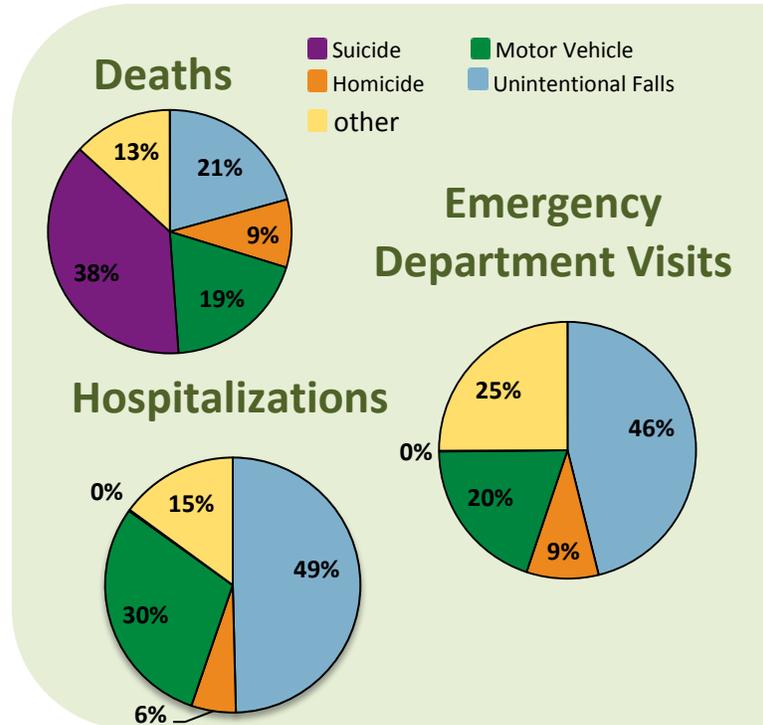
### Impact and Magnitude of TBI

During 2011, a TBI was sustained by 56,091 people in Tennessee. Among those injured, 1,220 (18.6 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 5,241 (79.5 per 100,000), were hospitalized with a TBI alone or in combination with other injuries or conditions, and an additional 49,630 (788.7 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. *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. And, *Unintentional Falls* was 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 45.6% of deaths, 2.3% of hospitalizations and 42% 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 Tennessee, 2011**

### TBI by Age

The highest number of TBI-related deaths\* were among persons ages 65 and older. Among those with TBI-related hospitalizations,\*\* persons ages 65 and older were most affected. Persons aged 0-14 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



**Figure 2: Percentage of Annual TBI-Related Deaths,\* Hospitalizations,\*\* and Emergency Department Visits,\*\* by Age, in Tennessee, 2011**





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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 70% (28.6 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, 59.1% (102.4 per 100,000), of hospitalizations for TBI alone or in combination with other injuries or conditions and 51.91% (850.7 per 100,000) of emergency department visits for TBI alone or in combination with other injuries or conditions.



### 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)

### TENNESSEE TBI Activities

**Prevention** - The TBI Program provides education to professionals, survivors, families and the general public concerning the need for brain injury prevention. To fulfill the mandate of the new concussion law, the TBI Program has overseen the identification and selection of concussion training materials that will be available for coaches, athletes and parents through the Department's website.

**Surveillance** - Hospitals are required to report information quarterly to the Department of Health on all patients admitted with a traumatic brain injury diagnosis. Data trends including total numbers of deaths, hospitalizations and emergency department visits are studied through hospital discharge data.

**Partnerships** - The TBI Program Director participates in the injury community planning group quarterly meetings. The TBI program collaborates with the Tennessee Disability Coalition to implement Project BRAIN (Brain Resource and Information Network). Project BRAIN provides education and training about traumatic brain injury to schools and hospitals. The TBI Program also partners with the Brain Injury Association of Tennessee in planning an annual conference.

**Accomplishments/Successes** - The TBI program receives funding from traffic violations. Approximately \$1 million is collected annually and allocated for grants to provide services to TBI survivors. Project BRAIN transition liaisons are in three children's hospitals and have assisted 1700 families in their children's transition from the hospital to home to school. Eight service coordinators serve an average caseload of 75 TBI survivors each year, assisting them with accessing local programs and resources.