UTAH DEPARTMENT OF HEALTH
VIOLENCE AND INJURY PREVENTION PROGRAM (VIPP)

TRAUMATIC BRAIN INJURY IN UTAH

Facts about Traumatic Brain Injury (TBI) in Utah

- 2,505 Utahns suffered a TBI in 2006 for a rate of 9.6 per 10,000 population.[1]
- 17.8% (n=445) of TBI victims died as a result of the injury.[1]
- An average hospital stay for a TBI was 4.3 days at an average cost of $29,300.[1]

TBIs included in this database:

1) Presence of 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, speech;
- Seizures; or
- Hemorrhages, bruising or other trauma of the brain.

2) A hospital stay or TBI that results in death.

2006 Traumatic Brain Injury Data

WHO

- Utahns over age 60 suffered the highest rates of TBI at 20.4 per 10,000 population.[1]
- Teens ages 16-19 had the second highest rate of TBI at 12.5 per 10,000 population.[1]
- Males (n=1638) sustain nearly twice as many TBIs as females (n=867).[1]
- An estimated 80 TBI victims were infants under age 1. Among sampled cases, 10% of infant TBIs were caused by another person (i.e. shaken baby syndrome).[1]

HOW

- 60% of all TBIs were due to falls (37.3%) or motor vehicle crashes (22.5%).[1]
- For Utahns over age 60, 79% of TBIs result from a fall, most often occurring in the home.[1]
- For teens ages 16-19, motor vehicle crashes were three times more likely than any other event or activity to cause the TBI.[1]
- 64% of the TBIs in infants under age one were due to falls. Most of the falls occurred when the infant fell off a countertop, shopping cart, or other high surface while in a car seat or bouncy chair.[1]

WHERE

- TBI rates were highest for individuals residing in frontier counties (10.8 per 10,000 population) compared to 9.5 per 10,000 per population in urban counties (Salt Lake, Utah, Davis and Weber Counties) and 9.2 per 10,000 population in rural counties. Frontier is defined as counties with fewer than 6 people per square mile. Differences between rural, frontier, and urban counties of residence were not statistically significant. [1]
- Compared to the state rate of 9.6 per 10,000 population, the health districts with the highest TBI rates were Summit, Central, and Tooele (20.5, 16.0, and 13.1 per 10,000 population respectively). The Davis and Bear River districts had the lowest rates (6.5 and 7.0 per 10,000 population respectively).[1]

HOW MUCH

- Hospital and emergency department charges for TBI victims amounted to $74 million, up from $63 million in 2005.[1]

TBI Sampled Cases By Cause[1]

Cause	Number	Percent	Crude Rate per 10,000*
Falls	439	37.3%	3.57
Motor vehicle crash	265	22.5%	2.16
Motorcycle crash	73	6.2%	0.59
Assault	58	4.9%	0.47
Sport/play	57	4.8%	0.46
ATV	55	4.7%	0.45
Pedestrian	54	4.6%	0.44
Bicycle (traffic and non-traffic)	51	4.3%	0.42
Horse-related	32	2.7%	0.26
Hit by object	30	2.6%	0.24
Snowboard	19	1.6%	0.16
Ski	11	0.93%	0.09
Skateboard	10	0.85%	0.08
Self-harm	9	0.76%	0.07
Sled	7	0.59%	0.06
Snowmobile***	3	0.25%	0.02
Other***	4	0.34%	0.03
Totals*	1177	100%	9.58

There were 5 additional cases sampled, but information was insufficient to determine cause of the TBI. *TBI causes for data year 2006 are not grouped the same as in previous years. **Rates are based on sampled cases and adjusted to represent all TBIs in Utah (including unsampled and fatal TBIs). ***Due to the small number of occurrences, this rate should be interpreted with caution.

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Violence & Injury Prevention Program

TBI PREVENTION SAFETY TIPS[2]

Falls

Around the Home

- Remove things that can be tripped over from stairs and walkways (like books, clothes, loose rugs or carpeting, and electrical cords).
- Remove small throw rugs.
- Install grab bars in the bath / shower area and beside the toilet.
- Use non-slip mats in the bathtub and on shower floors.
- Have handrails put in on all stairways and fix loose or missing handrails.
- Use a sturdy stepstool to reach overhead items.
- Place nightlights in bedrooms and bathrooms.

Older Adults

- Exercise regularly to increase strength and improve balance.
- Ask a doctor or pharmacist to check medications (both prescription and over-the-counter) for side effects that could lead to a fall.
- Get an eye exam at least once a year.
- Wear shoes that give good support and have non-slip soles and avoid wearing slippers.
- If a doctor recommends it, use a cane or walker.

Motor Vehicles

- Wear a seat belt on every ride.
- Always place children in a safety seat in the back seat of a motor vehicle.
- Put children in the correct car seat or booster seat for their age, height, and weight. Kids must be in a car seat or booster seat until 8 years of age and at least 4 feet 9 inches tall.
- Don't drive distracted, drunk, drugged, or drowsy.
- Always wear a helmet on motorcycles, ATVs, or snowmobiles.
- Children under age 16 should not drive motorcycles, ATVs, or snowmobiles.

Sports and Play

Bicycles

- Always wear a bicycle helmet.
- Follow the rules of the road and obey all traffic laws.
- Be cautious around motor vehicles.

Skiing, Snowboarding, and Sledding

- Wear a helmet and other protective gear like gloves and boots.
- Never sled headfirst and avoid sledding near trees, buildings, or roads.
- Never ski or snowboard alone in case of injuries.
- Avoid icy slopes and conditions that increase speed and decrease control.
- Choose slopes that match skiing or snowboarding abilities.

Horseback Riding

- Wear an approved helmet when riding a horse. Helmets should fit snugly and the strap must touch the rider's jaw and/or chin.
- Wear boots or shoes with a heel that covers the ankle when wearing stirrups.
- Never lock the safety stirrup bar upright.
- Use safety stirrup irons.
- Avoid being tied to a horse. Don't wrap lead rope or reins around the hand or wrist.

Pedestrians

- Use crosswalks where available.
- Walk on the sidewalk and not the road. If there are no sidewalks, walk facing traffic.
- Never run into a street or cross the street mid-block (jaywalking).
- Be extra careful around driveways.

References

[1] Utah Department of Health, Violence & Injury Prevention Program, TBI database

[2] Brain Injury Association of America *Winter Safety for Children* brochure, http://www.biau.org/