

Transportation-related Traumatic Brain Injuries in Utah, 2009

Introduction

Every day in Utah, three people are hospitalized or die from a transportation-related traumatic brain injury (TBI). In 2009, transportation-related TBIs resulted in the hospitalization of an estimated 1,059 Utahns and the death of 144 Utahns.

Transportation-related TBIs include: motor vehicle, motorcycle, bicycle, and Off-highway vehicle/all-terrain vehicle (OHV/ATV) crashes, and pedestrians hit by a motor vehicle. OHV/ATVs also include snowmobiles, dune buggies, dirt bikes, etc.

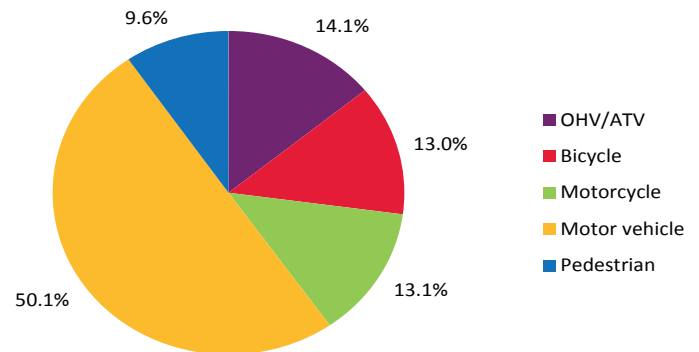
Traumatic brain injuries can have a dramatic impact on a person's ability to lead an active, fulfilling life. TBIs can affect an individual's ability to work, their short- and long-term memory, vision, sleep, mood, and movement.

Causes of TBI

The leading causes of transportation-related TBI hospitalizations and deaths in Utah in 2009 were (**Figure 1**):

- Motor vehicle crashes (50.1%)
- OHV/ATV crashes (14.1%)
- Motorcycle crashes (13.1%)
- Bicycle crashes (13.0%)

Figure 1: Leading Causes of Transportation-related TBI Hospitalizations and Deaths, Utah, 2009



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.

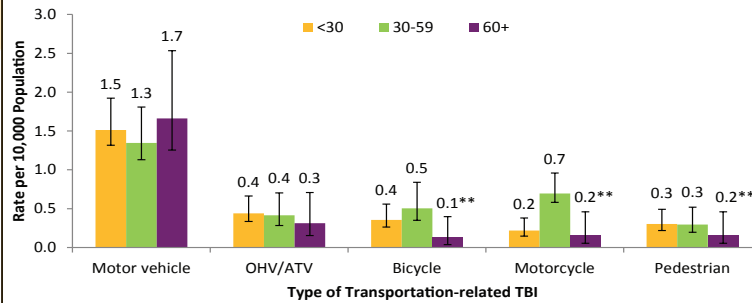


- Wear a helmet on bicycles, motorcycles, scooters, OHVs/ATVs, and snowmobiles.
- Never drive under the influence of alcohol or drugs.
- Give at least three feet of space when passing a bicyclist.
- Drivers must yield the right-of-way to pedestrians crossing at intersections (a crosswalk exists at every intersection regardless of whether or not it is painted).

Causes of Transportation-related TBIs

In 2009, there was a significantly higher rate of transportation-related TBIs caused by motor vehicle crashes than any other cause (Figure 2).

Figure 2: Rates of Transportation-related TBI Hospitalizations and Deaths by Cause and Age Group, Utah, 2009



**Data must be interpreted with caution due to a small number of cases.

Among motorcycle crashes, Utahns age 30-59 had a significantly higher rate of transportation-related TBIs than any other age group.

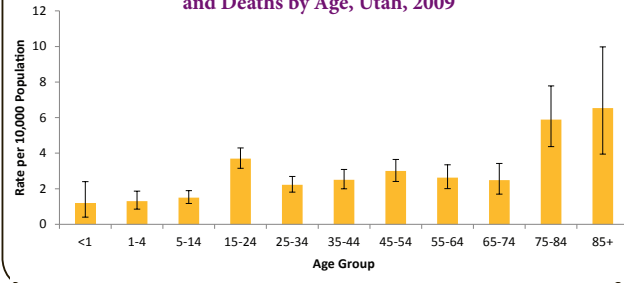
The percentage of transportation-related TBIs in 2009 that resulted in death varied by the type of transportation.

- Motor vehicle crash 28.5%
- Pedestrians 26.4%
- Motorcycle crash 23.6%
- OHV/ATV crash 10.8%
- Bicycle crash 4.3%

Age and Sex

In 2009, transportation-related TBIs were the most common among Utahns age 75 and older (Figure 3).

Figure 3: Rates of Transportation-related TBI Hospitalizations and Deaths by Age, Utah, 2009



The age range and average age of Utahns who sustained a transportation-related TBI in 2009 are listed in Table 1 below.

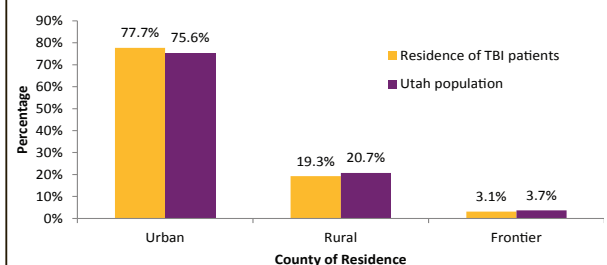
Table 3: Age Range and Average Age of Utahns with a Transportation-related TBI, Utah, 2009

Cause of TBI	Number of known transportation-related TBI hospitalizations and deaths	Age range (years)	Average age (years)
OHV/ATV	128	2 - 86	32
Bicycle	143	4-87	31
Motorcycle	135	5-68	38
Motor vehicle	452	0-89	34
Pedestrian	101	1-93	28

Geographic Location

The distribution of transportation-related TBIs was nearly identical to the overall population distribution of the state (Figure 5).

Figure 5: Distribution of Transportation-related TBI Hospitalizations, by County of Residence and State Population, Utah, 2009



In 2009, urban counties were home to 75.6% of Utahns and 77.7% of transportation-related TBIs.

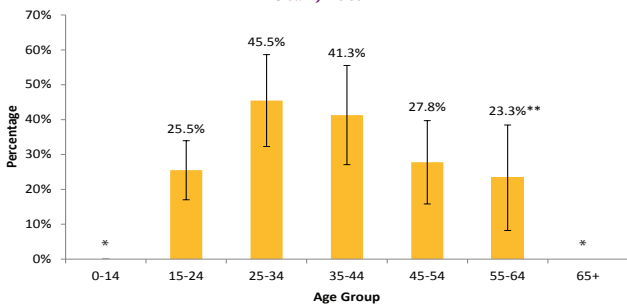
Rural counties were home to 20.7% of Utahns and 19.3% of transportation-related TBIs.

Frontier counties were home to 3.7% of Utahns and 3.1% of transportation-related TBIs.

Alcohol, Drugs, and Medication Use

An estimated 19.0% of Utahns who were hospitalized or died of a transportation-related 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 6).

Figure 6: Percentage of Transportation-related TBI Hospitalizations by Age Group where Alcohol, Drugs, or Medication was Present, Utah, 2009



*The rate has been suppressed because the estimate is unreliable.
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Alcohol (12.5%) was the most common substance found in a person’s 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.

Cost

Transportation-related TBI hospitalization charges in Utah totaled an estimated \$47 million in 2009. Table 2 lists median hospitalization charges by cause.

Table 2: Hospitalization Charges for Transportation-related TBIs, Utah, 2009

Cause of TBI	Hospitalization charges (median)
Motorcycle	\$32,832
Motor vehicle	\$26,896
Pedestrian	\$25,754
OHV/ATV	\$22,406
Bicycle	\$16,975

Laws

Motor Vehicles: 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.

In 1998, Utah passed a Graduated Driver Licensing (GDL) law. Teens receive a “limited drivers license” with driving restrictions such as 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.

Effective July 1, 2009, it is illegal to text and drive in Utah, regardless of the driver’s age.

OHV/ATVs: Utah law requires youth between the ages of eight and 15 to take an OHV Safety Education class approved by Utah State Parks and Recreation before operating OHVs/

ATVs. It is illegal for any child under age eight to operate an OHV on public land. Drivers 16 years of age and older must have a valid driver's license to operate.

Online OHV safety education courses are available at www.stateparks.utah.gov/ohv.

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 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.

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