



Kansas

Special Emphasis Report: Traumatic Brain Injury 2013

Understanding TBI

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

A TBI-related death is any death where TBI was reported as a cause of death on the death certificate alone or in combination with other injuries or conditions. A TBI-related hospital discharge (HD) or emergency department visit (EDV) is an HD or EDV with a TBI alone or in combination with other conditions or injuries.

Impact and Magnitude of TBI

During 2013, there were 585 TBI-related deaths (age-adjusted (AA) rate: 19.3 per 100,000) in Kansas. There were 2,634 TBI-related hospital discharges in Kansas (AA rate: 85.2 per 100,000), and an estimated 16,800 TBI-related emergency department visits (AA rate: 574.3 per 100,000). Additionally, an unknown number of individuals sustained TBIs that were treated in other settings or went untreated, which are not captured by current public health surveillance systems.

Causes of TBI

Causes of TBI vary across levels of severity. In 2013, suicide was the leading cause of TBI-related death in Kansas, while unintentional falls were the leading cause of TBI-related hospital discharges and emergency department visits (Figure 1).

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 40.1% of deaths, 1.2% 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 1: Percentage of Annual TBI-Related Deaths, Hospital Discharges, and Emergency Department Visits by External Cause, Kansas, 2013

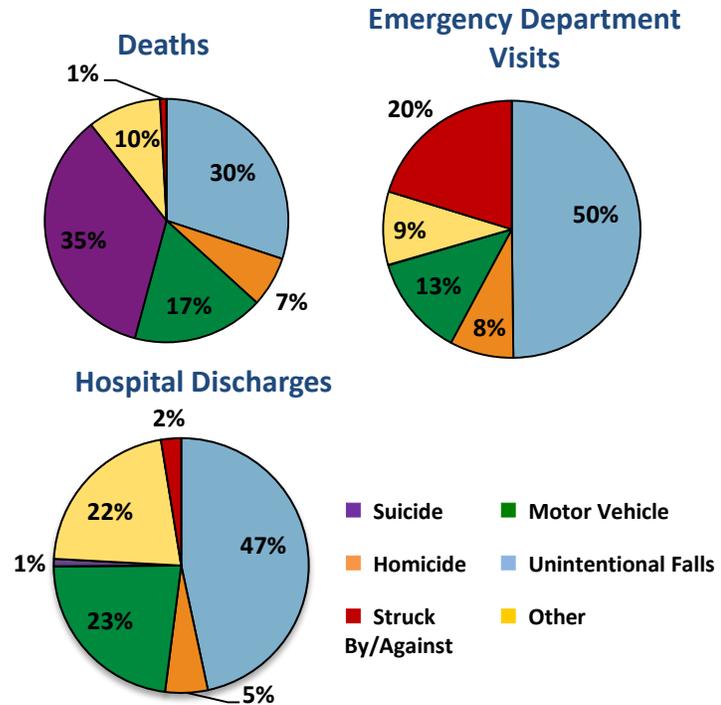
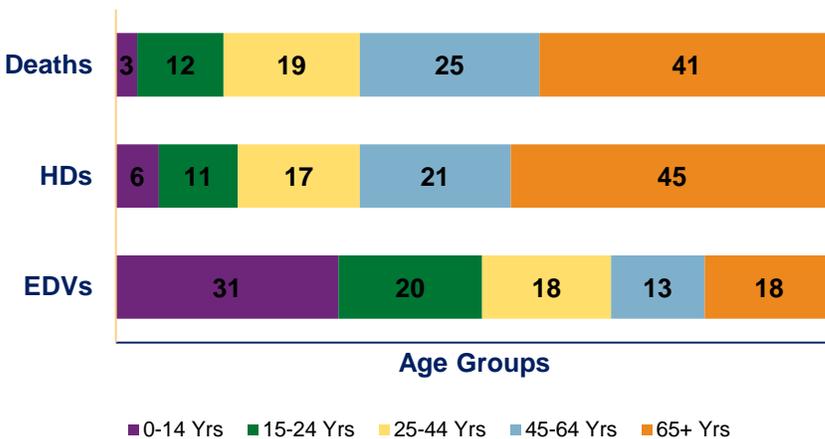


Figure 2: Percentage of Annual TBI-Related Deaths,* Hospital Discharges and Emergency Department Visits** by Age, Kansas, 2013**



TBI by Age

In 2013, the highest percentage of TBI-related deaths and hospital discharges were among Kansans aged 65 years and older. TBI-related emergency department visits were most common among youth aged 14 years and younger (Figure 2).

Note: All rates are age-adjusted (AA) to 2000 U.S. Standard Population. Data Sources: *Death: 2013 Kansas Vital Statistics, Bureau of Epidemiology and Public Health Informatics, KDHE. **HD Data: 2013 Kansas Hospital Discharge Database, Kansas Hospital Association **EDV Data: 2013 Kansas Hospital Emergency Department Database, Kansas Hospital Association. EDV data is for 2013 fiscal year, not calendar year. Federal and specialty hospitals in Kansas do not report their discharges and emergency department visits to the Kansas Hospital Association. Not all nonfederal, short stay community or general hospitals in Kansas report their emergency department visits or hospital discharge data to Kansas Hospital Association; therefore, these databases do not include 100% of emergency department visits and hospital discharges in Kansas.





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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 73 percent of TBI deaths (AA rate: 30.3 per 100,000 men), 59 percent of TBI hospital discharges (AA rate: 108.9 per 100,000 men), and 53 percent of emergency department visits (AA rate: 609.3 per 100,000).

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
- **Heads Up** – An Injury Center campaign 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 U.S. CDC's primary prevention focuses on child passenger safety, seat belt use and reducing impaired driving. www.thecommunityguide.org/mvoi
www.cdc.gov/motorvehiclesafety



Kansas TBI Prevention and Control Activities

Prevention

Kansas employs diverse strategies to prevent TBIs including seatbelt and destructive decision laws, the youth sports concussion act, bike helmet distribution programs, fall prevention curriculum and local education initiatives.

Surveillance

Kansas Department of Health and Environment monitors TBI injuries through emergency department visits, hospital discharges, deaths and the Kansas Behavioral Risk Factor Surveillance System.

Partnerships

Kansas collaborates with national, state and local entities to deliver evidence-based and effective programs and messaging to prevent injuries most likely to result in TBI. Partnerships include Kansas Department of Transportation, Kansas Traffic Safety Resource Office, State Farm, Kansas Sports Concussion Partnership, Brain Injury Association of Kansas and Greater Kansas City, Kansas Emergency Nurses' Association, Kansas school nurses, local Safe Kids coalitions, schools and other local agencies.

Accomplishments/Successes

In 2013, Safe Kids Kansas coalitions checked 2,288 car seats, distributed 1,047 car seats and provided 7,594 bicycle helmets to Kansas children. The Kansas School Sports Injury Act, which went into effect July 1, 2011, includes a provision for immediate removal of a student athlete who is suspected of sustaining a head injury or concussion and requires a physician authorize his/her return to practice and play. Ten sports safety clinics highlighting concussion information were held by Safe Kids Kansas coalitions in 2013.