

Transportation-related Traumatic Brain Injuries in Utah, 2011

Introduction

In 2011, 23.5% of TBI hospitalizations in Utah were attributed to transportation-related causes.

Transportation-related TBIs include: motor vehicle traffic crashes, motorcycle crashes, bicycle traffic crashes, and pedestrians hit by a motor vehicle.

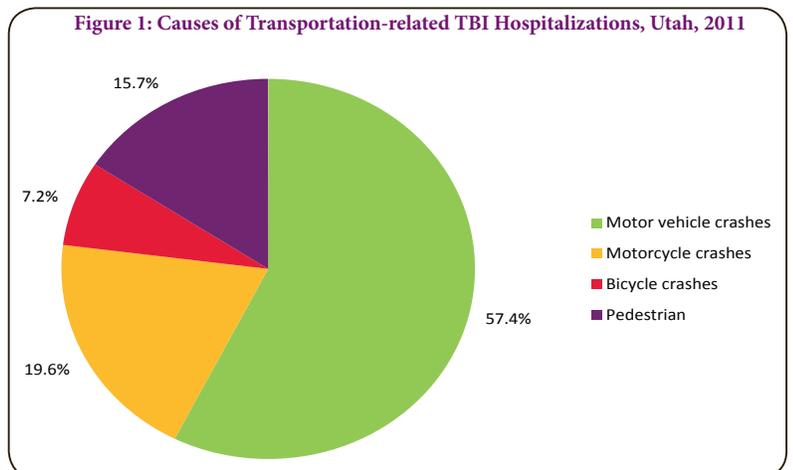
Traumatic brain injuries can have a dramatic impact on a person's ability to lead an active, fulfilling life. TBIs can affect an individual's ability to work, as well as his or her short- and long-term memory, vision, sleep, mood, and movement.

Causes of TBI

The leading causes of transportation-related TBI hospitalizations in Utah in 2011 were (**Figure 1**):

- Motor vehicle crashes (57.4%)
- Motorcycle crashes (19.6%)
- Pedestrians (15.7%)
- Bicycle crashes (7.2%)

Figure 1: Causes of Transportation-related TBI Hospitalizations, Utah, 2011



“ My husband suffered a TBI in a motorcycle crash. He spent months in the hospital and had to learn how to walk, talk, and perform all of life's basic daily functions again. From that moment on, everything in his life changed. Music has become a source of contribution, enjoyment, and a way for him to excel at something when so many other things are challenging. ”

Figure 2: Percentage of Transportation-related TBI Hospitalizations by Cause and Age Group, Utah, 2011

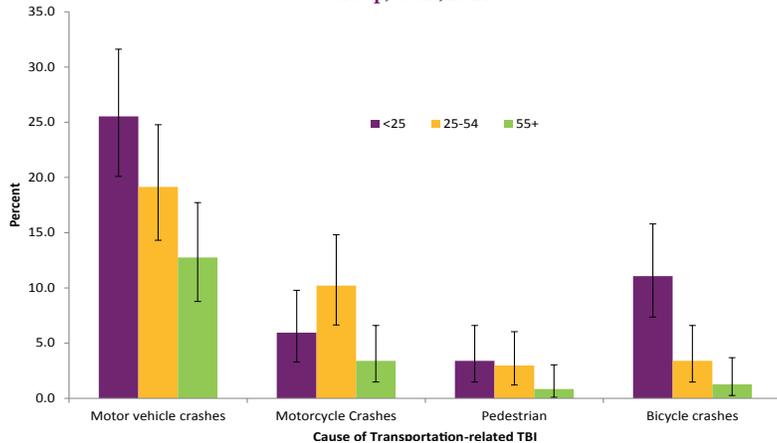


Figure 3: Rates of Transportation-related TBI Hospitalizations and Deaths by Age and Sex, Utah, 2011

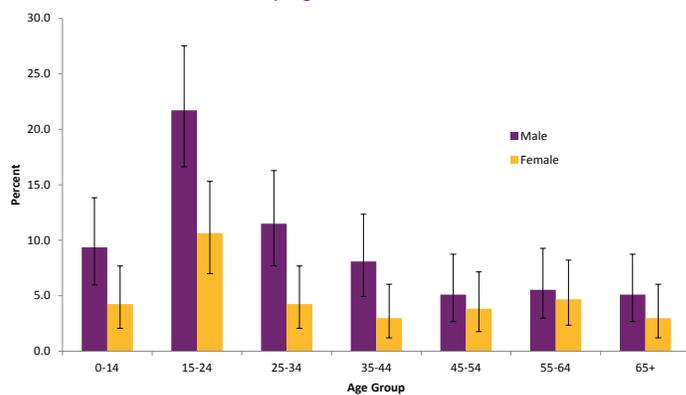


Table 1: Age Range and Median Age of Utahns with a Transportation-related TBI, Utah, 2011

Cause of TBI	Number of TBI Hospitalizations	Age range (years)	Median age (years)
Motor vehicle crashes	135	0-86	26
Motorcycle crashes	46	18-66	37
Bicycle crashes	17	7-74	29
Pedestrian	37	1-87	17

Causes of Transportation-related TBIs

For all age groups, motor vehicle traffic crashes were the leading cause of transportation-related TBI hospitalizations (Figure 2). Among those 25 years and younger and 55 years and older, the percentage of TBI hospitalizations due to motor vehicle crashes was significantly higher than all other causes.

Most TBI hospitalizations that were caused by bicycle crashes happened to Utahns less than 25 years of age.

Most TBI hospitalizations that were caused by motorcycle crashes occurred among those aged 25-54 years. For all other causes, most hospitalizations occurred in the under 25 age group.

In 2011, 5.1% of the total 235 transportation-related TBI hospitalization patients died. Two-thirds of the deaths were caused by motor vehicle crashes. No deaths were caused by bicycle crashes.

Age and Sex

In 2011, transportation-related TBIs were most common among Utahns aged 15-24 (Figure 3).

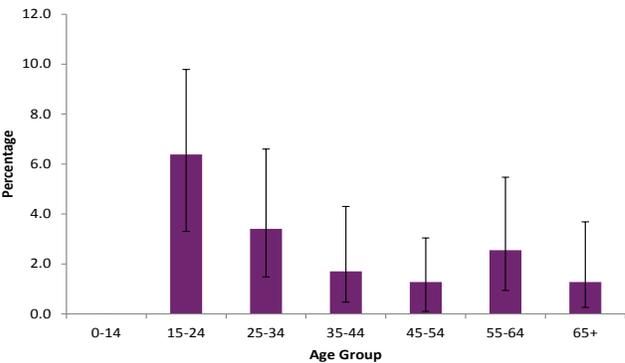
The age range and average age of Utahns who sustained a transportation-related TBI in 2011 are listed in Table 1.

Alcohol, Drug, and Medication Use

An estimated 16.6% of Utahns who were hospitalized for a transportation-related TBI in 2011 had alcohol, drugs, or medications in their bodies at the time of their injury (**Figure 4**).

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

Figure 4: Percentage of Transportation-related TBI Hospitalizations by Age Group where Alcohol, Drugs, or Medication was Present, Utah, 2011



Cost

Transportation-related TBI hospitalization charges in Utah totaled an estimated \$14 million in 2011. There were 38 hospitalizations with total charges exceeding \$100,000 each. The maximum total charge for a transportation-related TBI hospitalization was \$646,178.00. **Table 2** lists the median and mean charges by cause.

Table 2: Hospitalization Charges for Transportation-related TBIs, Utah, 2011

Cause of TBI	Hospitalization Charges (median)	Hospitalization Charges (mean)
Motor vehicle crashes	\$27,331.27	\$61,814.61
Motorcycle crashes	\$24,718.66	\$45,930.36
Bicycle Crashes	\$18,203.98	\$33,253.25
Pedestrian	\$35,696.31	\$68,189.56

Prevention Tips

- Wear a seat belt every time you drive or ride in a car.
- Buckle kids in the back seat of a car using a car seat or booster seat until the child is eight years of age and at least 4 feet 9 inches tall.
- Wear a helmet while on bicycles, motorcycles, scooters, OHVs/ATVs, and snowmobiles.
- Never drive under the influence of alcohol or drugs.
- Give at least three feet of space when passing a bicyclist.
- Drivers must yield the right-of-way to pedestrians crossing at intersections (a crosswalk exists at every intersection regardless of whether or not it is painted).

Laws

Motor Vehicles: It is illegal to text and drive in Utah, regardless of the driver's age. For drivers aged 18 and younger, it's also illegal to talk on a cell phone and drive.

Utah law requires children under the age of 8 to be properly restrained in a car seat or booster seat until they are at least 4 feet 9 inches tall.

Utah's Graduated Driver Licensing (GDL) laws place driving restrictions on teen drivers, including not being allowed to drive at night, having 40 hours of supervised driving time

before getting a full license, and limitations on who can ride in the car with them.

Motorcycles: There is no universal motorcycle helmet law in Utah. Only those under the age of 18 are required to wear a helmet.

Bicycles: Utah is one of only 14 states with no law requiring bicyclists to wear a helmet. In addition, drivers may not knowingly, intentionally, or recklessly operate a motor vehicle within three feet of a moving bicycle.

Resources

- Brain Injury Alliance of Utah www.biau.org
- Phoenix Services www.phoenixservices.org
- CDC Traumatic Brain Injury www.cdc.gov/TraumaticBrainInjury/index.html
- National Association of State Head Injury Administrators www.nashia.org
- Utah State Parks and Recreation <http://stateparks.utah.gov>
- Zero Fatalities Program <http://ut.zerofatalities.com>

References

The data provided in this fact sheet were obtained through analysis of a sampled portion of the total TBI cases in Utah via the Utah TBI Database. The total number of TBI hospitalizations in Utah in 2011 was 2,294. The sampled cases numbered 998. The sampled cases represent the total cases, allowing the data reported to be extrapolated to the total cases. TBIs are included in the Utah TBI 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 2014



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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