Idaho TSE Registry
Trauma, Stroke, STEMI

Trauma in Idaho 2020

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 2016—2020, 35,214 qualifying injuries were treated in Idaho hospitals. Of these, 8,204 occurred in 2020, of which 7,173 were among Idaho residents.
- From 2016—2020, rates of traumatic injury have increased 7.2% (95% CI: 4.2—10.3) per year, based on reports to the TSE Registry. Age-adjusted rates in 2020 were 370.3 (95% CI: 361.6—379.2) per 100,000 population (n = 7,173).
- Male Idahoans experienced traumatic injury at 1.51 times the rate of female Idahoans in 2019 (95% CI: 1.44, 1.58). Rates per 100,000 were 442.1 for males (n = 4,109) and 293.0 for females (n = 3,064).
- 39.6% of injuries among male Idahoans occurred at age 60+ years. Rates were highest among male patients aged 80+ years (1,922.9 injuries per 100,000 population).
- 64.3% of injuries among female Idahoans occurred at age 60+ years. Rates were highest among patients aged 80+ years (2,406.7 injuries per 100,000 population).
- Most injuries occurred at a private (non-institutional) residence (47.9%, n = 3,437), on streets and highways (20.5%), and institutional residences (5.3%, n = 1,471). 18.6% (n = 1,336) of injuries occurred in unspecified/other places.
- Among patients < 65 years old, injuries most frequently occurred in private (non-institutional) residences (33.4%, n = 1,345), on streets and highways (29.1%, n = 1,172), and in unknown locations (26.2%, n = 1,057).

- Among patients 65+ years old, 66.6% of injuries occurred in a private (non-institutional) residence (n = 2,092) and 10.4% (n = 328) in an institutional residence. Only 8.9% occurred in an unknown location.
- 321 injuries were documented as work-related. 39.3% (n = 126) of work-related injuries were falls, and 26.8% (n = 86) were motor vehicle- or machinery-related.

Injury Severity, Mechanism and Intent

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 6,308 injuries that received treatment in an Idaho hospital:
  - 6.7% (n = 422) had an ISS of 25 or more;
  - 9.0% (n = 567) had an ISS from 16—24;
  - 40.2% (n = 2,536) had an ISS from 9—15;
  - 43.9% (n = 2,771) had an ISS from 1—8.

ISS was not available for a small number of injuries (n = 12, 0.2%).

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 falls and motor vehicle accidents. However, not reflected in these statistics is that the majority of drownings, suffocations, and firearm injuries are immediately fatal and do not seek or receive care in Idaho acute care facilities. Drownings/submersions treated in Idaho hospitals tended to be more severe injuries, with no drownings/submersions

reported as mild. Motor vehicle traffic, “other” pedestrian, “other” transport, and “other” pedal cyclist were most frequently moderate injuries. All other injury types (natural/environmental, fire/burn, falls, cut/pierce, machinery, struck by/against, child/adult abuse, bites and stings) were most commonly mild injuries.

In 2020, 90.0% (n = 6,457) of injuries were deemed unintentional, 3.1% (n = 224) were assaults, and 6.4% (n = 458) 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 3.09 (95% CI: 2.56, 4.30) and 3.87 for self-inflicted injuries (95% CI: 3.06, 4.95).

Falls

Falls accounted for 3,766 of the 7,173 injuries occurring among Idaho residents in 2020. Overall fall rates were similar between men and women, but 22.5% of all reportable falls occurred among women 80+ years old (847/3,766). In this age category, rates were 1.4 times as high in women than in men (95% CI: 1.25, 1.58), with 2,262.5 falls per 100,000 population.

Rates of falls were relatively elevated among patients 9 years old or younger, with 88.8 and 47.6 falls per 100,000 among females and males, respectively—approximately twice the rates of patients aged 10—29 years. Among patients aged 00—49 years, rates were generally twice as high among males versus females (RR ranging from 1.86 to 2.93).

Most falls occurred in non-institutional, private residences (66.9%; n = 2,518), followed by institutional private residences (9.1%; n = 341) and streets, highways, or other paved roadways (4.5%, n = 170).

Five-year age-adjusted rates of falls among all Idaho residents were significantly higher than the state average in Bannock, Bingham, Bonneville, Elmore, Jerome, Kootenai, Shoshone, and Twin Falls Counties.

Most falls involved the lower extremity body region (32.7%), followed by multiple body regions (30.8%), head (11.9%), upper extremities (6.3%), spine (4.9%), and thorax (4.7%). Nearly a quarter (23.6%, n = 890) of falls were also traumatic brain injuries.

Although a large proportion of testing data was missing (33.8%) or no testing was performed (38.3%), 5.4% (n = 203) of 202 fall-related injuries were among patients with a blood alcohol concentration (BAC) ≥ 0.08 g/dL; unlike prior years, 2020 rates of fall-related injury with a BAC ≥ 0.08 g/dL were similar among males and females (RR = 1.08; 96% CI: 0.80, 1.45).

Males died of fall-related injuries at higher rates than women from ages 30—69; rates were statistically significantly higher among males versus females ages 30—69 years (RR = 1.39; 95% CI: 1.19, 1.63).

Motor Vehicle Traffic Injuries

There were 1,134 motor vehicle traffic (MVT) injuries among Idaho residents in 2020; 92.6% (n = 1,050) occurred on interstate or state highways, or local public roads. Of these 1,134 injuries, a total of 239 people died (174 immediately fatal; 65 receiving care in an Idaho hospital). Of the remaining 960 MVT that received care at an acute care facility, 30.3% (n = 291) had an ISS of 16 or more.

Rates of reportable MVT injuries were 1.71 times higher in males than females (95% CI: 1.51, 1.94), with 78.9 injuries per 100,000 males versus 46.2 per 100,000 females.

Rates of reportable MVT injuries were highest in the 20—29 year old age group for women and men (74.5 and 112.3 per 100,000, respectively).

Males aged 20—29 years had the highest burden of injury (n = 141), followed by males aged 30—39, 40—49, and 50—59 (mean 107.3 injuries per age category).

Of 699 unintentional MVT injuries involving vehicle occupants receiving care in an Idaho hospital, 48.9% (n =

342) reported that seatbelts or car seats were in use during the accident, 45.6% (n = 319) did not report use of a seatbelt or car seat and no data were recorded for 5.4% (n = 38) of injuries. Of 326 (46.6%) instances of unintentional MVT injuries involving vehicle occupants where airbags were reported as being present, airbags were deployed in 87.1% (n = 284) of injuries.

Data describing BAC in the context of traumatic injury should be interpreted with caution. Testing is conducted at provider discretion; rates and counts likely underestimate the burden of intoxication-related injury.

Despite these limitations, of 960 MVT injuries receiving treatment in Idaho hospitals, 65.2% had BAC testing results; 23.8% (n = 149) of patients with BAC results were above the legal limit.

- Among Idahoans aged ≥ 15 years, males had alcohol-related accidents at 2.95 times the rate of females (95% CI: 2.02, 4.43); rates among males and females were 16.5 and 5.6 per 100,000 population, respectively.
- The highest rates of alcohol impairment-related accidents occurred in males aged 40—49, with 24.4 per 100,000 male population. Rates were highest among females in the 20—29 year old age category, with 9.5 per 100,000 female population.

Other Transport Injuries

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

- 761 other transport injuries were reported.
- Rates of other transport injury were 2.5 times higher in males than females (95% CI: 2.15, 2.99). Rates in males and females were 59.4 and 23.4 per 100,000 population, respectively.
- 61.9% of injuries involved multiple body regions;

17.9% involved lower extremities; and 4.7% involved the thorax.

- 24.4% (n = 186) of these injuries were TBI.

Firearm Injuries

- 430 firearm-related injuries were reported in 2020, of which 323 were fatal. Fatal firearm-related injury rates were 6.13 times higher in males than females (95% CI: 4.43, 8.70).
- Rates of firearm-related injury were highest among males aged 80+ years (71.5 per 100,000; 95% CI: 43.6, 110.5) and 20—29 (64.7 per 100,000; 95% CI: 51.5, 80.3).
- Rates were highest for females in the 50—59 year old age group, at 15.5 per 100,000 population (95% CI: 8.8, 25.4).
- Nearly 60% of reported firearm injuries (57.2%; n = 246) occurred in males aged 20—59 years.
- Most firearm injuries were intentional and self-inflicted (68.4%; n = 294). Rates of intentional and self-inflicted firearm injuries were 5.9 times higher among males. The highest rates were in the 80+ age category (71.5 per 100,000), where all injuries were intentional.
- 5 firearm injuries were reported for ages 0—9; 42 injuries were reported for ages 10—19. Of these 42, 24 were intentional and self-inflicted, 4 resulted from assault, and 13 were unintentional.

Rates by Idaho Geography

Rural Idaho is disproportionately impacted by traumatic injury. Injury rates were highest in non-metro rural areas, with 459.7 injuries per 100,000 population (95% CI: 403.6, 521.4; USDA Rural Urban Continuum 2013).[5] Mortality rates were also highest in rural areas. See "Rates of Traumatic Injury by Idaho County — 2016–2020" for additional data by county.[6]

References

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