

Traumatic Brain Injuries in Utah, 2011

Introduction

Brain injuries can have a dramatic impact on a person's ability to lead an active, fulfilling life. Every day in Utah, 54 people are treated and released from an emergency room due to a traumatic brain injury (TBI). Another eight are hospitalized or die each day from a TBI. In 2011, 2,294 Utahns were hospitalized for a TBI and 550 Utahns died from a TBI. Of the 550 deaths, 429 occurred prior to hospital admission.

Causes of TBI

The leading causes of TBI hospitalizations in Utah in 2011 were (Table 1):

- Falls (46.7%)
- Motor vehicle traffic crashes (13.5%)
- Bicycle crashes (traffic and non-traffic) (6.3%)

Prevention Tips

- Reduce hazards in the home that can lead to falls. Exercise to increase strength and improve balance to help prevent falls.
- 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 until the child is eight years of age and at least 4 feet 9 inches tall.
- Wear a helmet while riding bicycles, motorcycles, OHVs/ATVs, snowmobiles, and during sporting activities.

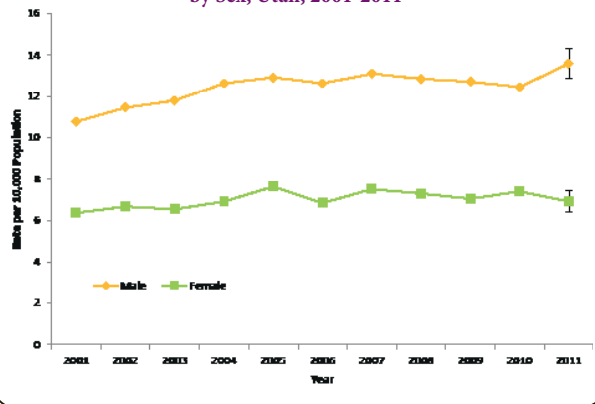
Table 1: Causes of TBI Hospitalizations and Deaths, Utah, 2011

Cause	Percentage
Falls	46.7
Motor vehicle traffic crashes	13.5
Bicycle crashes (traffic and non-traffic)	6.3
Recreational activity	5.1
Motorcycle crashes	4.6
Assault	4.4
Off-highway vehicle/All-terrain vehicle (OHV/ATV)	3.7
Pedestrian	3.7
Other	2.6
Snow sports	2.4
Horse/rodeo	2.1
Skateboard/rollerblade	1.9
Team sports	1.8
Suicide and suicide attempts	1.0
Other recreational vehicles (golf carts, etc.)	0.4

“ Let's just say that life after my husband's brain injury turned out very differently than we expected. We don't have a husband or father who works full-time and understands all of life's complex decisions, but we've made adjustments and learned how to cope. ”



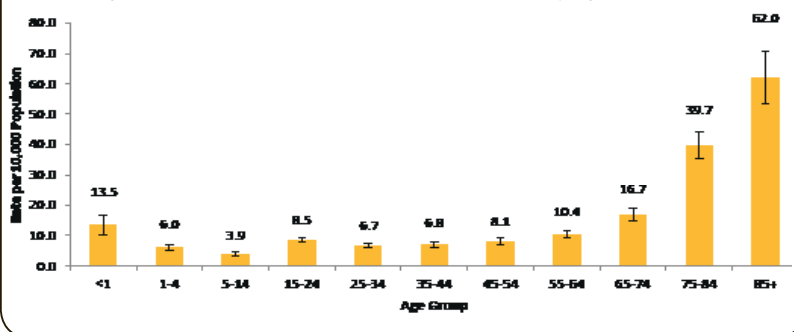
Figure 1: Age-adjusted Rates of TBI Hospitalizations and Deaths by Sex, Utah, 2001-2011



Utah Trends

In 2011, the overall age-adjusted rate of TBI hospitalizations and deaths was 10.2 per 10,000 population. The rate among both males and females has remained fairly steady over the last 10 years, with males having significantly higher rates compared to females.(Figure 1).

Figure 2: Rates of TBI Hospitalizations and Deaths by Age, Utah, 2011



Age and Sex

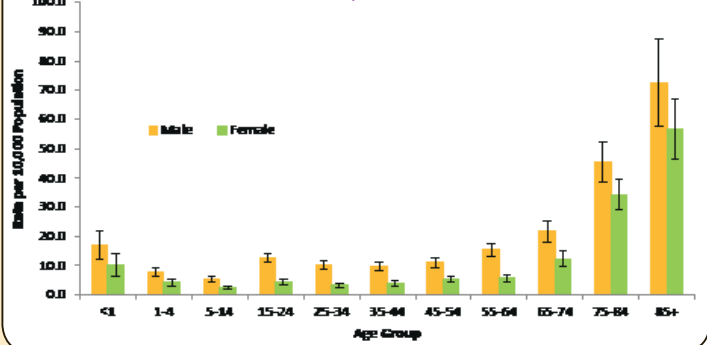
In 2011, TBI hospitalizations and deaths were most common among older adults, especially those aged 75 and older (Figure 2).

Table 2: Age Groups with the Highest Rates of TBI Hospitalizations, Utah, 2011

Age Group	Count	Population	Crude Rate	Estimate
All Ages	2,294	2,817,222	10.2 per 10,000 population	~1 in every 1,200 Utahns
75-84	327	82,199	39.7 per 10,000 population	~1 in every 250 Utahns
85+	203	32,704	62.0 per 10,000 population	~1 in every 150 Utahns

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

Figure 3: Rates of TBI Hospitalizations and Deaths by Age and Sex, Utah, 2011



Males have a higher rate of TBI hospitalizations and deaths than females for all age groups (Figure 3).

Geographic Location

Age-adjusted rates of TBI hospitalizations were taken from the *Utah Violence and Injury Small Area Report* and included TBI hospitalizations only. Those rates were compared to the TBI hospitalizations and deaths age-adjusted rate of 10.2 per 10,000

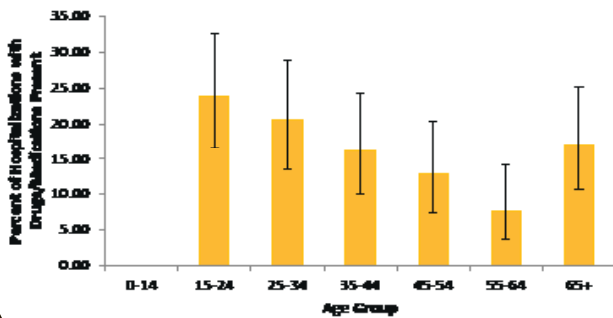
population reported in this fact sheet. Among Utah's small areas, Glendale, Murray and Midvale had significantly higher TBI rates compared to the state rate.

Alcohol, Drugs, and Medication Use

An estimated 21% of Utahns who were hospitalized for a TBI in 2011 had alcohol, drugs, or medications in their bodies at the time of their injury. Alcohol was more frequently found in the body of TBI patients (13.1%) compared to drugs and medications (11.7%).

Most of the TBI hospitalizations where drugs or medications were present occurred among young adults aged 15 to 24 (Figure 4).

Figure 4: Percentage of TBI Hospitalizations with Drugs or Medications Present by Age Group, Utah, 2011



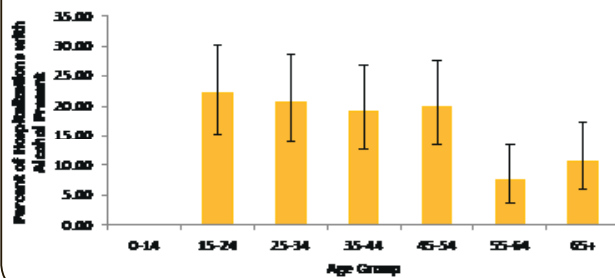
Nearly one-third (31.9%) of TBI patients who had drugs or medications present at the time of their injury had more than one drug or medication in their system.

The five most common substances present at time of TBI injury with their respective median age at time of injury were:

- Opiates (38 years)
- Benzodiazepines (28 years)
- Marijuana (28 years)
- Amphetamines (35 years)
- Antidepressants (35 years)

No children under the age of 14 had alcohol in their body at the time of injury (Figure 5).

Figure 5: Percentage of TBI Hospitalizations with Alcohol Present by Age Group, Utah, 2011

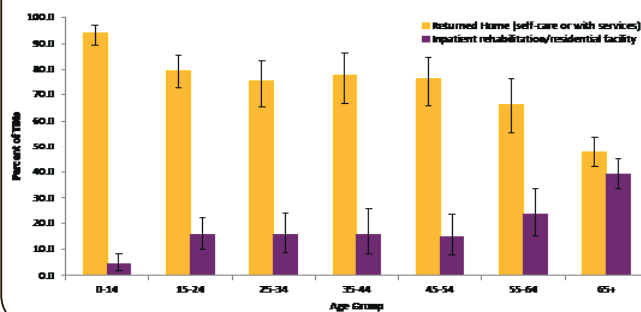


Returning Home After a TBI

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) slowly drops, with less than half (47.9%) of the patients ages 65+ able to return home (Figure 5).

Nearly all (93.9%) children 14 years of age and younger with a TBI returned home after treatment at the hospital for their injury.

Figure 6: Percentage of TBI Patients Returning Home to Self-care after Hospitalization by Age Group, Utah, 2011



Cost

- TBI hospitalization charges in Utah totaled over \$85 million in 2011.
- The median hospitalization charge was \$20,364.73.
- 183 patients with a TBI had hospitalization charges that exceeded \$100,000.
- The maximum charge for a TBI hospitalization in Utah in 2011 was \$668,957.

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 assistance in identifying services and resources needed by persons with a TBI for which they may be eligible; 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 Alliance of Utah 800-281-8442 www.biau.org
- Phoenix Services 801-825-4535 www.phoenixservices.org
- CDC Traumatic Brain Injury www.cdc.gov/TraumaticBrainInjury/index.html
- National Association of State Head Injury Administrators www.nashia.org

References

The data presented in this fact sheet come from the Utah TBI Database and vital records. 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.

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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/.

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