



Injuries in South Dakota

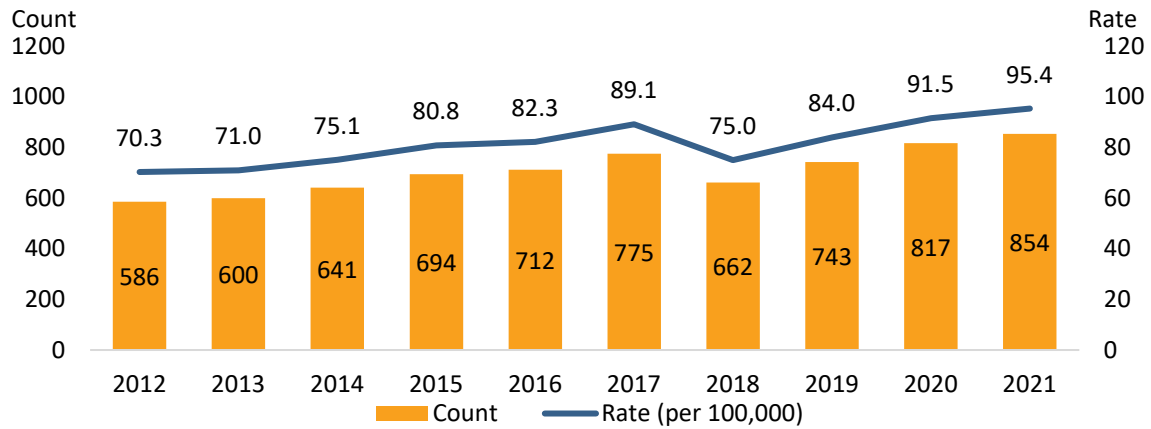
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Injury is physical harm or damage to the body that can result in the impairment or destruction of health. Injuries can be the result of intentional or unintentional events such as falls, motor vehicle accidents, firearms, poisoning, drowning, or suffocation (for terminology see page 7). Injuries are a serious public health problem that can have a lifelong impact. Understanding the prevalence of injuries is a key part of protecting South Dakotans from injury so individuals, families, and communities can be safe, healthy, and thriving.

Fatal Injuries

From 2012 to 2021, there were 7,084 injury-related deaths in South Dakota. Fatal injuries increased 46% from 586 deaths in 2012 to 854 deaths in 2021. The highest rate of fatal injuries was in 2021 (95.4 per 100,000).

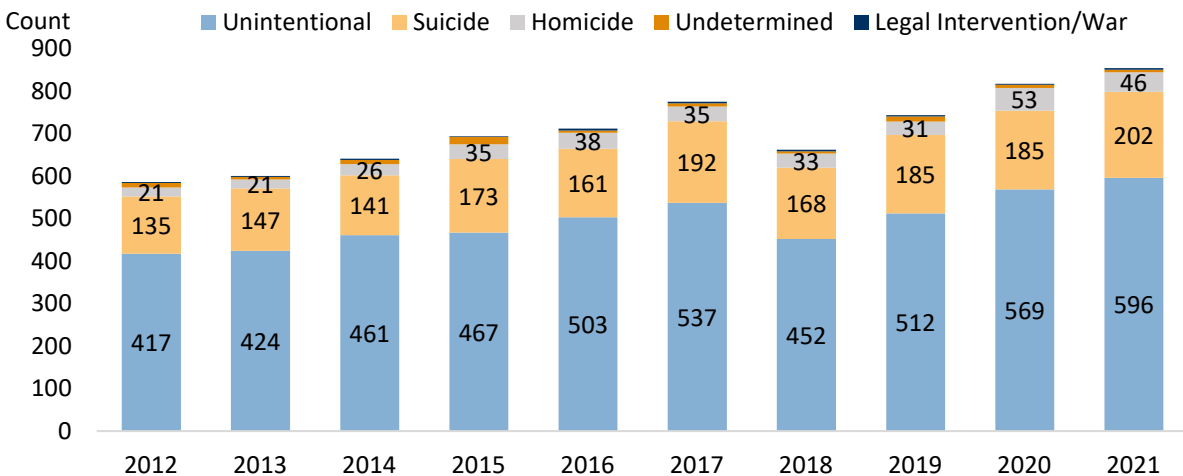
Figure 1: Fatal Injury Counts and Rates (per 100,000), South Dakota



70%
of fatal injuries were
unintentional

Of the 7,084 injury-related deaths, 70% were unintentional, 24% were suicides, 5% were homicides, 1% were undetermined, and <1% were legal intervention or war. Figure 2 shows the breakdown of intent by year.

Figure 2: Fatal Injuries by Intent



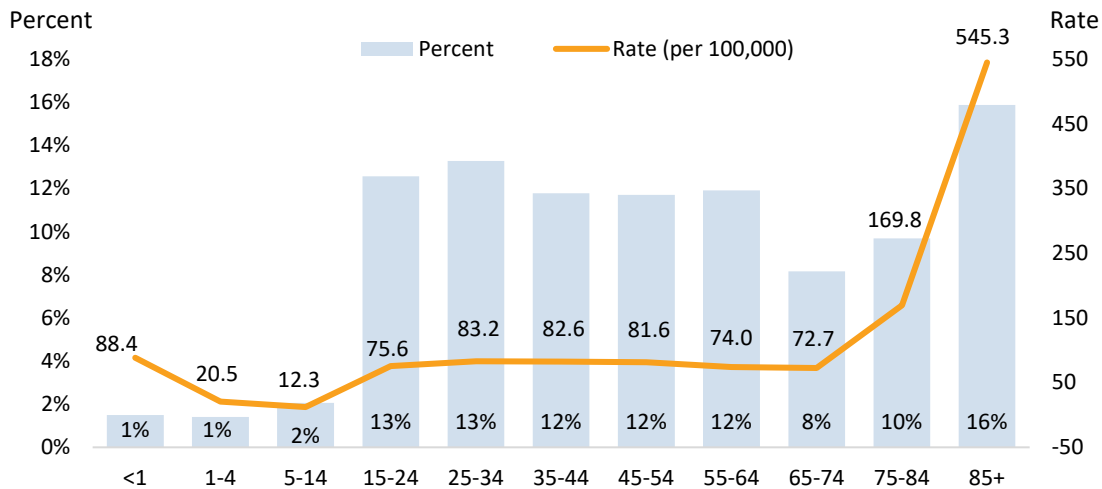
The top three mechanisms of injury-related deaths for all intents were falls, motor vehicle traffic accidents, and firearms. Table 1 shows the number of injury-related deaths by intent and mechanism.

Table 1: Fatal Injuries by Intent and Mechanism of Death (2012-2021)

Mechanism of Death	Intent of Death						LI/War
	All Injury	Unintentional	Suicide	Homicide	Undetermined		
All Injury	7,084	4,938	1,689	339	87	31	
Cut/Pierce	97	4	24	67	2	--	
Drowning	117	106	9	1	1	--	
Fall	1,836	1,819	15	1	1	--	
Fire/Burn	135	126	4	3	2	--	
Firearm	1,035	29	839	138	3	26	
Machinery	42	42	--	--	--	--	
Motor Vehicle Traffic (MVT)	1,416	1,416	--	--	--	--	
Pedal Cyclist, Non-MVT	8	8	--	--	--	--	
Pedestrian, Non-MVT	19	19	--	--	--	--	
Other Transportation	120	107	7	4	2	--	
Natural/Environmental	126	126	--	--	--	--	
Overexertion	5	5	--	--	--	--	
Poisoning	913	686	185	3	39	--	
Struck By/Against	52	28	--	24	--	--	
Suffocation	854	233	595	16	10	--	
Other Specified	199	150	11	22	11	5	
Unspecified	110	34	--	60	16	--	

Males made up 66% of fatal injuries and were two times more likely to die from injuries than females (106.9 vs 55.9 per 100,000, respectively). The largest proportion of fatal injuries was among the White population (75%), followed by the American Indian/Alaska Native population (21%). In South Dakota, American Indians make up about 9% of the total state population. South Dakota adults aged 85 years and older (545.3 per 100,000), followed by adults aged 75-84 years (169.8 per 100,000), had the highest fatal injury rates by age group.

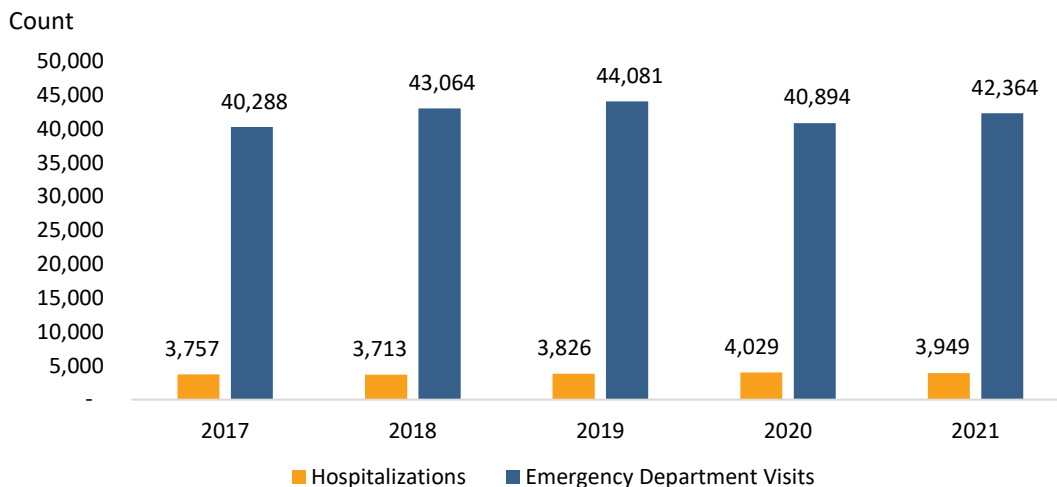
Figure 3: Fatal Injuries by Age Group (2012-2021)



Nonfatal Injuries

From 2017 to 2021, there were 229,965 nonfatal injury-related hospitalizations and emergency department visits in South Dakota. In 2021 alone, there were 3,949 hospitalizations and 42,364 emergency department visits related to injuries.

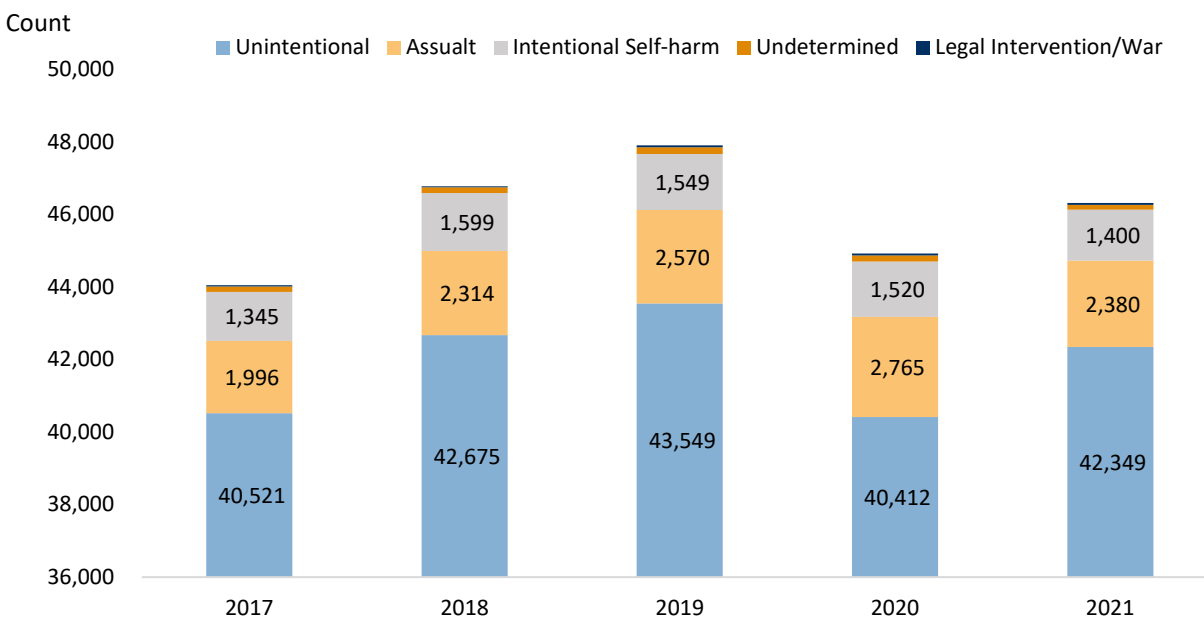
Figure 4: Nonfatal Injury Hospitalizations and Emergency Department Visits



91%
of nonfatal injuries were
unintentional

By intent, 91% of visits were unintentional, 5% were assault, 3% were intentional self-harm, 0.3% were undetermined, and 0.1% were legal intervention or war. Figure 5 shows the breakdown of intent by year.

Figure 5: Nonfatal Injuries by Intent



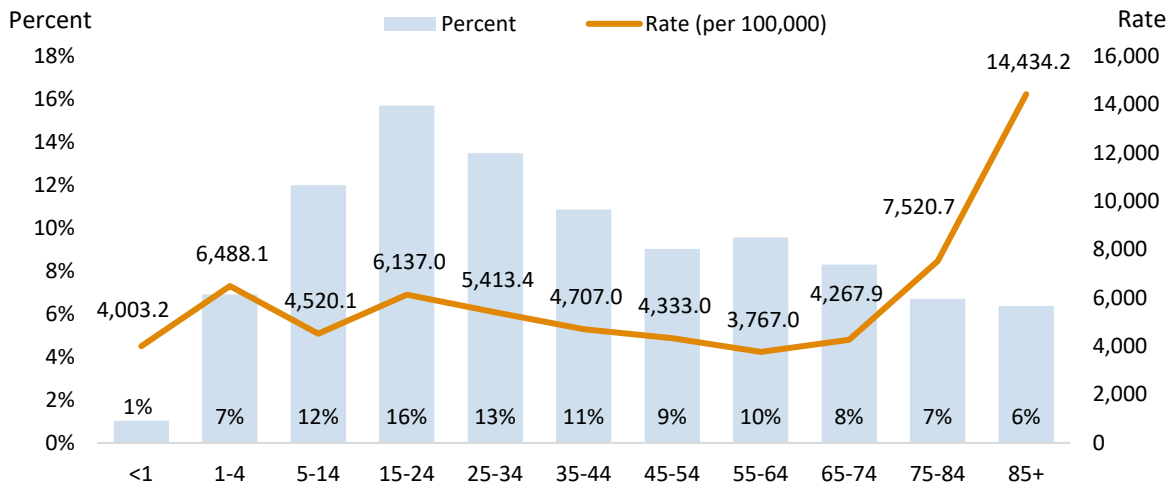
The top three mechanisms of injury-related hospitalizations and emergency department visits for all intents were falls, struck by or against, and cut or pierced. Table 2 shows the number of injury-related visits by intent and mechanism.

Table 2: Nonfatal Injuries by Intent and Mechanism, South Dakota (2017-2021)

Mechanism of Injury	All Injury	Intent of Death				LI/War
		Unintentional	Intentional Self-harm	Assault	Undetermined	
All Injury	229,965	209,506	7,413	12,025	800	221
Cut/Pierce	22,184	19,542	1,684	883	73	2
Drowning	117	30	5	--	82	--
Fall	88,580	88,544	11	4	21	--
Fire/Burn	2,784	2,708	52	8	16	--
Firearm	528	376	40	85	10	17
Machinery	2,189	2,189	--	--	--	--
Motor Vehicle Traffic (MVT)	17,113	17,090	17	6	--	--
Motor Vehicle, Nontraffic	3,431	3,431	--	--	--	--
Pedal Cyclist, Non-MVT	1,943	1,943	--	--	--	--
Pedestrian, Non-MVT	369	369	--	--	--	--
Other Transportation	2,937	2,937	--	--	--	--
Natural/Environmental	9,929	9,921	1	--	7	--
Overexertion	10,914	10,914	--	--	--	--
Poisoning, Drug	8,152	2,940	4,744	15	453	--
Poisoning, Non-Drug	1,383	1,141	177	8	57	--
Struck By/Against	32,103	24,010	3	7,967	19	104
Suffocation	394	213	167	9	5	--
Other Specified	13,591	12,150	125	1,189	57	70
Unspecified	11,324	9,058	387	1,851	--	28

Of the 229,965 nonfatal injuries, males made up 52% and females made up 48%. The largest proportion of nonfatal injuries was among the White population (72%), followed by the American Indian/Alaska Native population (18%). In South Dakota, American Indians make up about 9% of the total state population. South Dakota adults aged 85 years and older (14,434.2 per 100,000), followed by adults aged 75-84 years (7,520.7 per 100,000), had the highest nonfatal injury rates by age group.

Figure 6: Nonfatal Injuries by Age Group (2017-2021)



Injuries by County

Some counties experience higher rates of fatal and nonfatal injuries. Counties with the highest rate of fatal injuries includes Buffalo, Todd, Oglala Lakota, Corson, and Dewey (2012-2021). Counties with the highest rate of nonfatal injury-related hospitalizations (hosp.) includes Jackson, Oglala Lakota, Todd, Buffalo, and Mellette (2017-2021). And counties with the highest rate of nonfatal injury-related emergency department (ED) visits includes Buffalo, Corson, Jackson, Lyman, and Bennett (2017-2021).

Table 3: Fatal and Nonfatal Injury Counts and Rates (per 100,000) by County

County	Death Count	Death Rate	Hosp. Count	Hosp. Rate	ED Visit Count	ED Visit Rate
Aurora	18	65.6	42	305.1	654	4,750.1
Beadle	140	76.3	329	353.3	2,032	2,182.0
Bennett	49	142.9	108	631.9	1,327	7,763.9
Bon Homme	59	84.5	187	538.5	1,728	4,976.0
Brookings	155	45.4	402	230.0	7,685	4,396.3
Brown	257	66.6	855	440.3	12,533	6,454.6
Brule	51	96.6	110	417.7	1,841	6,991.0
Buffalo	49	243.4	97	982.2	1,158	11,725.4
Butte	82	79.5	160	309.2	2,830	5,468.4
Campbell	16	116.1	8	116.1	165	2,394.1
Charles Mix	125	134.4	270	580.9	3,299	7,097.2
Clark	34	92.0	78	414.9	887	4,718.1
Clay	63	44.5	237	331.5	2,713	3,794.6
Codington	188	67.1	590	419.2	9,690	6,885.2
Corson	87	211.4	64	314.4	2,263	11,116.6
Custer	94	108.9	137	311.3	1,974	4,484.8
Davison	154	77.7	369	372.9	6,220	6,285.4
Day	57	103.4	146	536.6	1,840	6,762.5
Deuel	26	60.2	95	440.1	1,000	4,632.4
Dewey	113	198.7	215	750.0	741	2,584.9
Douglas	33	112.3	51	351.4	672	4,630.0
Edmunds	36	91.2	82	421.1	1,022	5,248.3
Fall River	90	131.5	212	622.3	2,158	6,334.4
Faulk	22	94.8	62	543.8	327	2,868.2
Grant	55	76.5	157	438.8	1,814	5,070.0
Gregory	42	100.2	145	696.5	1,278	6,138.6
Haakon	19	100.6	54	571.1	425	4,494.5
Hamlin	37	61.0	122	397.2	1,678	5,463.7
Hand	27	82.5	70	438.8	762	4,776.8
Hanson	22	64.3	26	150.8	392	2,273.0
Harding	14	109.4	14	217.8	103	1,602.6
Hughes	128	72.9	310	352.8	4,805	5,468.2
Hutchinson	70	96.0	182	495.6	2,211	6,020.9
Hyde	16	119.5	46	716.7	271	4,222.5
Jackson	57	175.6	172	1,065.7	1,388	8,600.3
Jerauld	17	85.7	46	474.0	521	5,368.4
Jones	6	63.7	20	436.3	165	3,599.5

County	Death Count	Death Rate	Hosp. Count	Hosp. Rate	ED Visit Count	ED Visit Rate
Kingsbury	49	97.3	152	608.3	1,672	6,690.9
Lake	66	53.3	212	341.9	3,002	4,841.8
Lawrence	199	78.5	457	353.2	6,549	5,061.1
Lincoln	208	36.8	880	286.2	7,603	2,472.6
Lyman	51	132.8	100	524.5	1,528	8,013.8
Marshall	34	71.2	60	249.6	831	3,456.9
McCook	42	75.0	152	545.9	1,059	3,803.1
McPherson	23	95.1	50	416.8	463	3,859.9
Meade	197	70.8	407	283.8	6,245	4,354.8
Mellette	29	140.6	84	824.5	248	2,434.2
Miner	20	88.2	64	572.8	575	5,146.3
Minnehaha	1,350	71.8	4,902	504.9	43,525	4,482.6
Moody	43	66.4	110	337.7	1,837	5,639.5
Oglala Lakota	319	225.2	727	1,031.3	2,365	3,354.8
Pennington	948	86.2	2,313	410.6	28,355	5,033.0
Perkins	22	74.5	23	159.6	60	416.3
Potter	27	117.7	75	667.9	739	6,581.2
Roberts	130	126.1	151	292.6	3,886	7,529.1
Sanborn	17	71.9	45	377.4	526	4,411.6
Spink	53	82.0	195	611.9	2,164	6,790.3
Stanley	24	79.6	55	359.9	670	4,383.7
Sully	7	49.3	19	269.2	199	2,819.9
Todd	228	227.9	497	991.5	822	1,639.9
Tripp	56	102.3	192	702.7	2,094	7,663.3
Turner	67	80.1	229	542.7	1,881	4,457.5
Union	85	55.1	173	217.2	1,193	1,497.9
Walworth	59	107.9	97	357.3	1,939	7,142.1
Yankton	186	81.7	543	474.7	5,966	5,215.8
Ziebach	35	127.6	40	301.0	123	925.5

Note: Rates based on counts less than 20 are considered unstable and should be viewed with caution.

Terminology

Injury Intent: Intent, or manner of injury, describes whether an injury was deliberate and carried out by oneself or by another person.

- **Unintentional:** Injury that is not inflicted by deliberate means (an accident).
- **Intentional:** Injuries that are inflicted deliberately, by oneself or by another person, with the goal of injuring or killing. Includes suicide, self-harm, homicide, and assault.
- **Undetermined:** Injuries where intent cannot be determined.
- **Legal intervention or war:** Injuries caused by police or other legal authorities during law enforcement activities. It also includes injuries to military personnel or civilians caused by war or civil insurrection.

Injury Mechanism: Mechanism, or cause of injury, is how a person sustains an injury or the process by which the injury occurred.

- **Cut/Pierce:** Injury resulting from an incision, slash, perforation, or puncture by a pointed or sharp instrument.
- **Drowning:** Suffocation (asphyxia) resulting from submersion in water or another liquid.
- **Fall:** Injury received when a person descends abruptly due to the force of gravity and strikes a surface at the same or lower level.
- **Fire/Burn:** Severed exposure to flames, heat, or chemicals that leads to tissue damage in the skin or places deeper in the body; injury from smoke inhalation to the upper airway, lower airway, or lungs.
- **Firearm:** A penetrating force injury resulting from a bullet or other projectile shot from a powder-charged gun. This category includes gunshot wounds from powder-charged handguns, shotguns, and rifles.
- **Machinery:** Injury that involves operating machinery, such as forklifts and jackhammers.
- **Transportation:** Injury involving modes of transportation, such as cars, motorcycles, bicycles, and trains. This category is divided into subcategories according to the person injured and whether the injury occurred in traffic.
- **Natural/Environmental:** Injury resulting from exposure to adverse natural and environmental conditions (such as severe heat, severe cold, lightning, sunstroke, large storms, and natural disasters) as well as lack of food or water.
- **Overexertion:** Working the body or a body part too hard, causing damage to muscle, tendon, ligament, cartilage, joint, or peripheral nerve. This category includes overexertion from lifting, pushing, pulling, or from excessive force.
- **Poisoning:** Ingestion, inhalation, absorption through the skin, or injection of a drug, toxin, or other chemical that a harmful effect results, such as drug overdoses.
- **Struck by/Against:** Injury resulting from being struck by or striking against a human, animal, or inanimate object or force other than a vehicle or machinery.
- **Suffocation:** Injury that causes a threat to breathe. This includes suffocation due to hanging, strangulation, or objects that block the airway.
- **Other Specified:** Injury associated with any other specified causes that does not fit another category.
- **Unspecified:** Injury for which there is not enough information to describe the cause of injury.

Data Sources and Methods

The numbers in this report may differ from other data reports due to the data sources used and how the data was analyzed. See below for data sources and analysis methods.

Mortality Data

Mortality data used in this report comes from the South Dakota Department of Health (DOH) Office of Vital Statistics. The completeness of mortality data depends on how thoroughly the death certificate is completed, which can affect how a death is categorized and how much data is available to analyze. Mortality data is representative of South Dakota residents.

Hospital and Emergency Department Data

Hospital and Emergency Department data comes from the South Dakota Association of Healthcare Organizations (SDAHO). Data from SDAHO does not include cases from Indian Health Services and Veterans Affairs. Injury hospitalization and emergency department visit data in this report does not include deaths, and the data reflects the number of inpatient and outpatient visits by South Dakota residents by year of discharge. Principle diagnosis codes are used to identify an injury record and external cause of injury codes (E-Codes) are used to classify visits by intent and mechanism of the injury. Some records are missing a valid E-Code, which can lead to an underestimation of the number of nonfatal injuries that occurred in South Dakota. This report reflects the number of inpatient and outpatient visits by South Dakota residents by year of discharge.

Data Analysis Methods

The State Injury Indicators Report and the Council for State and Territorial Epidemiologists (CSTE) ICD-10-CM Injury Surveillance Toolkit were used as the standardized guides to measure injury mortality and morbidity. Click the links below to view the guidance reports.

State Injury Indicators Report:

https://www.cdc.gov/injury/pdfs/2020_state_injury_indicator_instructions-508.pdf

CSTE ICD-10-CM Injury Surveillance Toolkit:

<https://resources.cste.org/Injury-Surveillance-Methods-Toolkit>