Idaho TSE Registry
Trauma, Stroke, STEMI

Trauma in Idaho 2019

Facts and Figures At-a-Glance

Idaho Hospital Association

IDAHO DEPARTMENT OF HEALTH & WELFARE

FACTS AND FIGURES

Data described in this report are instances of reportable traumatic injury that meet the TSE Registry's inclusion criteria.[1]

INCIDENCE OF TRAUMA

- From 2015—2019, 26,374 qualifying injuries were treated in Idaho hospitals; 6,231 of these occurred in 2019.
- From 2015—2019, rates of traumatic injury have increased 6.9% (95% CI: 0.7—13.6) per year, based on reports to the TSE Registry. Rates in 2019 were 326.1 (95% CI: 317.9—334.6) per 100,000 population (N = 6,143).
- Male Idahoans experienced traumatic injury at 1.53 times the rate of female Idahoans in 2019 (95% CI: 1.45, 1.61). Rates per 100,000 were 391.7 for males (n = 3,546) and 256.5 for females (n = 2,597).
- 40.2% of injuries among male Idahoans occurred at age 60+ years. Rates were highest among male patients aged 80+ years (1,788.2 injuries per 100,000 population).
- 63.0% of injuries among female Idahoans occurred at age 60+ years. Rates were highest among patients aged 80+ years (2,220.2 injuries per 100,000 population).
- Most injuries occurred at a private (non-institutional) residence (43.3%), followed by streets and highways (24.2%), and institutional residences (5.7%). 17.7% of injuries occurred in unspecified or other places.
- Among patients 64 and younger, injuries most frequently occurred in streets and highways (32.6%, n = 1,137); among patients 65+, 60.8% of injuries occurred in a private (non-institutional) residence (n = 1,614).

- 340 injuries were documented as work-related among patients aged 10-80+ years. 40.6% of work -related injuries were falls.

Injury Severity and Cause

Injury Severity Scoring (ISS) is an anatomical scoring system that estimates the severity of a traumatic injury.[2,3] It is correlated with morbidity, mortality, and characteristics of hospitalization (length of hospital stay, treatment complexity). ISS scores of 1—8 are mild injuries, 9—15 are moderate, 16—24 are considered severe, and 25+ are very severe and likely unsurvivable.

- Of the 5,379 injuries that received treatment in an Idaho hospital:
  - 6.3% (n = 339) had an ISS of 25 or more;
  - 9.1% (n = 490) had an ISS from 16—24;
  - 38.6% (n = 2,078) had an ISS from 9—15;
  - 45.9% (n = 2,468) had an ISS from 1—8.

A small number of injuries (n = 4) had an unknown ISS.

Injury mechanism and intent are classified per the National Center for Health Statistics ICD–10–CM Injury Diagnosis Matrix.[1,4] Injuries with an ISS of 25+ were most commonly the result of suffocation, drowning/submersion or firearms. Furthermore, drownings/submersions tended to be more severe injuries, with no drownings/submersions reported as mild. Motor vehicle traffic, pedal cyclist, and transport ("other") were most frequently moderate injuries. All other injury types (firearm, natural/environmental, pedestrian, fire/burn, machinery, falls, struck by/against, cut/pierce, bites and stings, other, and unspecified injuries were most commonly mild injuries.

In 2019, 95.3% (n = 5,124) of injuries were deemed unintentional, 2.6% (n = 126) were assaults, and 2.1% (n = 113) were intentional and self-inflicted. Assaults

and intentional self-inflicted injuries were much more likely among men compared to women; the rate ratio (RR) for assault was 2.97 (95% CI: 2.02, 4.44) and 3.04 for self-inflicted injuries (95% CI: 2.40, 3.89).

Falls

Falls accounted for 3,073 of the 6,143 injuries occurring among Idaho residents in 2019. Overall rates of fall were similar between men and women, but nearly a quarter of all reportable falls occurred among women 80+ years old (740/3,073). In this age category, rates were 1.4 times as high in women than in men (95% CI: 1.25, 1.61), with 2,037 falls per 100,000 female population aged 80+ years.

Rates of falls were relatively elevated among patients 9 years old or younger, with 59.7 and 67.4 falls per 100,000 among females and males, respectively—approximately twice the rates of patients aged 10—29 years. Among patients aged 10—59 years, rates were generally twice as high among males versus females (RR ranging from 1.4 to 2.8).

Most falls occurred in non-institutional, private residences (63.0%; n = 1,935), followed by institutional private residences (10.4%; n = 319) and streets, highways, or other paved roadways (5.6%, n = 171).

Rates of falls were significantly higher than the state average among residents of Bannock and Twin Falls Counties (males and females). For males, rates were higher in Blaine and Custer Counties; for females, rates were higher in Power and Bonneville Counties.

Most falls involved multiple body regions (36.0%), followed by lower extremities (27.6%), head (12.5%), thorax (5.7%), upper extremities (5.6%), and spine (5.3%). A quarter (25.3%) of falls were also traumatic brain injuries.

Although a large proportion of testing data was missing (35.6%) or no testing was performed (49.2%), 3.8% or

118 fall-related injuries were among patients with a blood alcohol concentration (BAC) ≥ 0.08 g/dL; rates of fall-related injury with a BAC ≥ 0.08 g/dL were twice as high among males versus females (RR = 2.06; 96% CI: 1.37, 3.17).

Despite women having higher rates of falls than men from age 60 onwards, males died of fall-related injuries at higher rates than women from age 30 onwards; rates were only statistically significantly different between men and women at ages 60—69 years (RR = 2.59; 95% CI: 1.14, 6.39).

Motor Vehicle Traffic Injuries

There were 1,188 motor vehicle traffic (MVT) injuries among Idaho residents in 2019; the majority of these (94.7%; n = 1,113) occurred on interstate or state highways, or local public roads. Of these 1,188 MVT injuries, 180 were immediately fatal and an additional 57 fatal MVT injuries received care in an Idaho hospital. Of the remaining non-fatal 951 MVT, 27.1% (n = 258) had an ISS of 16 or higher.

Rates of reportable MVT injuries were 1.84 times higher in males than females (95% CI: 1.63, 2.08), with 85.8 injuries per 100,000 among males versus 46.6 per 100,000 among females.

Rates of reportable MVT injuries peaked in the 80+ age group for women and men (89.9 per 100,000 and 144.3 per 100,000, respectively).

Males aged 20—29 years had the highest burden of injury (n = 157), followed by males aged 30—39, 40—49, and 50—59 (mean 105 injuries per age category).

Among 747 unintentional MVT injuries involving vehicle occupants reportable to the TSE Registry and receiving care in an Idaho hospital, 56.7% (n = 416) reported that seatbelts or car seats were in use during the accident, 38.9% (n = 290) did not report use of a seatbelt or car seat and no data were recorded for 5.5% (n = 41) of injuries. Among the 332 instances of unintentional MVT

injuries involving vehicle occupants where airbags were reported as being present, airbags were deployed in 92.1% (n = 306) of injuries.

Data describing BAC in the context of traumatic injury should be interpreted with caution. Testing is conducted at provider discretion, and rates and counts are likely underestimates of intoxication-related injury and likely differential by geography, injury type, patient demographics, and clinical indication.

Despite these limitations, of 1,008 MVT injuries receiving treatment in Idaho hospitals, 32.4% had BAC testing results; 44.0% (n = 144) of patients with BAC results were above the legal limit.

- Males had alcohol impairment-related accidents at 4.4 times the rate of females (95% CI: 2.82, 7.14); rates among males overall were 13.8 per 100,000 population and 3.1 per 100,000 population.
- The highest rates of alcohol impairment-related accidents occurred in males aged 20—29, with 25.2 per 100,000 male population. Rates were highest among females in the 40—49 year old age category, with 9.5 per 100,000 female population.

Other Transport Injuries

Other transport-related injuries include injuries sustained from off-road vehicles used for recreational or sporting activities, bicycles, scooters, animals being ridden, and water and air transport.

- 643 other transport injuries were reported.
- Rates of other transport injury were 2.4 times higher in males than females (95% CI: 1.97, 2.81). Rates in males were 49.6 per 100,000 population (n = 450) and 21.1 per 100,000 population in females (n = 193).
- 56.3% of injuries involved multiple body regions; 15.3% involved lower extremities; 7% involved the thorax; 6.1% involved upper extremities.

- 26.5% (n = 171) other transport injuries were TBI.

Firearm Injuries

- There were 317 firearm-related injuries in 2019, of which 254 were fatal. Rates of fatal firearm-related injuries were 4.4 times higher in males than females (95% CI: 3.26, 5.97).
- Rates of firearm-related injury were highest among males aged 80+ years (74.8 per 100,000; 95% CI: 45.7, 115.6) and 20—29 (50.3 per 100,000; 95% CI: 38.5, 64.4).
- Rates were highest for females in the 50—59 year old age group, at 12.3 per 100,000 population (95% CI: 6.5, 21.3).
- Over half of reported firearm injuries (52.1%; n = 165) occurred in males aged 20—59 years.
- Most firearm injuries were intentional and self-inflicted (73.5%; n = 233). Like firearm injury rates overall, rates of intentional and self-inflicted firearm injuries were higher among males. The highest rates were in the 80+ age category (74.8 per 100,000, indicating that all injuries were intentional.
- No firearm injuries were reported for ages 0—9, and 27 injuries were reported for ages 10—19. Most were intentional and self-inflicted (n = 16), 5 resulted from assault, and 5 were unintentional.

Rates by Idaho Geography

Rural Idaho is disproportionately impacted by traumatic injury. As classified by USDA Rural Urban Continuum 2013 codes,[5] injury rates were highest in non-metro rural areas, with 422.9 injuries per 100,000 population (95% CI: 368.7, 482.9). The second highest rates were found in non-metro areas with small urban populations, with 355.5 injuries per 100,000 population (95% CI: 334.9, 377.0). Mortality rates were also highest in rural areas. See “Rates of Traumatic Injury by Idaho County — 2015–2019” for additional data by county.[6]

References

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