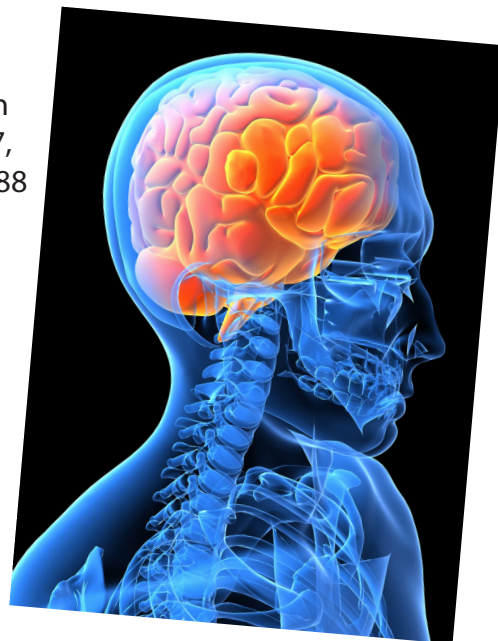


Traumatic Brain Injury in Utah, 2007

Introduction

Traumatic brain injuries (TBIs)* can have a dramatic impact on a person's ability to lead an active, fulfilling life. Every day in Utah, seven people are hospitalized or die from a TBI. In 2007, TBIs resulted in the hospitalization or death of 2,688 Utahns. Of these, 359 died from the injury prior to hospital admission and 141 died sometime after receiving initial treatment for the TBI.

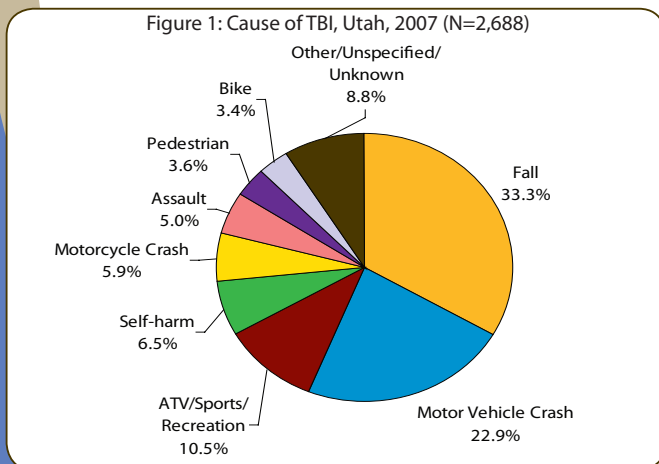
*See back page for TBI definitions



Causes of TBI

The leading causes of TBI in Utah in 2007 were (Figure 1):

- Falls (33.3%)
- Motor vehicle crashes (22.9%)
- ATV/Sports/Recreation (10.5%)



Utah and U.S.

Thirty-two states submitted 2004 TBI data to the CDC for analysis. Of those, four had an age-adjusted TBI hospitalization rate lower than the 2004 Utah rate of 5.6 per 10,000 population.^{1,2,3}

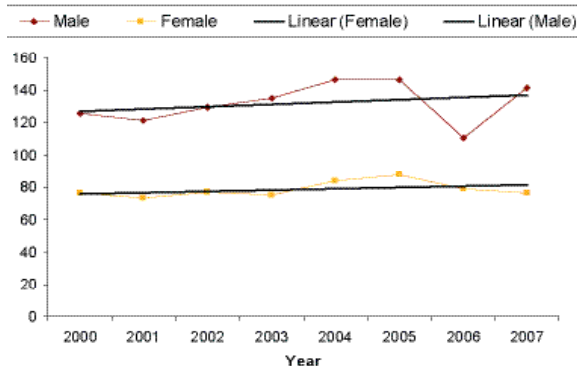
Utah Trends, 2000-2007

There was no significant change in TBI rates for males or females in Utah from 2000 to 2007 (Figure 2). In 2007, the crude rate of TBIs was 10.0 injuries per 10,000 population or one in every 1,000 Utahns.

Age and Sex

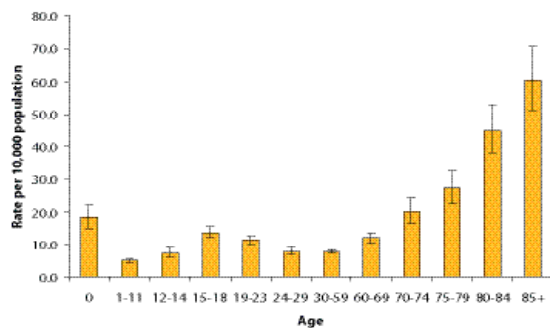
In 2007, one in every 200 Utahns ages 80 and older suffered a TBI (50.9 per 10,000 population), the highest rate of TBI among all ages in Utah. Infants also had a high rate of TBI, with one in every 550 infants under one

Figure 2: Total TBIs, Utah, 2000-2007 (Age-adjusted)



year of age suffering a TBI (18.2 per 10,000 population). This was statistically similar to teens ages 15-18 (13.7 per 10,000 population) and older adults ages 70-79 (23.2 per 10,000 population). Children ages 1-11 (5.6 per 10,000 population) had the lowest rate (Figure 3).

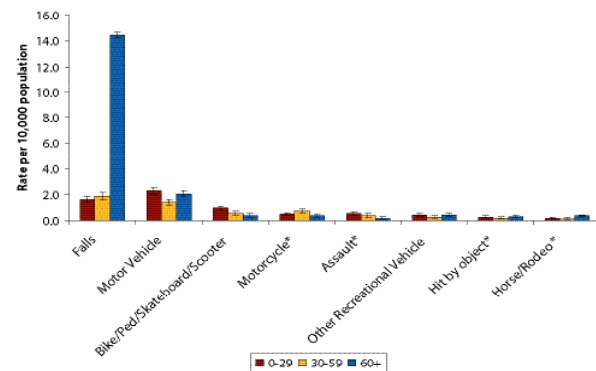
Figure 3: TBI Rates by Age, Utah, 2007



Falls were the leading cause of TBI hospitalizations among Utahns ages 60 and older (14.4 per 10,000 population). For persons ages 30-59, the fall-related TBI hospitalization rate was 1.9 per 10,000 population. Fall-related

TBIs were significantly higher for Utahns ages 60 and older than for any other age. Utahns under age 30 had more TBI hospitalizations due to motor vehicle crashes (2.3 per 10,000 population) than from any other cause (Figure 4).

Figure 4: Leading Causes of TBI by Age Group, Utah, 2007

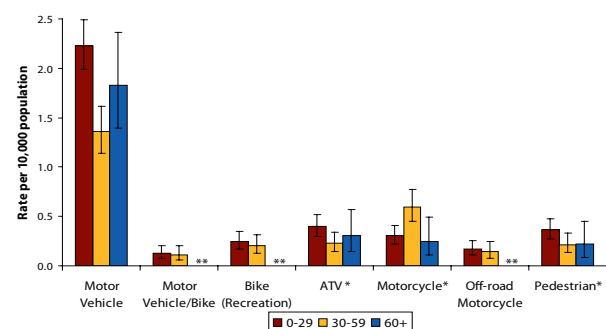


In 2007, the age-adjusted TBI rate for males was 14.1 per 10,000 population. The rate for females was 7.6 per 10,000 population (Figure 2).

Transportation-related TBIs

TBIs involving cars, trucks, and SUVs were the most common transportation-related causes of TBI for all age groups. The rate for

Figure 5: Transportation-related TBIs by Age Group, Utah, 2007



highway motorcycle-related TBIs was higher among Utahns ages 30-59 (0.6 per 10,000 population) than Utahns under 30 years of age (0.3 per 10,000 population) (Figure 5).

Where helmet use is known, 57% of highway motorcyclists who sustained a TBI were not wearing a helmet.

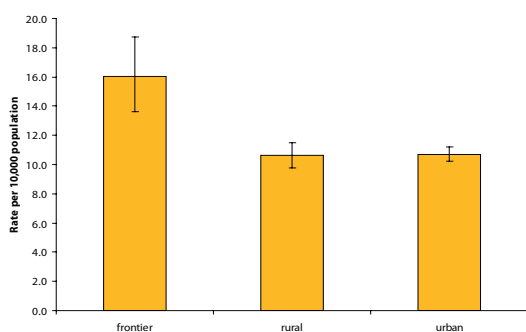
* Due to the small number of cases, findings must be interpreted with caution.

** Data are unreliable and not included here.

Geographic Location

Residents of frontier counties⁴ had a significantly higher age-adjusted TBI rate (16.0 per 10,000 population) than residents of rural⁴ (10.6 per 10,000 population) or urban counties⁴ (10.7 per 10,000 population) (Figure 6).

Figure 6: TBIs by Residential Location, Utah, 2007



Utah TBI data are also available for the state's 61 small areas in the *Utah Violence and Injury Small Area Report* available at <http://health.utah.gov/vipp>.

Safety Tips

- Wear a seat belt every time you drive or ride in a motor vehicle.
- Buckle kids in the back seat of a car using a child safety seat or booster seat (according to the child's age, height, and weight) until eight years of age and at least 4 feet 9 inches tall.
- Wear a helmet while on bicycles, motorcycles, scooters, ATVs, and snowmobiles.
- Reduce hazards in the home that can lead to falls.
- Exercise to increase strength and improve balance to help prevent falls.

Cost

TBI hospitalization charges totaled nearly \$73 million in 2007. The median charge was \$16,000 per TBI. There were 165 patients with a TBI whose hospital charges exceeded \$100,000.

Laws

The Utah State Legislature established a Traumatic Brain Injury Fund in 2008. The funds are used to: 1) educate Utahns on TBI treatment and prevention; 2) provide evaluations and coordinate short-term care for persons with a TBI and; 3) develop



an information referral system for persons with a TBI and their families. To contribute or for more information, visit http://health.utah.gov/vipp/traumaticBrainInjury/tbi_trust_fund.html.

Utah Administrative Code R386-703 requires hospitals to report TBI and spinal cord injury data to the Utah Department of Health (UDOH). For details, visit www.rules.utah.gov/publicat/code/r386/r386-703.htm.

Traumatic Brain Injury Database

Since 1990, the UDOH Violence and Injury Prevention Program has collected data on TBI in Utah through review of hospital discharge data, death certificates, and hospital records. TBIs are included in the database when one or more of the following is present:

- Observed or self-reported unconsciousness of decreased level of consciousness;
- Amnesia;
- Skull fracture;
- Changes in motor function, sensory function, reflexes, or speech;
- Seizures; hemorrhages, bruising, or other trauma of the brain; or
- TBI that results in or contributes to death.

Resources

- Brain Injury Association of Utah www.biau.org
- CDC Traumatic Brain Injury www.cdc.gov/TraumaticBrainInjury/index.html

References

¹ Johnson RL, Thomas RG, Thomas KE, Patel N, Sarmiento K, State Injury Indicators Report, Third Edition—2004 Data. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2007. ² Excluding pre-admission deaths. ³ The calculations to determine the extent to which statistically significant state differences exist were not conducted. Additionally, the percentage of hospital discharge data with external cause coding varies across states. ⁴ Frontier: counties with six or fewer persons per square mile; Rural: counties with more than six, but fewer than 100 persons per square mile; Urban: counties with 100 or more persons per square mile

Last updated: December 2009



If you or someone you love has been affected by a brain injury, the Utah Department of Health wants to hear from you. Share your story with the Utah Health Story Bank at www.health.utah.gov/bhp/sb/.

Our Mission

We are a trusted and comprehensive resource for data related to violence and injury. Through education, this information helps promote partnerships and programs to prevent injuries and improve public health.

(801) 538-6141

vipp@utah.gov

www.health.utah.gov/vipp