



## RHODE ISLAND LAW

On July 1, 2007, the Rules and Regulations Pertaining to the Rhode Island Traumatic Brain Injury Registry of the General Laws of Rhode Island became effective. The Regulations mandate hospitals within the State to report to the Rhode Island Department of Health within fourteen days of diagnosis all cases of TBI diagnosed through inpatient and emergency departments.

As part of this notification, hospitals are required to send the following data:

- » Principal Diagnosis
- » Cause of Injury
- » Place of Incident
- » Type of Discharge
- » Dates of Admission/Discharge
- » Patient Demographics: Name, Address, Social Security Number, Date of Birth, Gender, Ethnicity & Race

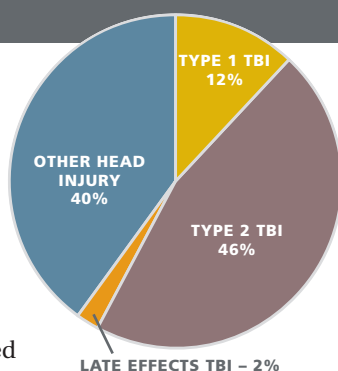
# Traumatic Brain Injury in Rhode Island



## PRINCIPAL DIAGNOSIS OF TBI

During July 1, 2007-June 30, 2008, a total of 5,301 TBI cases were reported to the Rhode Island Department of Health.

- » 12% (or 654 cases) were classified as the most severe Type 1 TBI
- » 46% (or 2,434 cases) were classified as severe Type 2 TBI
- » 40% (or 2,133 cases) were classified as Other Head Injury
- » 2% (or 80 cases) were classified as Late Effects TBI

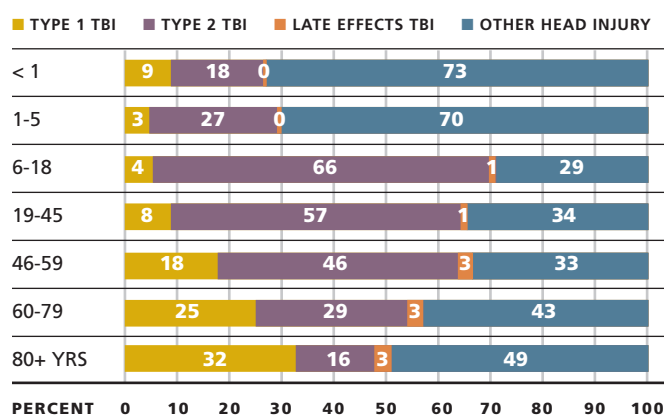


## INCIDENCE RATE

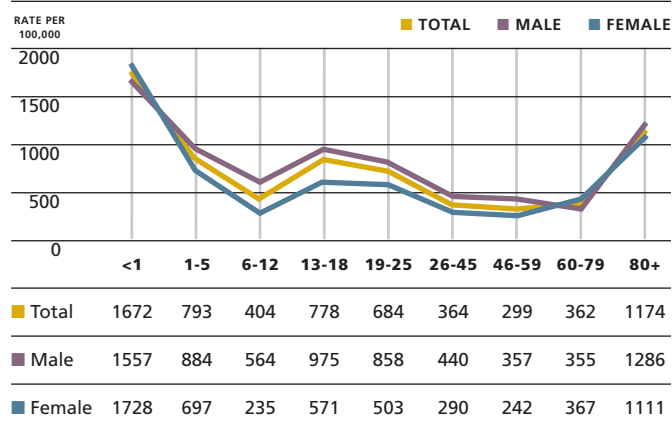
Overall, incidence rate of TBI in RI was lower than the national rate. Infants had the highest rate of TBI (1,672 per 100,000), followed by adults aged 80 and older (1,174 per 100,000). The lowest rate of TBI was found among adults aged 46-59 years (299 per 100,000). Among those aged 6-79 years, teens (13-18) and young adults (19-25) had higher rates of TBI compared to the rest of the age groups.

Males had higher rates of TBI than females in all age categories except for infants and adults aged 60-79 years where females had higher rate of TBI than males. The male-female differences in the rates were larger for children through young adults (6-25 years of age groups) than the rest of the groups.

**FIGURE 1. PRINCIPAL DIAGNOSIS OF TBI BY AGE**  
RHODE ISLAND, JULY 1, 2007 – JUNE 30, 2008



**FIGURE 2. TBI RATE BY AGE AND GENDER**  
RHODE ISLAND, JULY 1, 2007 – JUNE 30, 2008



## CAUSES OF TBI

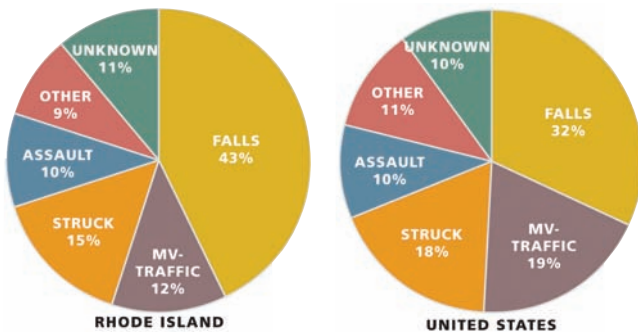
Overall, falls (unintentional) were the leading cause of TBI in RI (2,278 cases or 43%), followed by striking against / struck accidentally (810 cases or 15%), motor vehicle traffic accidents (653 cases or 12%), and assaults (505 cases or 10%).

**Falls:** RI had higher percentage of unintentional falls than the U.S. (43% for RI in 2007 vs. 32.1% for the U.S. in 2003). Although unintentional falls were the leading cause of TBI for all age groups except for those 6-18 years of age, the proportion of falls varied significantly by age group, ranging from 22% for those 19-45 years of age to 85% for adults 80 years and older.

**Striking Against/Struck Accidentally:** The highest percentage of striking against / struck accidentally occurred among adolescents 6-18 years of age (33%) followed by children under 6 years of age (17%).

**Motor Vehicle Traffic Accidents:** Adults aged 19-45 had the highest percentage of motor vehicle traffic accidents (22%).

**Assaults:** Adults aged 19-45 had the highest percentage of assaults (19%) compared to other age groups.



## CAUSES BY AGE

**Infants:** Most frequent cause of TBI was falls from bed (24%).

**Children aged 6-18 years:** Most frequent cause of TBI was striking against or struck by objects in sports (18%).

**Adults aged 19-45 years:** Most frequent cause of TBI was motor vehicle traffic accident involving collision motor vehicle (16%) and unarmed fight/brawl (10%).

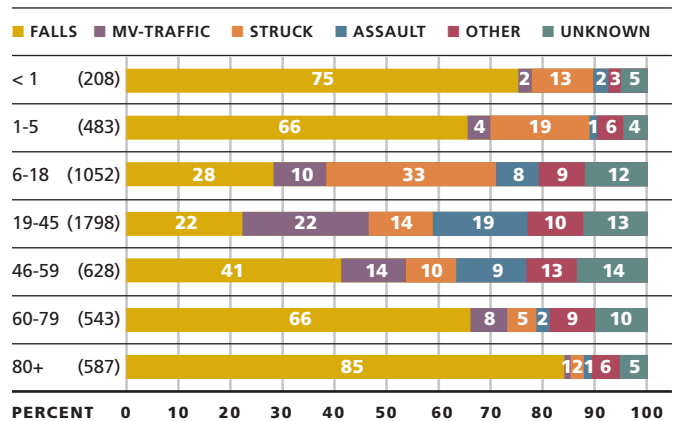
**Adults aged 46-59:** Most frequent cause of TBI was falls from slipping, tripping or stumbling (11%).

**Adults aged 60-79 years:** Most frequent cause of TBI was falls from slipping, tripping or stumbling (24%).

**Adults aged 80 and older:** Most frequent cause of TBI was falls from slipping, tripping or stumbling (32%).

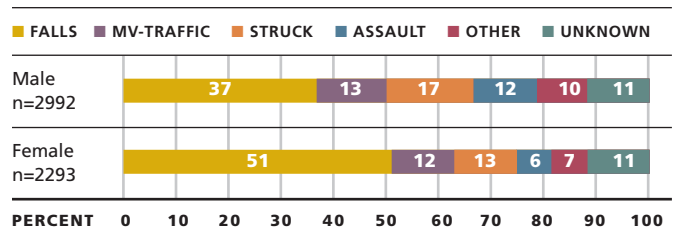
**FIGURE 3. LEADING CAUSE OF TBI BY AGE**

RHODE ISLAND, JULY 1, 2007 – JUNE 30, 2008



**FIGURE 4. LEADING CAUSE OF TBI BY GENDER**

RHODE ISLAND, JULY 1, 2007 – JUNE 30, 2008



## DISCUSSION

The data highlighted in this report are based on the first full year of hospital emergency and inpatient reporting of TBI to the Rhode Island Department of Health.

With the passage of requirements, the reporting rate increased by 3600% (from 147 cases in 2006 to 5,301 cases from July 1, 2007 – June 30, 2008) resulting in increased insight into the demographics of TBI in RI including the incidence, diagnosis and cause of injury.

Although there are some limitations in the completeness of the data (e.g., Ethnicity data only reported for 60% of TBI patients), this report clearly demonstrates interesting findings.

While RI had a slightly lower rate of TBI than the U.S. overall, the proportion of falls as a cause of TBI was much higher in RI than the U.S. This report also clearly identifies high-risk populations for TBI such as the elderly, infants, teens and males.

The leading causes of TBI were found to be different for each age group, indicating that different intervention programs are needed for different age groups.

These data will be used to inform policy discussions and intervention planning concerning early childhood safety, athletics, violence, elderly falls and general injury prevention.

