

Traumatic Brain Injuries in Utah, 2009

Introduction

Every day in Utah, 37 people are treated and released from an emergency room due to a traumatic brain injury (TBI). Another seven are hospitalized or die each day from a TBI. In 2009, 2,247 Utahns were hospitalized for a TBI and another 471 died from a TBI. Of those who died, 323 died prior to arriving at the hospital and 145 died sometime after receiving treatment in the hospital.

Traumatic brain injuries can have a dramatic impact on a person's ability to lead an active, fulfilling life. TBIs can affect an individual's ability to work, their short- and long-term memory, vision, sleep, mood, and movement.

Causes of TBI

The leading causes of TBI hospitalizations and deaths in Utah in 2009 were (**Table 1**):

- Falls (33.6%)
- Motor vehicle traffic crashes (18.3%)
- Suicide and suicide attempts (11.5%)

Prevention Tips

- Reduce hazards in the home that can lead to falls.
- Exercise to increase strength and improve balance to help prevent falls.
- If you or someone you love is suicidal, call for help. Help is available 24 hours a day 7 days a week. Call 1-800-273-TALK.

Table 1: Causes of TBI Hospitalizations and Deaths, Utah, 2009

Cause	Percentage
Falls	33.6%
Motor vehicle traffic crashes	18.3%
Suicide and suicide attempts	11.5%
Off-highway vehicle/All-terrain vehicle (OHV/ATV)	5.5%
Assault	4.7%
Motorcycle crashes	4.5%
Bicycle crashes	4.3%
Pedestrian	3.4%
Horse/Rodeo	2.3%
Snow Sports	2.2%
Skateboard/rollerblade	1.8%
Team Sports	1.4%
Recreational Activity	1.4%
Other	4.8%

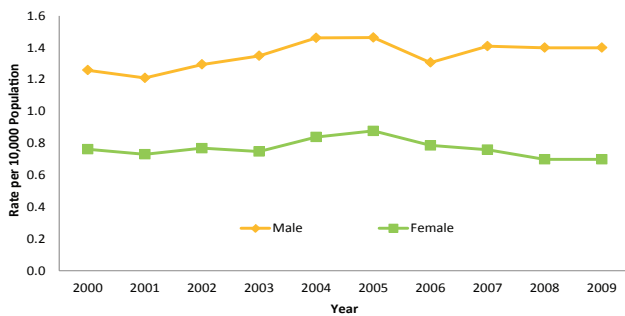


- Remove guns to prevent a suicide attempt.
- Wear a seat belt every time you drive or ride in a car.
- Buckle kids in the back seat of a car using a child safety seat or booster seat until the child is eight years of age and at least 4 feet 9 inches tall.
- Wear a helmet while riding bicycles, motorcycles, scooters, OHVs/ATVs, snowmobiles, and during sporting activities.

Utah Trends

In 2009, the overall age-adjusted rate of TBI hospitalizations and deaths was 10.2 per 10,000 population. The rate has remained fairly steady over the last 10 years (Figure 1).

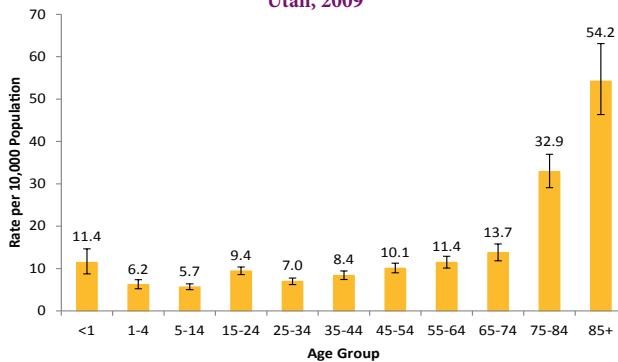
Figure 1: Age-adjusted Rates of TBI Hospitalizations and Deaths by Sex, Utah, 2000-2009



Age and Sex

In 2009, TBIs were most common among older adults, especially those aged 75 and older (Figure 2).

Figure 2: Rates of TBI Hospitalizations and Deaths by Age, Utah, 2009



Utahns ages 85 and older had the highest rate of TBI among all age groups (Table 2).

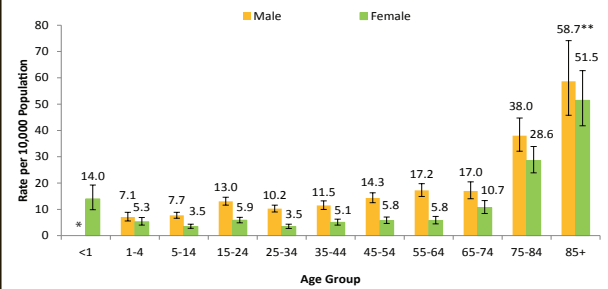
Table 2: Age Groups with the Highest Rate of TBI Deaths and Hospitalizations, Utah, 2009

Age Group	Rate	Estimate
All ages	10.2 per 10,000 population	~ 1 in every 1,000 Utahns
75-84	32.9 per 10,000 population	~ 1 in every 300 Utahns
85+	54.2 per 10,000 population	~ 1 in every 200 Utahns

In recent years, infants have also suffered a high rate of TBI, but in 2009, the infant rate decreased.

Males have a higher rate of TBIs than females for all age groups, except for the very young (under age five) (Figure 3).

Figure 3: Rates of TBI Hospitalizations and Deaths by Age and Sex, Utah, 2009



*The rate has been suppressed because the estimate is unreliable.
**Data must be interpreted with caution due to a small number of cases.

Geographic Location

Among Utah's small areas, Other Southwest District, Glendale, South Salt Lake, Murray, TriCounty HD, Taylorsville, Kearns, Juab/Millard/Sanpete Counties, Sandy Center, and West Valley East had significantly higher TBI rates compared to the state rate.

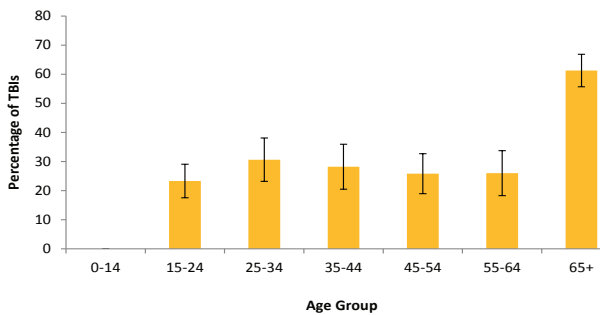
Additional TBI data by small areas are available in the *Utah Violence and Injury Small Area Report* at

<http://health.utah.gov/vipp>.

Alcohol, Drugs, and Medication Use

An estimated 31.6% of Utahns who were hospitalized or died of a TBI in 2009 had alcohol, drugs, or medications in their bodies at the time of their injury. The presence of these substances varied by age (Figure 4).

Figure 4: Percentage of TBI Hospitalizations by Age Group where Alcohol, Drugs, or Medication was Present, Utah, 2009



More than half (59.2%) of Utahns age 65 and older had four or more prescribed medications for chronic health problems in their body at the time of the injury.

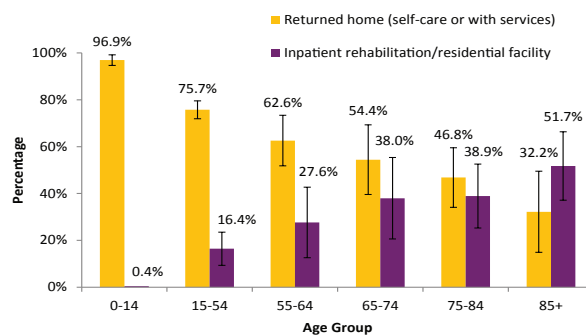
Among those age 15-64, 24.4% had alcohol in their body at the time of injury.

No children under the age of 14 had alcohol, drugs, or other medications in their body at the time of injury.

Returning Home After a TBI

As age increases, the percentage of Utahns hospitalized with a TBI who are able to return home after leaving the hospital (i.e., self-care, home health services, or outpatient rehabilitation) drops (Figure 5).

Figure 5: Percentage of TBI Patients Returning Home to Self-care after Hospitalization by Age Group, Utah, 2009



Nearly (96.9%) children 14 years of age and younger and three-fourths (75.7%) of Utahns age 15-54 with a TBI returned home after treatment at the hospital for their injury.

Among Utahns age 85 and older who sustained a TBI only one-third (32.2%) returned home after treatment.

Cost

- TBI hospitalization charges in Utah totaled over \$91 million in 2009.
- The median charge was \$20,000 per TBI.
- 229 patients with a TBI had hospital charges that exceeded \$100,000.

Laws

The Utah State Legislature established a TBI 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 to the fund or learn more, visit

<http://health.utah.gov/vipp/traumaticBrainInjury/tbifund.html>.

Resources

- Brain Injury Association of Utah www.biau.org
- CDC Traumatic Brain Injury www.cdc.gov/TraumaticBrainInjury/index.html
- National Association of State Head Injury Administrators www.nashia.org

TBI Database

The data presented in this fact sheet come from the Utah TBI Database. Since 1990, the Utah Department of Health has collected data on TBIs through review of hospital discharge data, death certificates, and hospital records. TBIs are included in the database when they result in hospitalization or death with one or more of the following:

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

Last updated: January 2012



If your life has been affected by a traumatic 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

VIPP is a trusted and comprehensive resource for data and technical assistance related to violence and injury. This information helps promote partnerships and programs to prevent injuries and improve public health.

(801) 538-61864

vipp@utah.gov

www.health.utah.gov/vipp