

North Dakota Trauma Data Report

2014

The North Dakota Trauma Registry is a statewide data collection system that gathers information on injured patients from all North Dakota hospitals. Findings from the trauma registry data are used to recommend system enhancements and modifications and to develop evidence-based injury prevention strategies.



NORTH DAKOTA
DEPARTMENT *of* HEALTH

Data Limitations

All data presented was taken from the North Dakota State Trauma Registry unless otherwise stated. The data for this report was compiled in August 2015. Individuals that are transferred to another N.D. facility for a higher level of care are included in the registry twice. This rate of duplication is estimated at 15 percent.

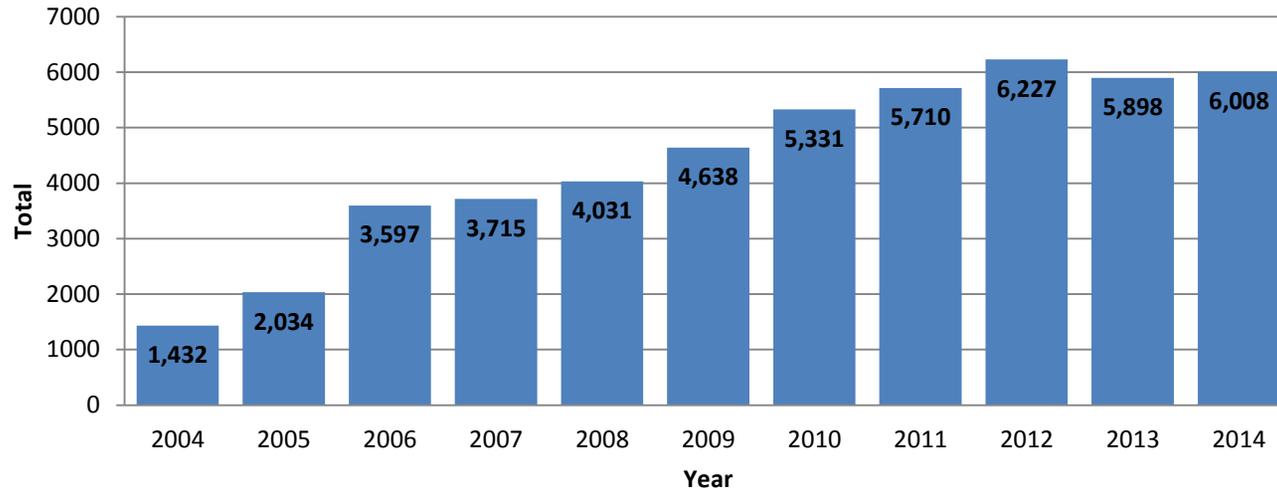
Data element definitions and field options can be found at www.ndhealth.gov/trauma/resource. The inclusion criteria for the state registry are located on page 12 of this report.

Calculations

** Mortality Rate Calculations - $(\text{Vital Statistics Deaths} / \text{Population U.S. Census Bureau, Population Estimates}) * 100,000$

SYSTEM INFORMATION

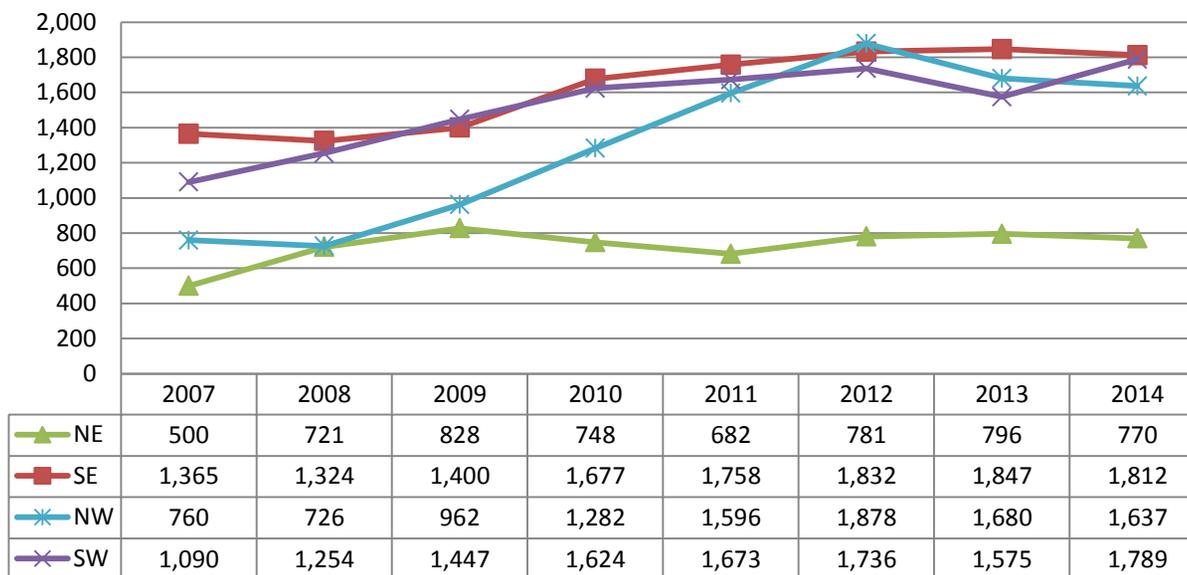
Trauma Registry Submissions by Hospital Arrival Year



The considerable increase in registry submissions from 2004 to 2007 is in part due to an increase in hospital participation. After 2008, the increase may show more patients met trauma inclusion criteria. Possible reasons for the increase include increased population, increased oil drilling activity, and more education for trauma designated facilities about which patients should be included in the registry.

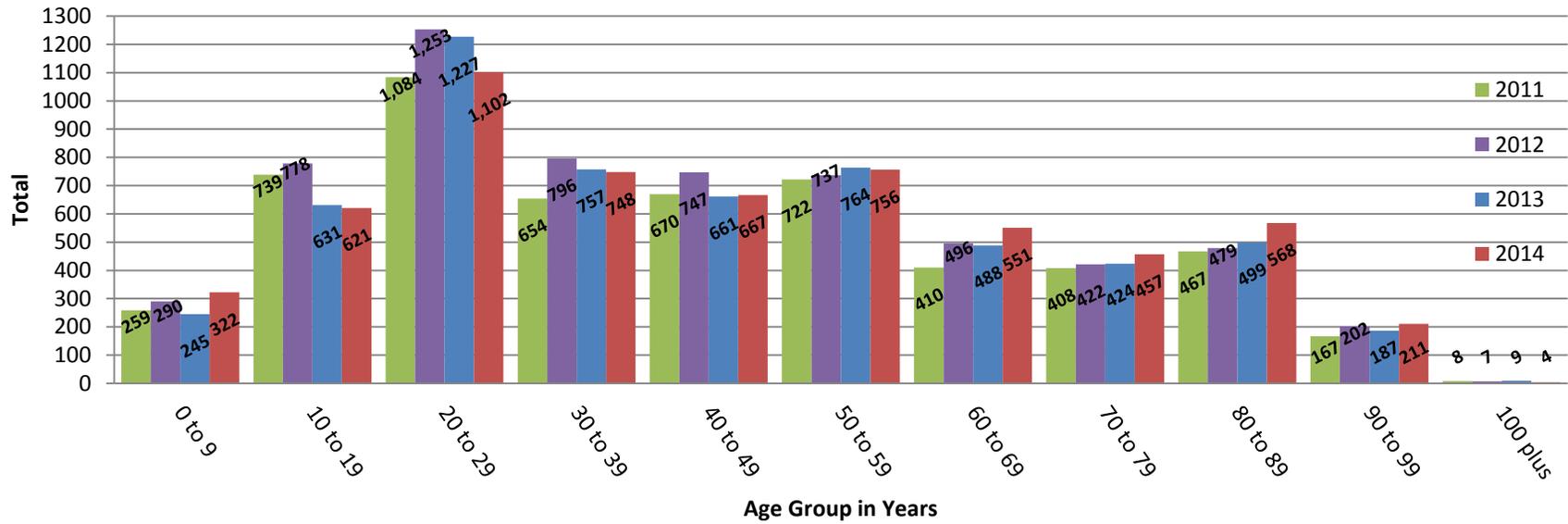
Level II facilities reported 4,066 patients. Level IV, V and non-designated facilities reported 1,942 patients.

Yearly Trauma Submissions by Trauma Region

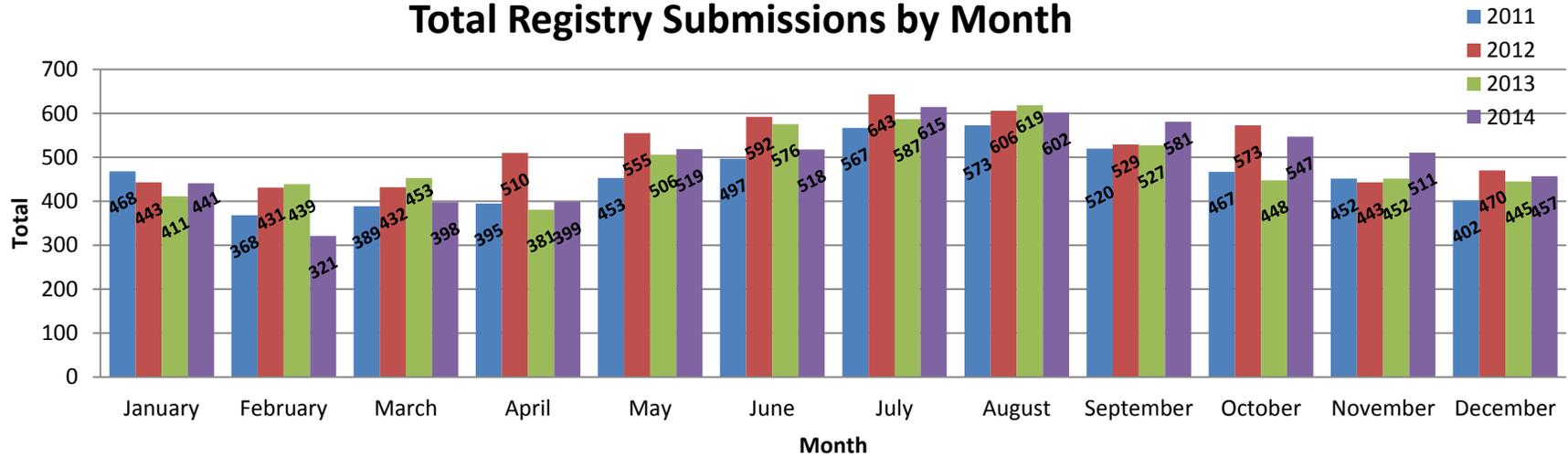


A majority of the population and industry increase is located in the Northwest region. The Northwest region showed a 115 percent increase from 2007-2014.

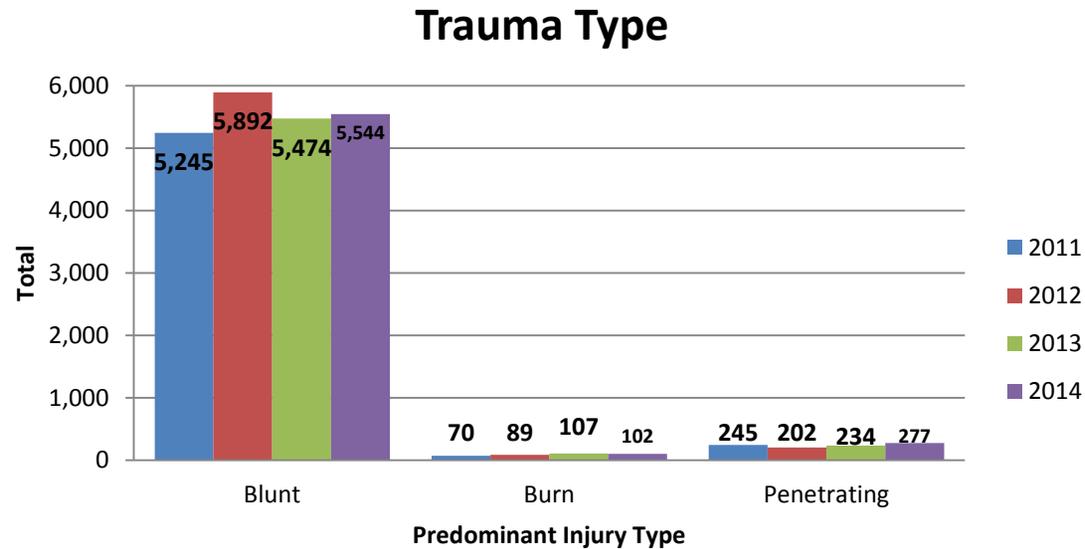
Trauma Registry Submissions by Age Range



Total Registry Submissions by Month

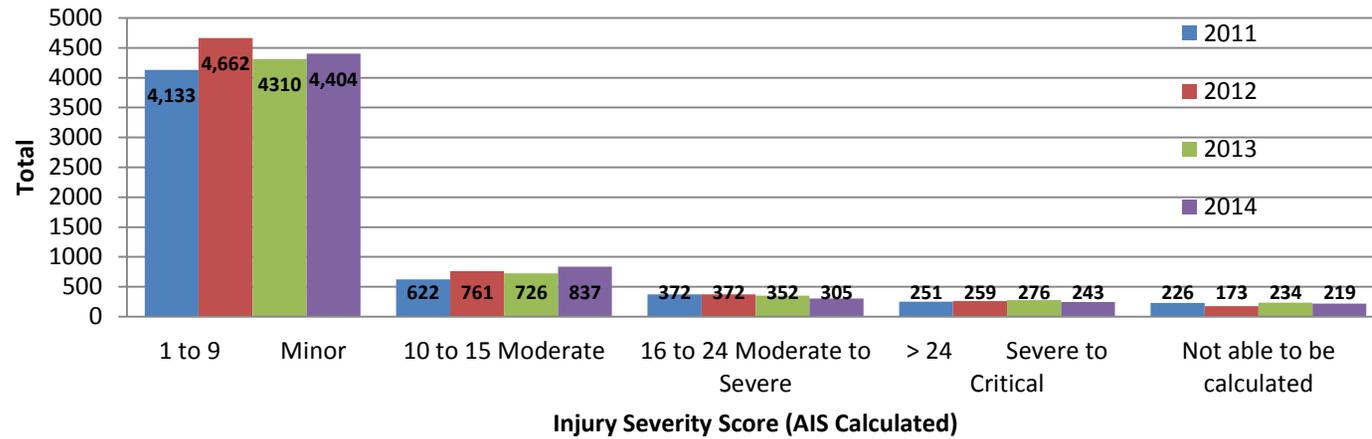


INJURY INFORMATION



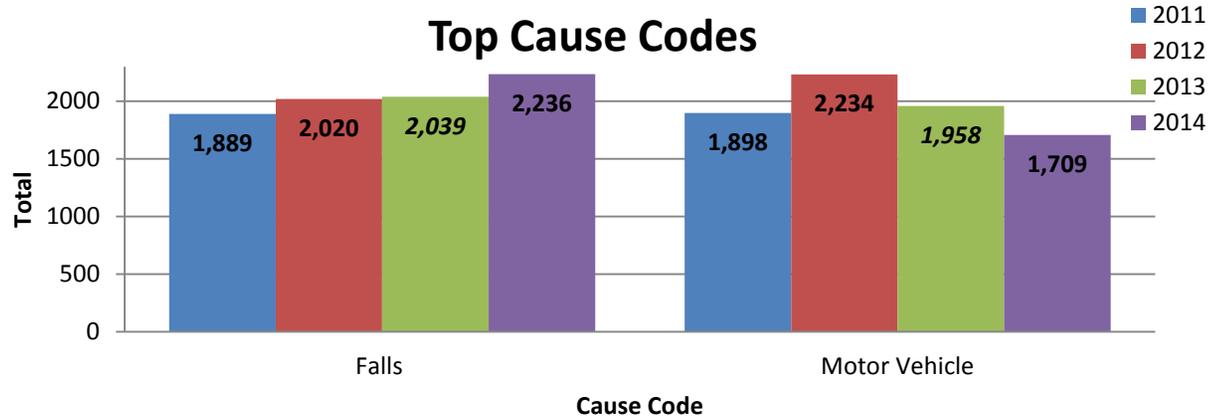
Blunt trauma continues to be the predominant injury type. However, penetrating injuries have increased. In overall trauma submissions, males represent 64 percent. However, in the penetrating injury population, males represented 86 percent. Males represented 87 percent of the burn population.

Total by Injury Severity Score Grouping

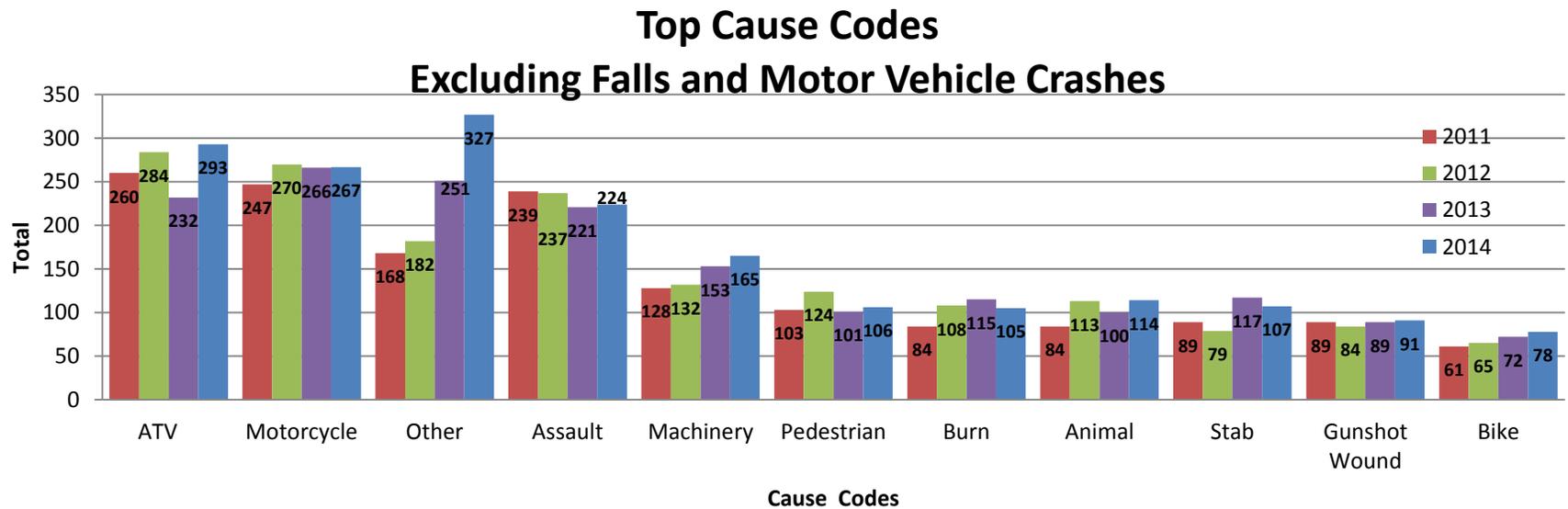


Most injuries were minor, which remained consistent from 2011 to 2014.

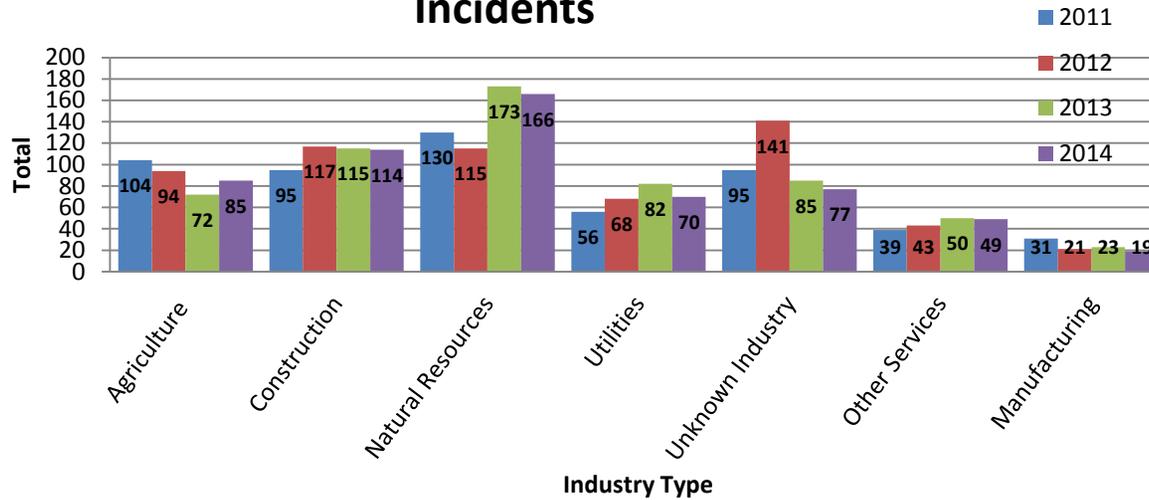
CAUSES



Falls and motor vehicle crashes account for the majority of trauma in North Dakota.

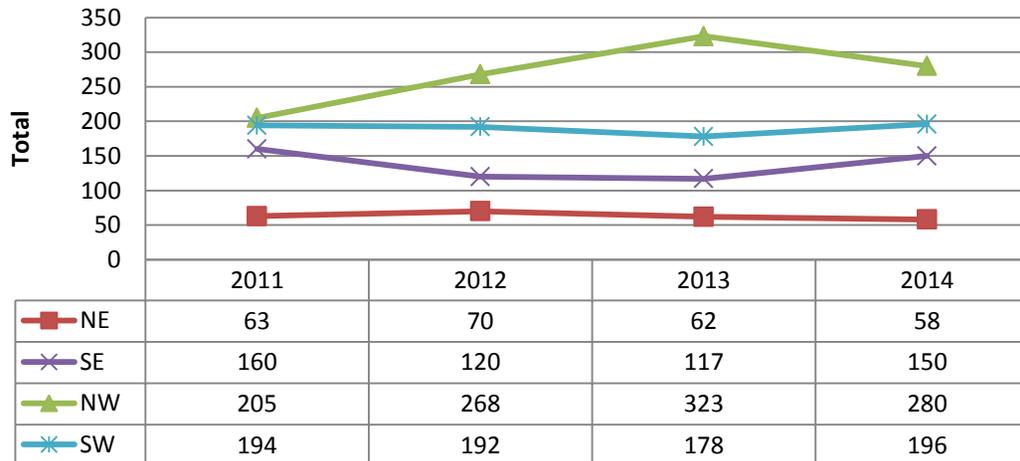


Leading Industry Types for Work Related Incidents



A large amount of injuries occurred in unknown industries. The Northwest region has a majority of the work-related accidents with 41 percent.

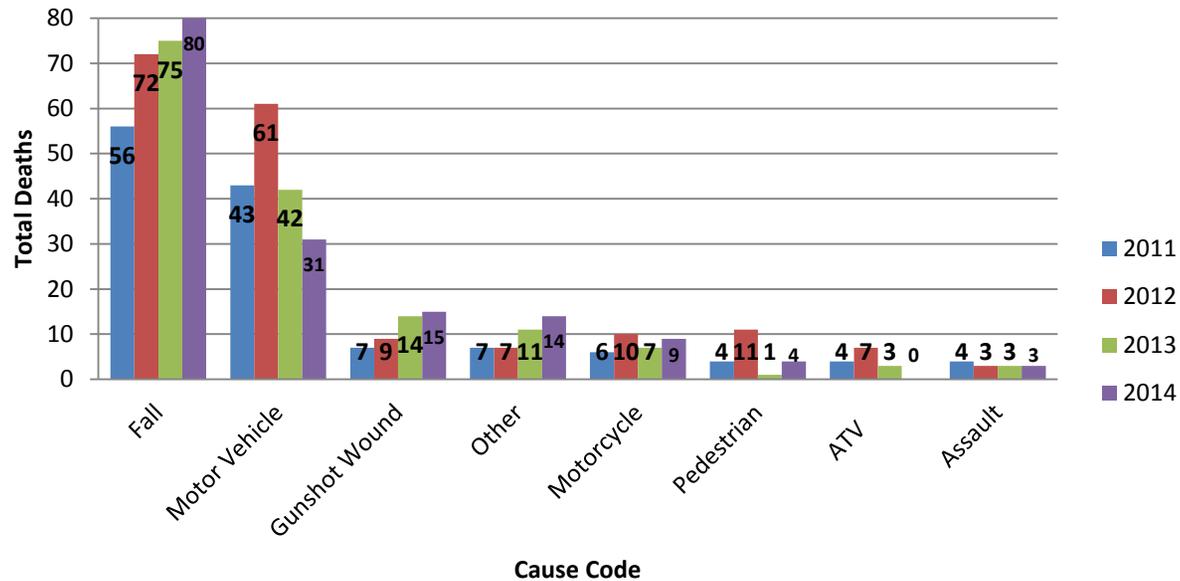
Work Related Accidents by Region



DEATHS

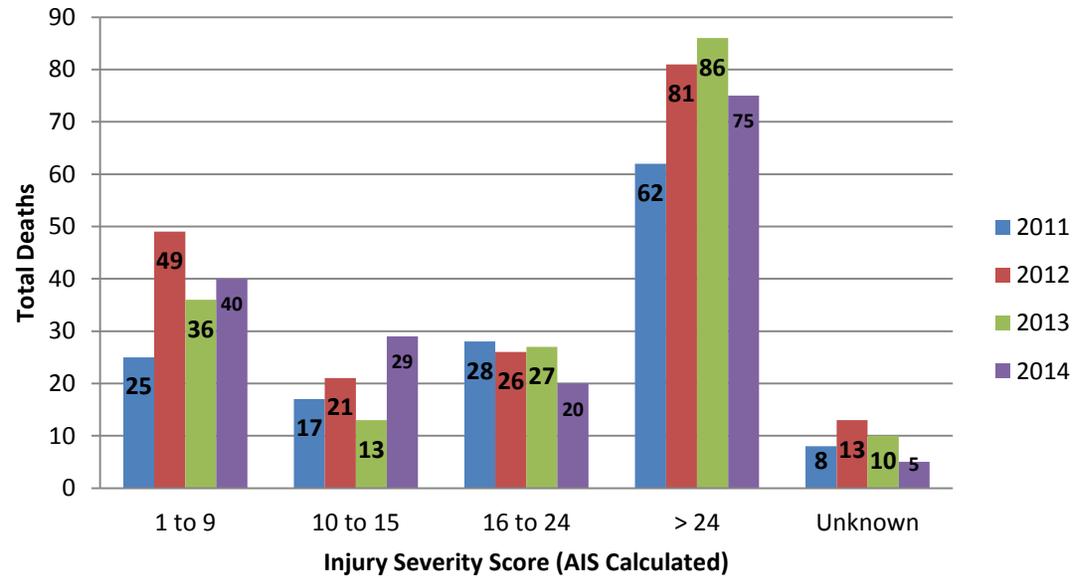
Injuries are a major public health concern in both North Dakota and the United States. In fact, unintentional injury is the leading cause of death for people ages 1 through 44 and the third-leading cause of death for people ages 45 through 54 in North Dakota. In 2014, 496 deaths due to external causes were reported for North Dakota residents to the North Dakota Department of Health Division of Vital Records. From 2010 – 2014, 2,360 North Dakotans died due to external causes. This number includes residents of North Dakota that died in another state. This number does not include out-of-state residents that died in North Dakota. The mortality rate** for deaths due to external causes of North Dakota citizens remains consistent around 67 per 100,000.

10 Leading Causes of Death by Cause Code



The numbers are very small; therefore, high degrees of variability can be expected.

Deaths by Injury Severity Score Grouping



Registrars at the smaller facilities have never been trained in Abbreviated Injury Scaling (AIS), which does question the validity of the Injury Severity Score (ISS) calculated. Most deaths came from the severe to critical category as expected.

Trauma Designated Hospitals

Level II Trauma Centers

Altru Health Systems – Grand Forks, N.D.
Essentia Health – Fargo, N.D.
Sanford Health – Bismarck, N.D.
Sanford Health – Fargo, N.D.
St. Alexius Medical Center – Bismarck, N.D.
Trinity Hospitals – Minot, N.D.

Level IV Trauma Centers

Jamestown Hospital – Jamestown, N.D.
Mercy Medical – Williston, N.D.
Mobridge Regional Hospital – Mobridge, S.D.
Pembina County Memorial Hospital – Cavalier, N.D.
Sakakawea Medical Center – Hazen, N.D.
St. Joseph's Hospital – Dickinson, N.D.
SW Health Care Services – Bowman, N.D.
West River Regional Medical Center – Hettinger, N.D.



Level V Trauma Centers

Ashley Medical Center – Ashley, N.D.
Carrington Health Center – Carrington, N.D.
Cavalier County Memorial Hospital – Langdon, N.D.
Community Memorial Hospital - Turtle Lake, N.D.
Cooperstown Medical Center – Cooperstown, N.D.
First Care Health Center - Park River, N.D.
Garrison Memorial Hospital – Garrison, N.D.
Heart of America Medical Center – Rugby, N.D.
Hillsboro Medical Center – Hillsboro, N.D.
Jacobsen Memorial Hospital – Elgin, N.D.
Kenmare Community Hospital – Kenmare, N.D.
Linton Hospital – Linton, N.D.
Lisbon Area Health Services – Lisbon, N.D.
McKenzie County Health Systems – Watford City, N.D.
Mercy Hospital – Devils Lake, N.D.
Mercy Hospital - Valley City, N.D.
Mountrail County Medical Center – Stanley, N.D.
Nelson County Health System – McVille, N.D.
Northwood Deaconess Health Center – Northwood, N.D.
Oakes Community Hospital – Oakes, N.D.
Presentation Medical Center – Rolla, N.D.
Standing Rock Hospital, Fort Yates, N.D.
St. Aloisius Medical Center – Harvey, N.D.
St. Andrews Medical Center – Bottineau, N.D.
St. Luke's Hospital – Crosby, N.D.
Tioga Medical Center – Tioga, N.D.
Towner County Medical Center – Cando, N.D.
Sanford Health Union Hospital – Mayville, N.D.
Unity Medical Center – Grafton, N.D.
Wishek Community Hospital – Wishek, N.D.

Trauma Inclusion/Exclusion Criteria

Patients to be downloaded to the State of North Dakota

INCLUDED:

- ❖ All Trauma Codes/Alerts or any level of trauma team activation (regardless of ICD9)
- ❖ International Classification of Diseases, Ninth Revision (ICD9) codes of 800 to 959.9 and 991.0 to 3 (frostbite) and one or more of the following:
 - Deaths that are registered to the hospital
 - Interfacility transfers by ambulance that are admitted to the receiving hospital
 - Transfers out by ambulance
 - Patients admitted for > 48 hours
 - Patients admitted from ED to ICU

EXCLUDED:

Same level falls with isolated hip fractures in patients 60 years of age or older (ICD9 codes of 820 to 821)

Inhalation of food/object (ICD9 codes of 933 to 938)

Late effects/complications (ICD9 codes of 905 to 909)

These are excluded from the trauma registry, unless they are a trauma code/alert or they have an additional injury code.

Poisoning (ICD9 codes of 960 to 989.9)

Hanging (ICD9 codes of 994.7)

Adult and child maltreatment (ICD9 codes of 995.5 to 995.8)

Drowning (ICD9 codes of 994.1)