

Suicide Surveillance, South Dakota

3 January 2017

South Dakota Department of Health

Suicide Hotline: 1-800-273-8255

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Definition: Suicide

- Intentionally causing one's own death. *Taber's Cyclopedic Medical Dictionary 20th Edition.*
- The act or an instance of taking one's own life voluntarily and intentionally especially by a person of years of discretion and of sound mind. *Merriam-Webster Dictionary.*
- One who dies by his own hand; one who commits self-murder. Also, one who attempts or has a tendency to commit suicide. *Oxford English Dictionary.*

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For more information or a copy of this report please see the South Dakota Department of Health website.

Summary

This epidemiologic suicide surveillance report describes South Dakota's current suicide status and historic suicide trends, and compares the state to national rates. Major topics covered include suicide deaths, self-inflicted injury, methods of suicide or self-injury, and high school student suicidal ideation and attempts. The information is generally stratified by geographic county, age, sex and race. Key points include:

- South Dakota has 14th highest suicide rate in the United States: South Dakota 16.7 and United States 12.9 suicides per 100,000 population.
- Suicide is ninth leading cause of death in South Dakota.
- 132 suicides per year is South Dakota's 10-year baseline.
- 173 suicides in 2015, most ever reported.
- 2 South Dakota counties rank in top 1% highest suicide rates in United States.
- South Dakota suicides younger than national suicides.
- 80% of South Dakota suicides male, 20% female.
- American Indian suicide rates 1.8-times higher than White race rates in South Dakota.
- Young men 19-21 years of age at highest suicide risk in South Dakota.
- Suicide methods: firearms 51%, hanging 32%, poisoning 10%.
- 991 hospitalizations per year for self-inflicted injury (5-year median in South Dakota).
- Self-inflicted injury hospitalizations: 62% female and 38% male.
- 16 years of age peak for self-inflicted injury hospitalizations and emergency visits.
- 76% of self-inflicted injury hospitalizations due to poisoning, 16% cutting, 3% hanging, 1% firearms.
- 57% of self-inflicted injury emergency visits due to poisoning, 27% cutting, 5% hanging, 1% firearms.
- 16.1% of South Dakota high school students seriously considered suicide.
- 11.8% of South Dakota high school students planned suicide.
- 8.4% of South Dakota high school students attempted suicide.
- 21.6% of South Dakota high school students bullied on school property.

Conclusion

Suicide rates are increasing in South Dakota. Suicide prevention should be directed to those at highest risk: young males less than 25 years of age and American Indians. Counties and tribes with very high suicide rates should be assisted in developing local suicide prevention programs and crisis interventions.

International Suicide

The United States, with a suicide rate of 12.1 per 100,000, ranked 50th among 171 countries reported by the World Health Organization (Figure 1 and Table 1).¹ Among our North American neighbors Canada had a suicide rate of 9.8 and Mexico 4.2. Countries with the highest suicide rates were as geographically diverse as Guyana 44.2, South Korea 28.9, Sri Lanka 28.8 and Lithuania 28.2. Middle Eastern countries tended to have the lowest suicide rates. If South Dakota were an independent country our suicide rate of 16.7 per 100,000 would place us at the level of Ukraine and Poland.

Figure 1. Suicide rates (age-standardized) by country, 2012

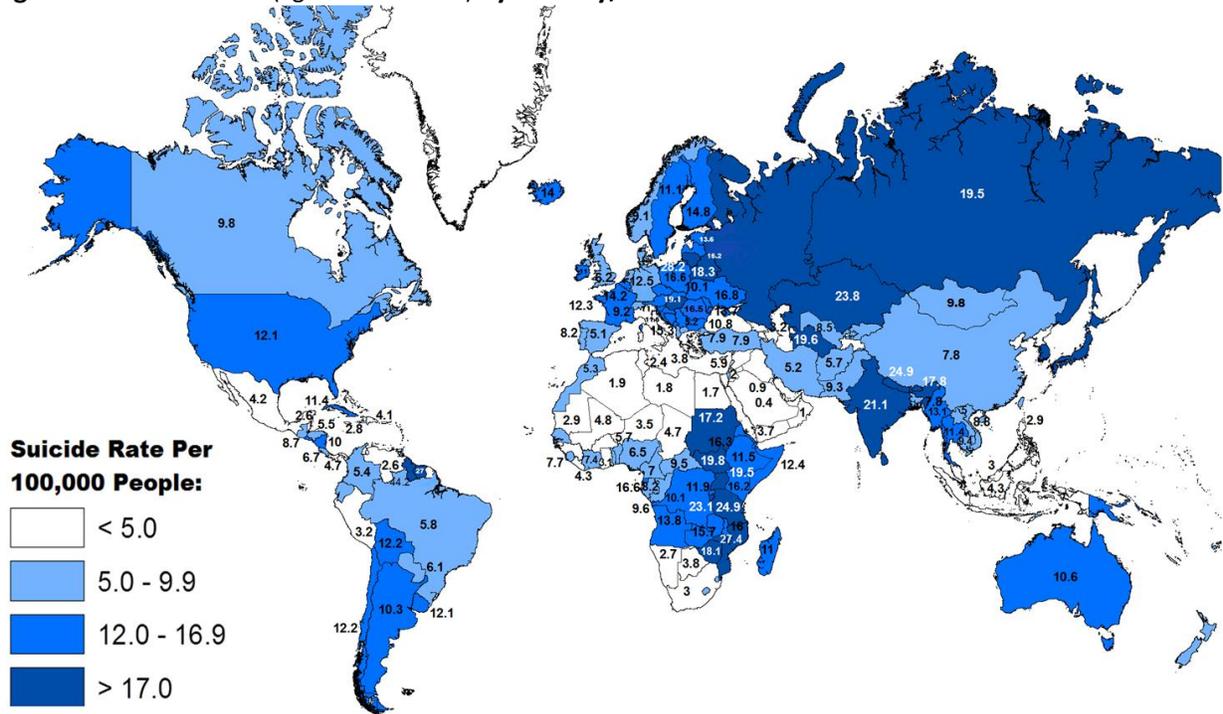


Table 1. Suicide rates (age-standardized per 100,000 population) of selected countries, 2012 (full list at <http://apps.who.int/gho/data/node.main.MHSUICIDE?lang=en>)

<u>Country suicide rate</u>	<u>Country suicide rate</u>	<u>Country suicide rate</u>	<u>Country suicide rate</u>
Afghanistan 5.7	Ethiopia 11.5	Lithuania 28.2	Serbia 12.4
Algeria 1.9	Finland 14.8	Malaysia 3.0	Slovenia 12.4
Argentina 10.3	France 12.3	Mexico 4.2	South Africa 3.0
Australia 10.6	Germany 9.2	Morocco 5.3	Spain 5.1
Austria 11.5	Greece 3.8	Nepal 24.9	Sri Lanka 28.8
Bangladesh 7.8	Guyana 44.2	Netherlands 8.2	Sweden 11.1
Belgium 14.2	Hungary 19.1	New Zealand 9.6	Switzerland 9.2
Brazil 5.8	Iceland 14.0	Nigeria 6.5	Tanzania 24.9
Cameroon 7.0	India 21.1	Norway 9.1	Thailand 11.4
Canada 9.8	Indonesia 4.3	Pakistan 9.3	Turkey 7.9
Chile 12.2	Iran 5.2	Peru 3.2	Ukraine 16.8
China 7.8	Iraq 1.7	Philippines 2.9	United Arab Emirates 3.2
Colombia 5.4	Ireland 11.0	Poland 16.6	United Kingdom 6.2
Cuba 11.4	Israel 5.9	Portugal 8.2	UNITED STATES 12.1
Czech Republic 12.5	Italy 4.7	Romania 10.5	Uruguay 12.1
Denmark 8.8	Japan 18.5	Russia 19.5	Venezuela 2.6
DR Congo 10.1	Kenya 16.2	Rwanda 11.9	Viet Nam 5.0
Egypt 1.7	Korea, South 28.9	Saudi Arabia 0.4	

¹ WHO 2012 suicide rates by country. <http://apps.who.int/gho/data/node.main.MHSUICIDE?lang=en> on 12 April 2016.

United States Suicide

Suicide has been the tenth leading cause of death in the United States since 2008. During the 5-year period, 2010-2014, there were 202,404 deaths classified as suicides (intentional self-harm or sequelae of intentional self-harm) in the United States, averaging 40,181 suicide deaths per year.² The average annual suicide rate for the United States is 12.9 suicides per 100,000 population. During that same period South Dakota reported 697 suicides, which is a rate of 16.7 per 100,000 population, and the 14th highest suicide rate in the country. States with the highest suicide rates include Wyoming 23.8, Montana 23.6 and Alaska 22.4, which are low-density frontier states, whereas states with the lowest rates include Massachusetts 8.9, New York 8.5 and New Jersey 8.2, all high-density urbanized states.

Figure 2. Suicide rates by state (age-adjusted rate per 100,000 population), **United States, 2010-2014**

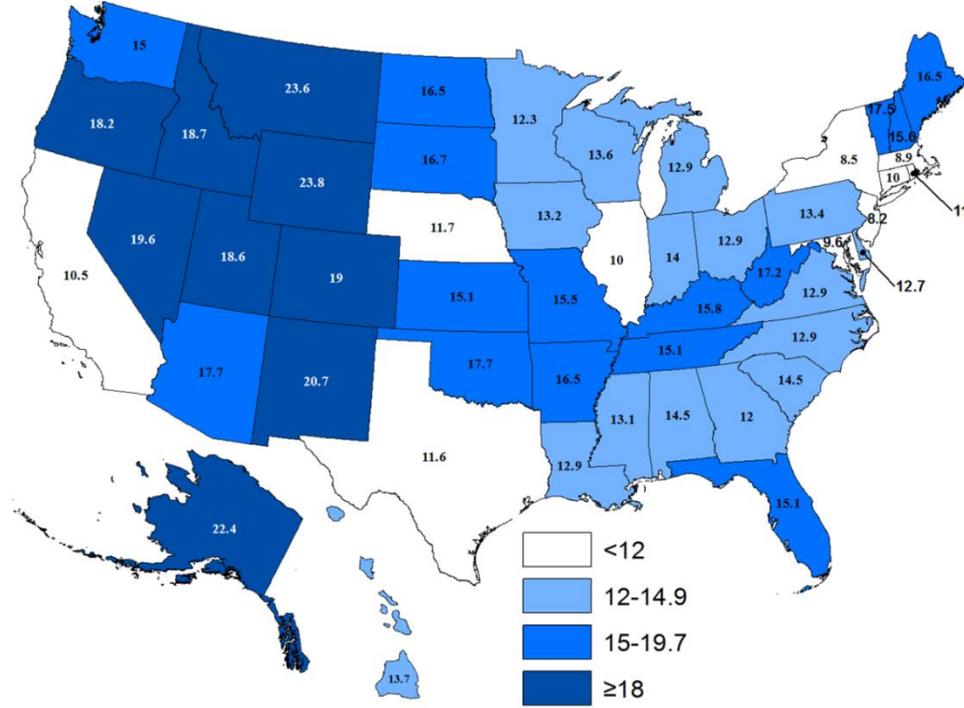


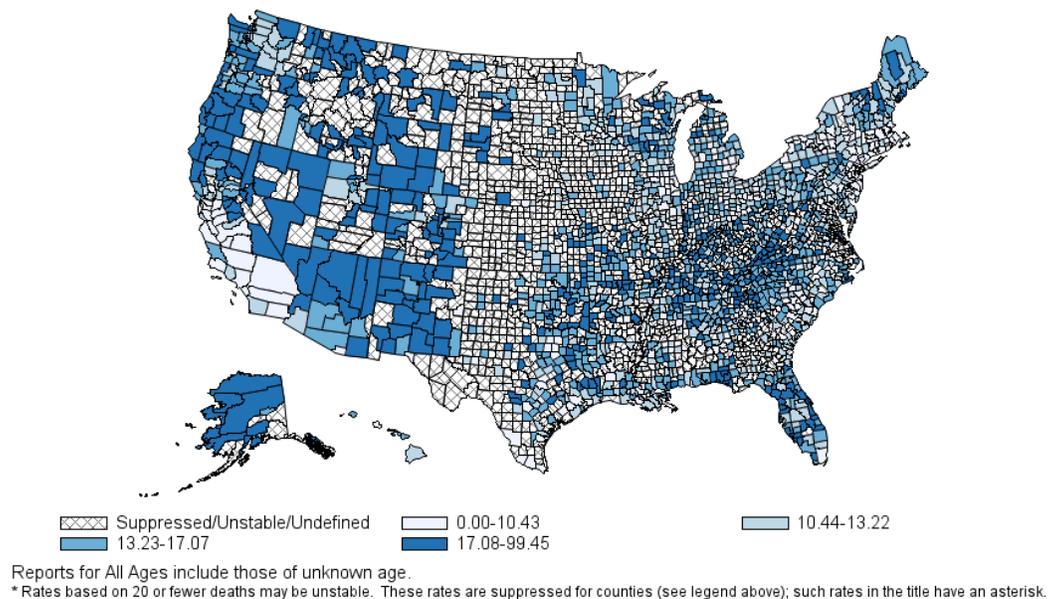
Table 2. Suicide deaths and rates (age-adjusted per 100,000 population), **United States, 2010-2014**

State	Deaths	Rate	State	Deaths	Rate	State	Deaths	Rate
UNITED STATES	202,404	12.9	Kentucky	3,458	15.8	North Dakota	582	16.5
Alabama	3,493	14.5	Louisiana	2,959	12.9	Ohio	7,463	12.9
Alaska	813	22.4	Maine	1,095	16.5	Oklahoma	3,382	17.7
Arizona	5,816	17.7	Maryland	2,818	9.6	Oregon	3,545	18.2
Arkansas	2,425	16.5	Massachusetts	2,955	8.9	Pennsylvania	8,575	13.4
California	20,041	10.5	Michigan	6,394	12.9	Rhode Island	580	11.0
Colorado	4,920	19.0	Minnesota	3,309	12.3	South Carolina	3,417	14.5
Connecticut	1,800	10.0	Mississippi	1,955	13.1	South Dakota	697	16.7
Delaware	584	12.7	Missouri	4,680	15.5	Tennessee	4,854	15.1
Florida	14,634	15.1	Montana	1,186	23.6	Texas	15,137	11.6
Georgia	5,964	12.0	Nebraska	1,089	11.7	Utah	2,663	18.6
Hawaii	953	13.7	Nevada	2,701	19.6	Vermont	549	17.5
Idaho	1,496	18.7	New Hampshire	1,028	15.6	Virginia	5,274	12.9
Illinois	6,415	10.0	New Jersey	3,634	8.2	Washington	5,162	15.0
Indiana	4,577	14.0	New Mexico	2,155	20.7	West Virginia	1,593	17.2
Iowa	2,031	13.2	New York	8,300	8.5	Wisconsin	3,880	13.6
Kansas	2,177	15.1	North Carolina	6,308	12.9	Wyoming	683	23.8

² CDC-NCHS WONDER mortality file ICD-10 Codes X60-X84 (Intentional self-harm), Y87.0 (Sequelae of intentional self-harm) <http://wonder.cdc.gov> on 21 Mar 2016)

Suicide rates are mapped in Figure 3 for the years 2004-2010 for the 3,141 counties in the United States.³ The overall national suicide rate for that period was 11.9 suicide deaths per 100,000 population. Only 11 South Dakota counties had more than 20 suicide deaths and could be included in this CDC generated map and report. Counties with the highest rates included Wade Hampton County, Alaska 94.9; Corson, South Dakota 87.1; Sioux, North Dakota 76.5; Northwest Arctic, Alaska 70.9; and Nome, Alaska 70.6 per 100,000 population. Counties with the lowest rates include Hudson, New Jersey 4.8; Hidalgo, Texas 4.6; and Rockland, New York 4.5. South Dakota counties in the highest suicide tier include Corson County which ranked second highest in the United States with a rate of 87.1 deaths per 100,000, Todd County ranked sixth with a rate of 65.9, Oglala Lakota County ranked 47th with a rate of 27.9, and Meade County ranked 171st with a rate of 21.0. South Dakota with the lowest rates include Minnehaha County ranked 864th at 13.8, Brown County ranking 1,402nd at 10.8, and Lincoln County ranked 1,538th with 9.9 suicide deaths per 100,000.

Figure 3. Suicide death rates by County (per 100,000 population) United States 2004-2010 (Annualized crude rate for United States: 11.9 per 100,000 population)³

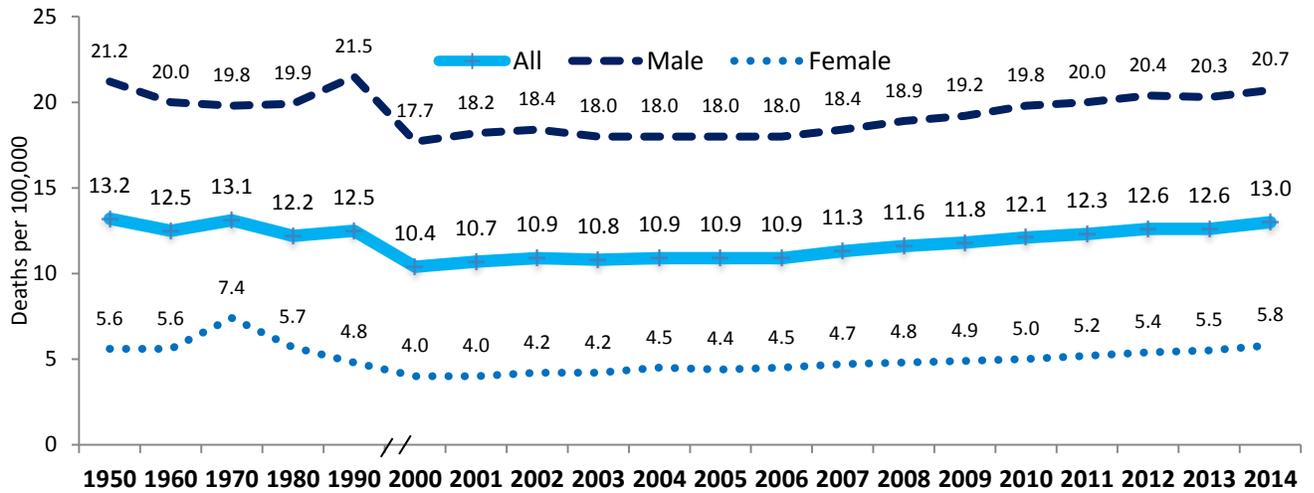


Over the past six decades suicide rates in the United States declined and then increased (Figure 4). During these years male suicide rates were roughly quadruple the female rates. During the most recent nationally available data, 2014, the male suicide rate was 20.7 per 100,000, while the female rate was 5.8.⁴

³ CDC. Map produced by the Statistics, Programming and Economics Branch, National Center for Injury Prevention and Control. Data: NCHS National Vital Statistics System deaths wisgars.cdc.gov:8443/cdcMapFramework/mapModuleInterface.jsp

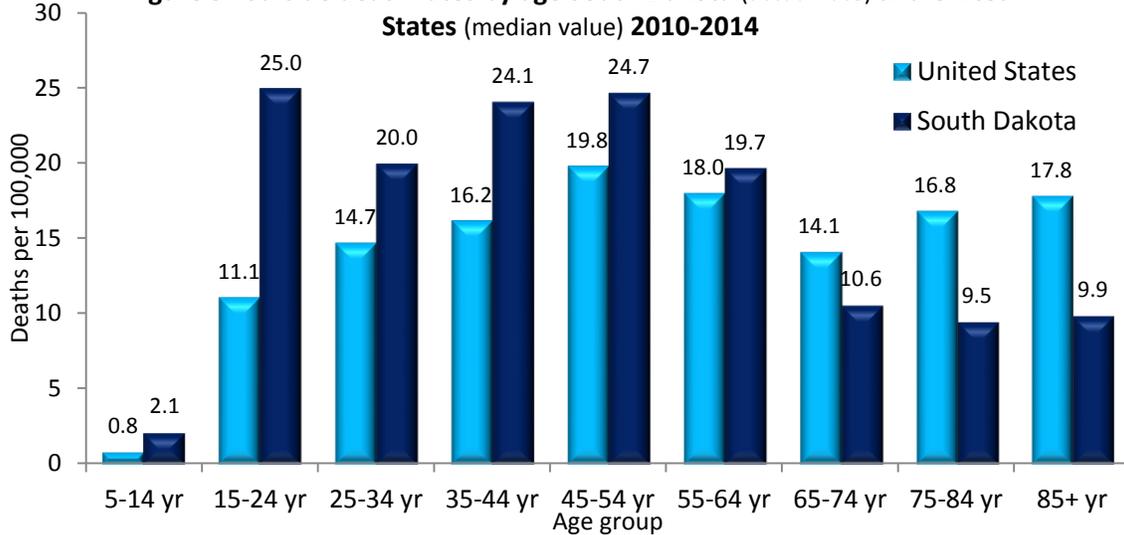
⁴ CDC. Health United States 2010, Table 24, p 137 [www.cdc.gov/nchs/data/10.pdf](http://www.cdc.gov/nchs/data/hus/10.pdf). CDC National Vital Statistics Reports Annual Mortality reports www.cdc.gov/nchs/products/nvsr.htm

Figure 4. Suicide death rates (age-adjusted rates per 100,000 population) United States 1950-2014



Nationally, the suicide rates are highest among middle age adults in the 45-54 year age group (Figure 5). This is in sharp contrast to earlier years, pre-2007, when the suicide rate among the elderly, 85 years and older, was the highest of any age group.⁵ South Dakota suicides are highest for youth, 15-24 years of age, which is more than double the national rate, 25.0 vs. 11.1, respectively. South Dakota suicide rates are higher than the national rates for all age groups less than 65 years of age.

Figure 5. Suicide death rates by age South Dakota (actual rate) and United States (median value) 2010-2014

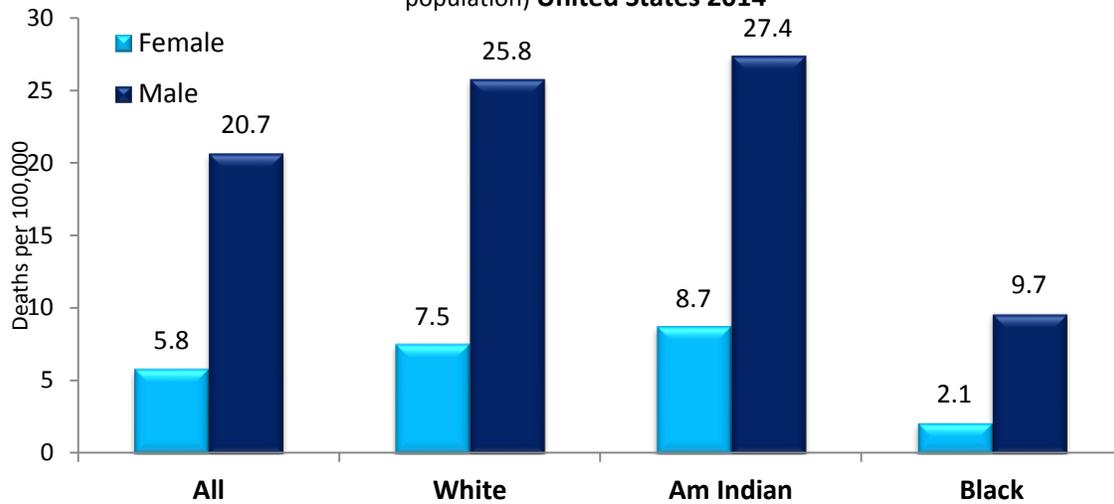


During the most recent nationally available data, 2014, American Indian males and females had the highest suicide rates of any race or sex group in the United States with 27.4 and 8.7 suicide deaths per 100,000, respectively (Figure 6).⁶ Black race suicides were considerably lower than White and American Indian rates in the United States.

⁵ CDC. National Vital Statistics Reports 30 June 2016 65/4 Table 9, p 38 www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_04.pdf

⁶ CDC. S.C. Curtin et al., Suicide rates for females and males by race and ethnicity: United States, 1999 and 2014. www.cdc.gov/nchs/data/hestat/suicide/rates_1999_2014.pdf

Figure 6. Suicide death rates by race and sex (age-adjusted rates per 100,000 population) United States 2014

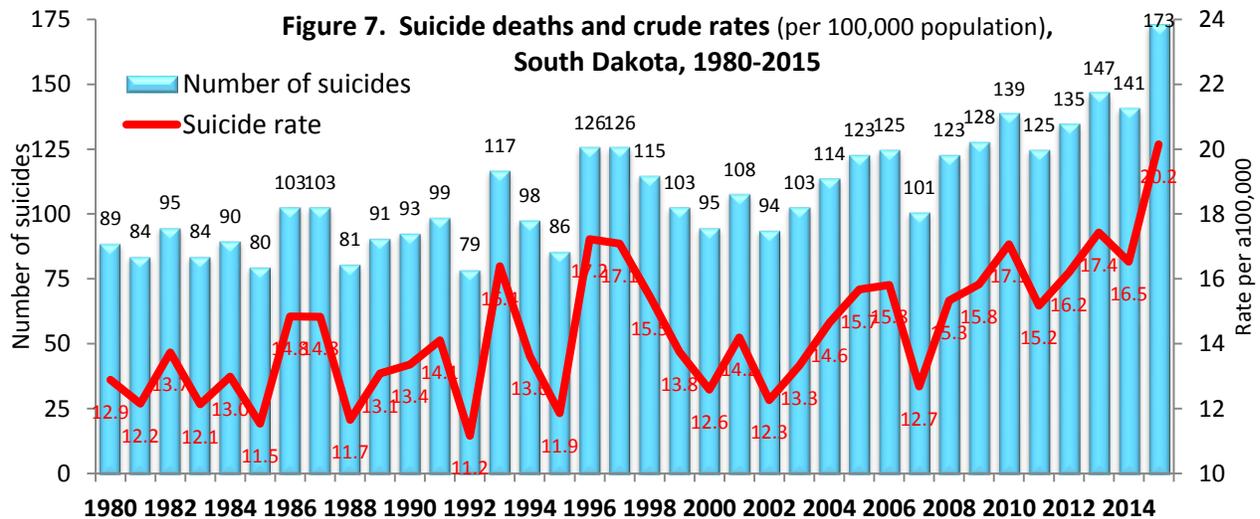


South Dakota Suicide

Suicide has been the ninth leading cause of death for South Dakota residents since 2004. Suicide is the second leading cause for persons aged 15 to 34 years, third leading death cause for children 5-14 years of age and fifth leading cause of death in the 35-54 age group.⁷

Assisted suicide is not legal in South Dakota. Assisted suicide is, however, legal in six states (California, Colorado, Montana, Oregon, Vermont and Washington).⁸ The South Dakota Department of Health has never been notified of South Dakota residents exercising this procedure in other states.

The figure below shows South Dakota suicide death numbers and rates over 36 years, 1980-2015. These data show increasing suicide deaths in South Dakota over time. The fewest suicides, 79, were recorded in 1992, while the most deaths and highest rate were in 2015 with suicides more than doubling to 173 deaths with a rate of 20.2 suicides per 100,000 population.

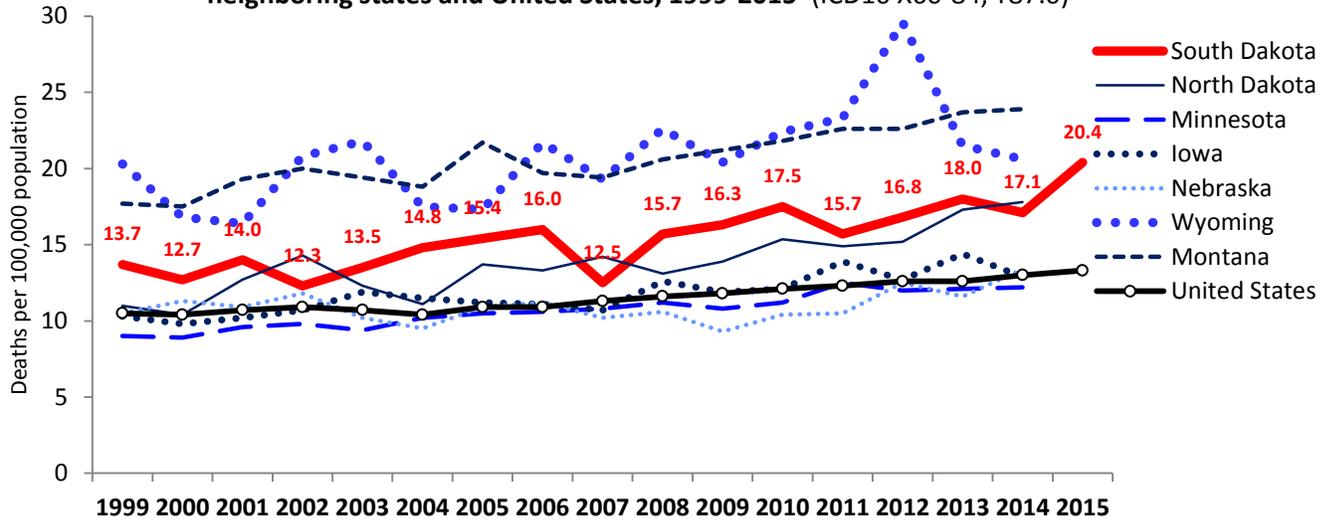


The figure below shows the age-adjusted suicide rates for South Dakota and our bordering states from 1999 to 2014. These data show generally increasing suicide rates in South Dakota and our neighboring

⁷ 10 Leading causes of death by year, South Dakota, 1994-2015. doh.sd.gov/documents/statistics/SD-Mortality2011-2015.pdf
⁸ www.deathwithdignity.org/take-action

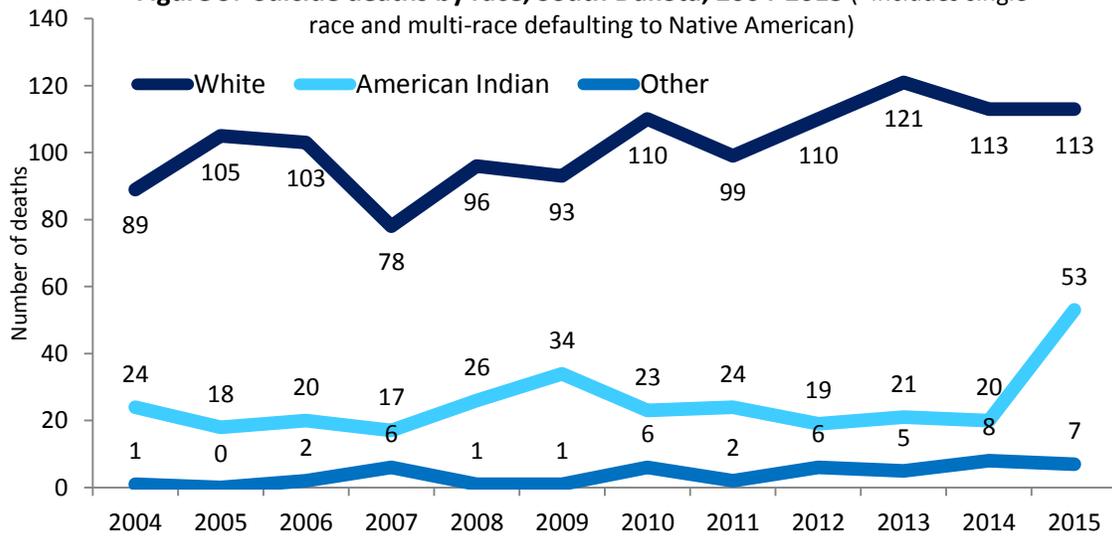
states over time. South Dakota’s suicide rates are higher than the overall national rates and generally medial compared to our neighboring states.

Figure 8. Suicide death rates (age-adjusted deaths per 100,000 population), South Dakota, neighboring states and United States, 1999-2015* (ICD10 X60-84, Y87.0)

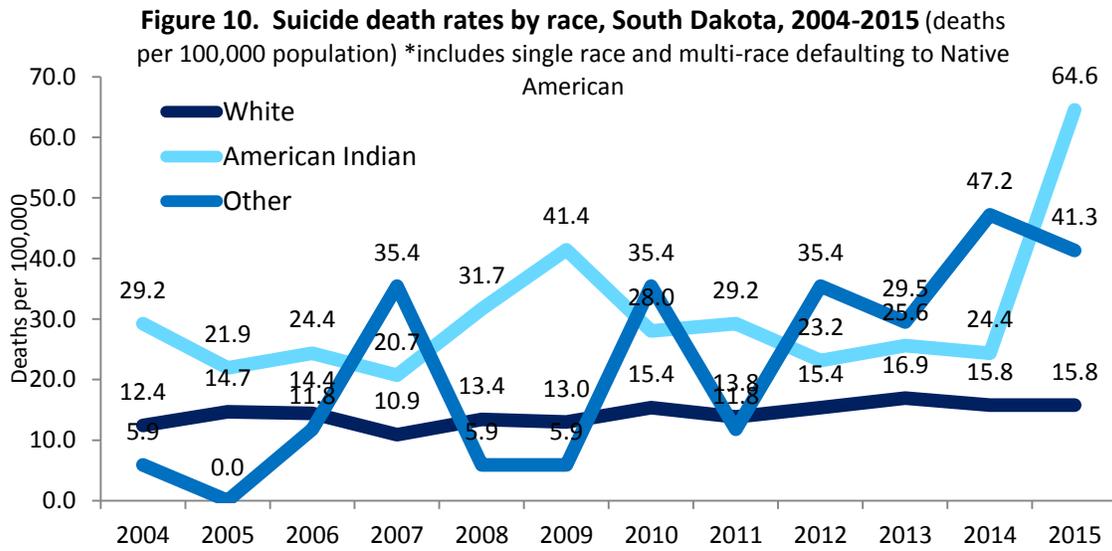


The figure below shows the number of suicide deaths for South Dakota’s White, American Indian and “Other” race groups.

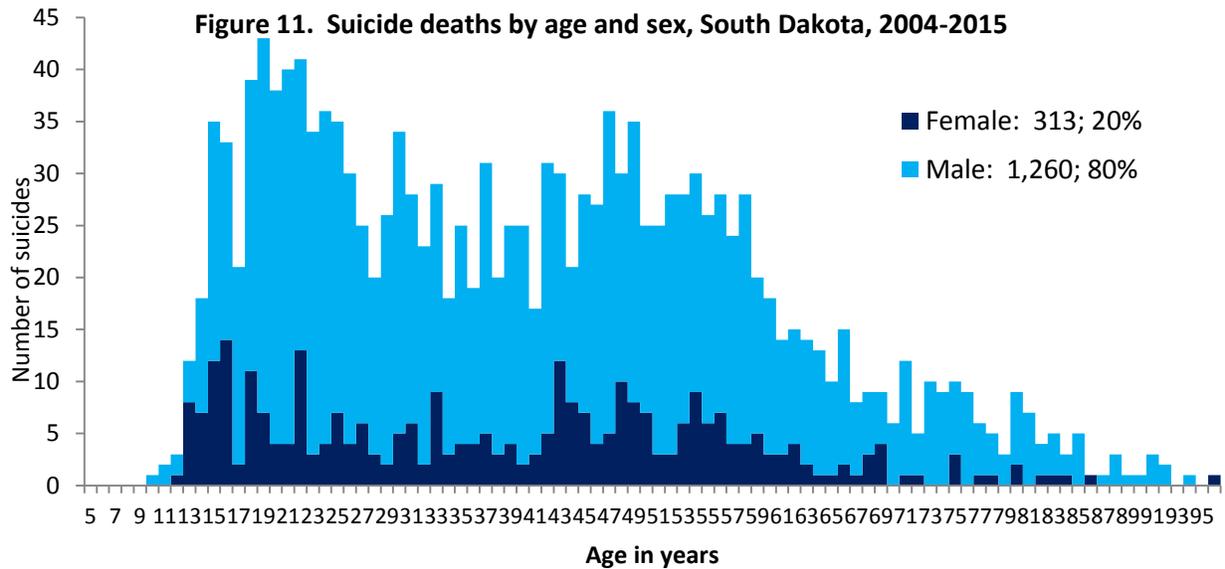
Figure 9. Suicide deaths by race, South Dakota, 2004-2015 (*includes single race and multi-race defaulting to Native American)



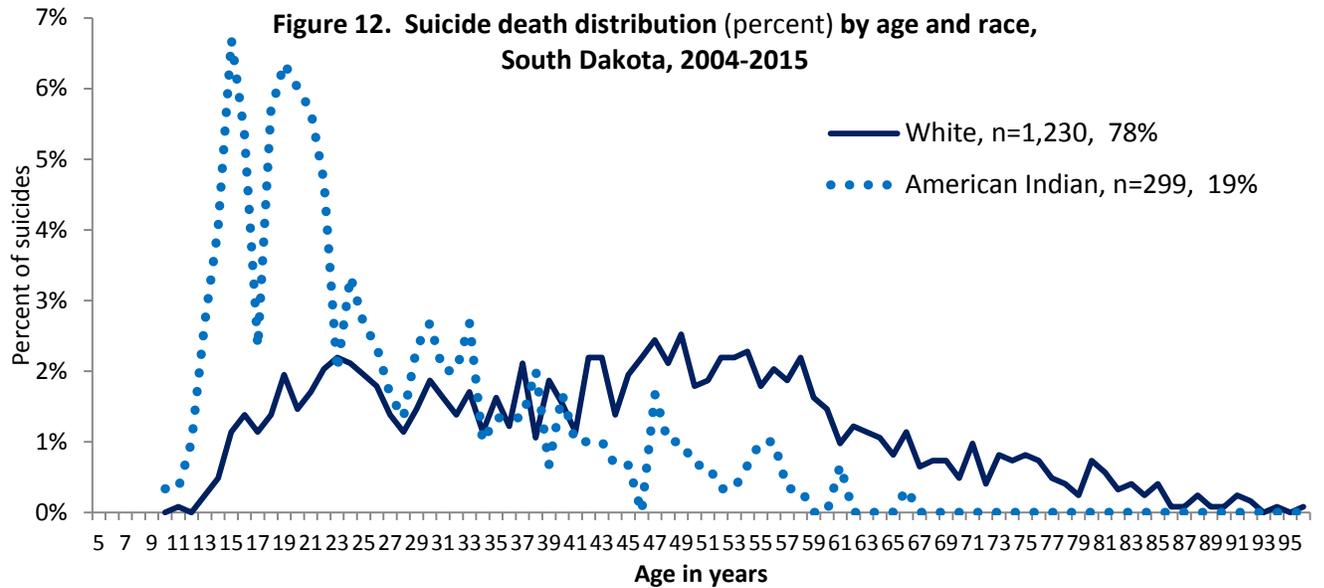
The figure below displays South Dakota’s suicide rates for White, American Indian and “Other” race groups (suicide deaths per 100,000 population) for years 2004-2015. During these years the median American Indian suicide rate (26.8 per 100,000 population) is 1.8-times as high as the White race suicide rate (14.5). Most notable is the dramatic increase in American Indian suicides during 2015.



The figure below displays age-specific suicide numbers by sex in South Dakota during the past dozen years. Eighty percent of suicides were male and 20% female. The peak age of suicide was 19 years. Males 19-21 years of age had the most suicides of any age or sex group. Adolescents age 19 years and younger accounted for 13.2% of suicides, while 10.4% were among elderly individuals 65 years of age and older.



The figure below shows the percent of South Dakota race-specific suicides for each age over the past dozen years. American Indian suicides peaked among teens and young adults between 15-22 years of age, whereas White race suicides plateaued during much of adulthood between 22-60 years of age. 50% of American Indian suicides occurred before 21 years of age, while 50% of White suicides occurred before 45 years of age.



The figure and table below report suicide numbers and rates by county during the dozen year period, 2004-2015. The overall crude suicide rate in South Dakota was 16.1 per 100,000 population per year. During these years the annualized suicide rates ranged from 0 (Campbell and Harding counties) to 74.1 per 100,000 (Corson County).

Figure 13. Suicide rates by county, South Dakota, 2004-2015 (suicides per 100,000 population per year)

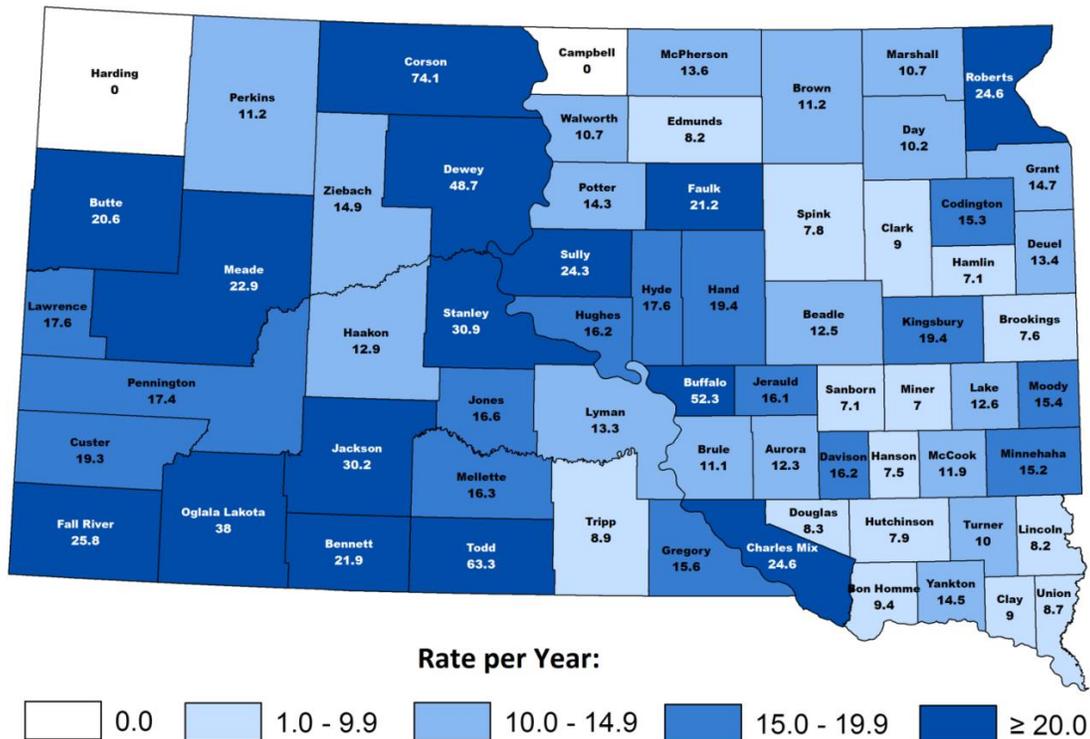


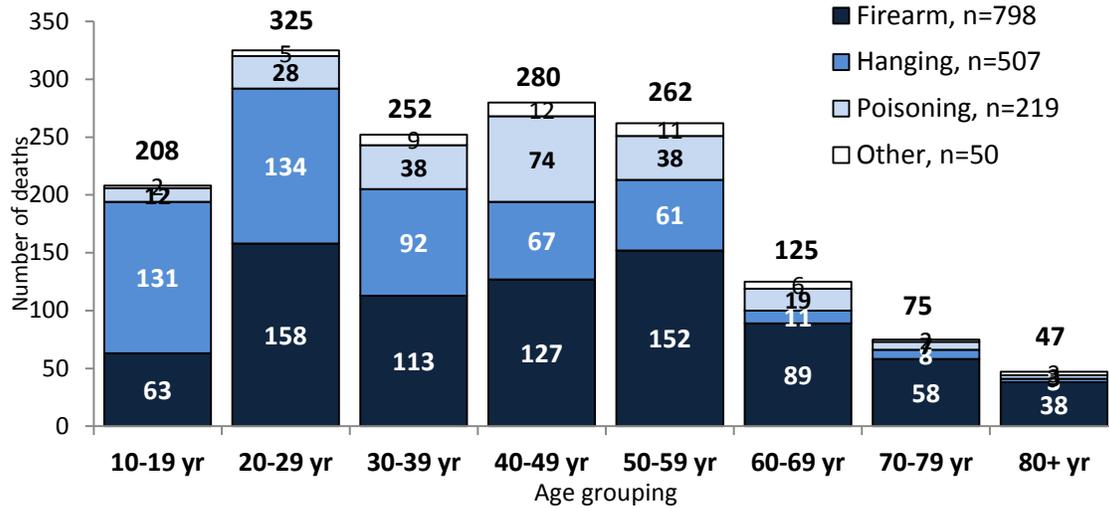
Table 3. County suicides numbers and rates per 100,000, South Dakota, 2004-2015 (1 or 2 redacted to ≤2)

COUNTY	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total	Rate
Aurora	0	≤2	0	0	0	0	0	0	0	≤2	≤2	0	4	12.3
Beadle	4	4	≤2	≤2	≤2	3	≤2	0	≤2	3	≤2	≤2	26	12.5
Bennett	0	≤2	0	≤2	≤2	0	≤2	0	≤2	≤2	0	≤2	9	21.9
Bon Homme	0	≤2	0	0	≤2	≤2	≤2	≤2	≤2	≤2	0	≤2	8	9.4
Brookings	≤2	0	4	≤2	≤2	3	3	≤2	≤2	3	3	5	29	7.6
Brown	5	4	≤2	≤2	≤2	8	5	≤2	5	9	≤2	5	49	11.2
Brule	0	≤2	≤2	0	0	0	0	≤2	≤2	≤2	≤2	0	7	11.1
Buffalo	≤2	≤2	≤2	≤2	≤2	0	3	0	≤2	0	0	≤2	12	52.3
Butte	≤2	5	0	3	≤2	≤2	≤2	≤2	6	≤2	≤2	0	25	20.6
Campbell	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CharlesMix	3	≤2	≤2	3	≤2	≤2	≤2	0	≤2	3	≤2	7	27	24.6
Clark	0	0	0	≤2	0	0	0	0	≤2	≤2	0	≤2	4	9.0
Clay	≤2	0	≤2	≤2	≤2	0	≤2	≤2	5	≤2	0	≤2	15	9.0
Codington	≤2	2	8	3	6	6	5	4	4	4	3	4	50	15.3
Corson	6	≤2	3	≤2	3	5	4	≤2	3	3	≤2	3	36	74.1
Custer	≤2	3	≤2	≤2	0	≤2	0	≤2	≤2	≤2	3	≤2	19	19.3
Davison	4	4	3	≤2	4	≤2	3	4	4	0	5	3	38	16.2
Day	≤2	0	≤2	0	0	0	0	0	≤2	≤2	≤2	0	7	10.2
Deuel	0	≤2	≤2	0	≤2	0	3	0	0	0	≤2	0	7	13.4
Dewey	≤2	≤2	3	≤2	≤2	7	≤2	3	≤2	≤2	≤2	4	31	48.7
Douglas	0	0	0	≤2	≤2	0	≤2	0	0	0	0	0	3	8.3
Edmunds	0	0	≤2	0	≤2	≤2	0	0	0	0	0	0	4	8.2
FallRiver	3	3	≤2	≤2	≤2	≤2	0	≤2	≤2	≤2	4	≤2	22	25.8
Faulk	0	0	≤2	0	≤2	0	0	0	0	0	≤2	≤2	6	21.2
Grant	≤2	0	≤2	3	0	0	0	≤2	0	≤2	≤2	≤2	13	14.7
Gregory	0	0	3	≤2	0	≤2	≤2	0	0	0	0	≤2	8	15.6
Haakon	≤2	0	0	0	0	0	0	0	0	≤2	0	0	3	12.9
Hamlin	≤2	0	0	0	0	0	0	≤2	0	≤2	≤2	≤2	5	7.1
Hand	≤2	≤2	≤2	0	0	0	0	0	0	0	≤2	≤2	8	19.4
Hanson	0	0	0	0	≤2	≤2	0	0	0	0	≤2	0	3	7.5
Harding	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hughes	≤2	3	3	≤2	0	6	3	4	≤2	≤2	5	4	33	16.2
Hutchinson	≤2	≤2	≤2	0	0	≤2	≤2	0	≤2	0	0	≤2	7	7.9
Hyde	0	0	≤2	0	0	0	0	0	≤2	≤2	0	0	3	17.6
Jackson	0	0	0	0	≤2	2	≤2	≤2	0	≤2	≤2	≤2	11	30.2
Jerauld	≤2	0	0	0	≤2	≤2	0	0	≤2	0	0	0	4	16.1
Jones	0	0	0	0	0	0	0	≤2	0	≤2	0	0	≤2	16.6
Kingsbury	0	0	≤2	≤2	0	0	≤2	≤2	≤2	3	≤2	3	12	19.4
Lake	≤2	0	≤2	≤2	≤2	≤2	≤2	≤2	0	3	≤2	≤2	17	12.6
Lawrence	3	4	6	4	≤2	3	6	6	≤2	4	4	7	51	17.6
Lincoln	3	4	5	≤2	5	3	5	≤2	8	4	≤2	≤2	44	8.2
Lyman	0	0	0	0	0	0	0	≤2	0	0	≤2	4	6	13.3
Marshall	0	0	0	0	≤2	0	0	0	≤2	≤2	≤2	0	6	10.7
McCook	≤2	≤2	0	≤2	0	≤2	0	≤2	0	≤2	≤2	≤2	8	11.9
McPherson	0	0	0	0	0	≤2	0	0	0	0	≤2	≤2	4	13.6
Meade	6	8	5	5	≤2	5	7	6	5	13	6	≤2	70	22.9
Mellette	0	0	0	0	≤2	0	≤2	0	≤2	≤2	0	0	4	16.3
Miner	0	≤2	≤2	0	0	0	0	0	0	0	0	0	≤2	7.0
Minnehaha	25	25	18	24	20	19	26	33	27	29	30	34	310	15.2
Moody	≤2	0	≤2	0	≤2	0	≤2	3	≤2	≤2	≤2	≤2	12	15.4
OglalaLakota	≤2	3	4	≤2	3	6	7	5	7	6	6	12	62	38.0
Pennington	11	15	20	10	22	21	21	17	18	12	19	25	211	17.4
Perkins	0	0	0	0	≤2	0	≤2	0	≤2	≤2	0	0	4	11.2
Potter	0	≤2	0	0	≤2	≤2	0	≤2	0	0	0	0	4	14.3
Roberts	7	≤2	≤2	≤2	≤2	3	≤2	4	0	3	3	3	30	24.6
Sanborn	0	≤2	0	0	0	0	0	0	0	0	0	0	≤2	7.1
Spink	0	≤2	≤2	0	0	≤2	0	≤2	0	0	0	≤2	6	7.8
Stanley	≤2	≤2	0	0	≤2	0	0	0	≤2	≤2	3	≤2	11	30.9
Sully	≤2	0	0	0	0	0	0	0	≤2	≤2	0	0	4	24.3
Todd	3	3	6	14	9	6	5	4	6	4	5	8	73	63.3
Tripp	0	≤2	0	≤2	≤2	0	0	≤2	≤2	0	0	0	6	8.9
Turner	0	≤2	0	0	≤2	0	≤2	≤2	0	5	0	0	10	10.0
Union	≤2	≤2	≤2	0	3	≤2	≤2	0	2	≤2	≤2	0	15	8.7
Walworth	≤2	0	0	0	≤2	0	0	≤2	≤2	0	≤2	0	7	10.7
Yankton	≤2	≤2	3	≤2	3	≤2	6	6	5	≤2	3	4	39	14.5
Ziebach	0	≤2	0	0	≤2	0	0	0	0	0	0	3	5	14.9
TOTAL	114	123	125	101	123	128	139	125	135	147	141	173	1,573	16.1

Suicide Method

South Dakota suicide methods vary by age, sex and race. Firearms were overall the most common method accounting for 51% of all suicide deaths, followed by hanging 32%, poisoning 14%, and all other methods accounting for 3%. Firearms were the most common cause of suicide in all age groups, except in children 10-19 years of age among whom hanging was most prevalent. Poisoning was the second most common method in the 40's and 60's age groups (Figure 14).

Figure 14. Suicide methods by age group, South Dakota, 2004-2015



Firearm suicides were most common among males, whereas hanging suicides were most prevalent among females followed closely by poisonings (Figure 15). There was a big difference in suicide method by race group. Firearm suicides were most common for Whites, 59.8%, whereas hanging was the most common method among American Indians, 72.2%.

Figure 15. Suicide methods by sex and race, South Dakota, 2004-2015

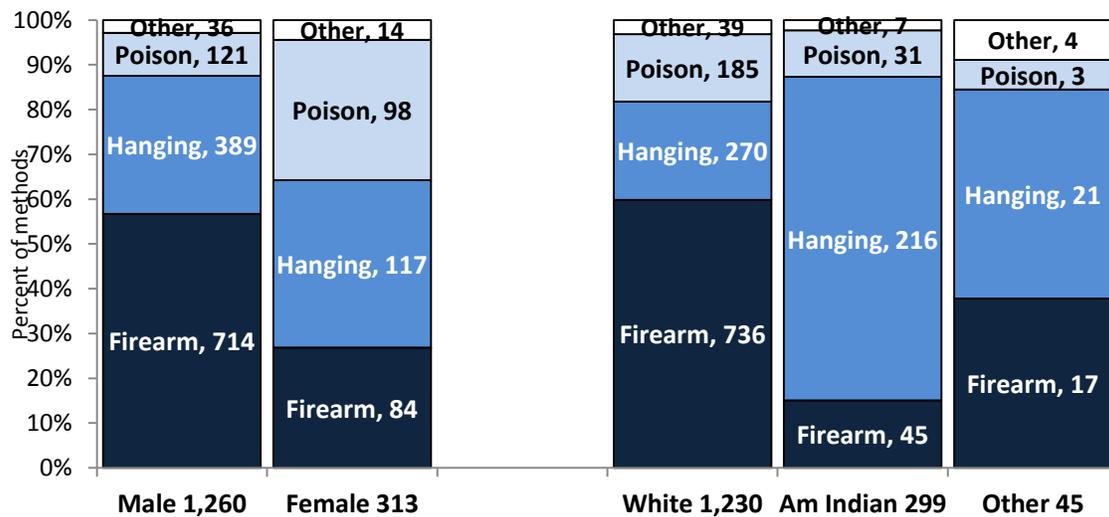


Table 4. Suicide methods by age, sex and race, South Dakota, 2004-2015.

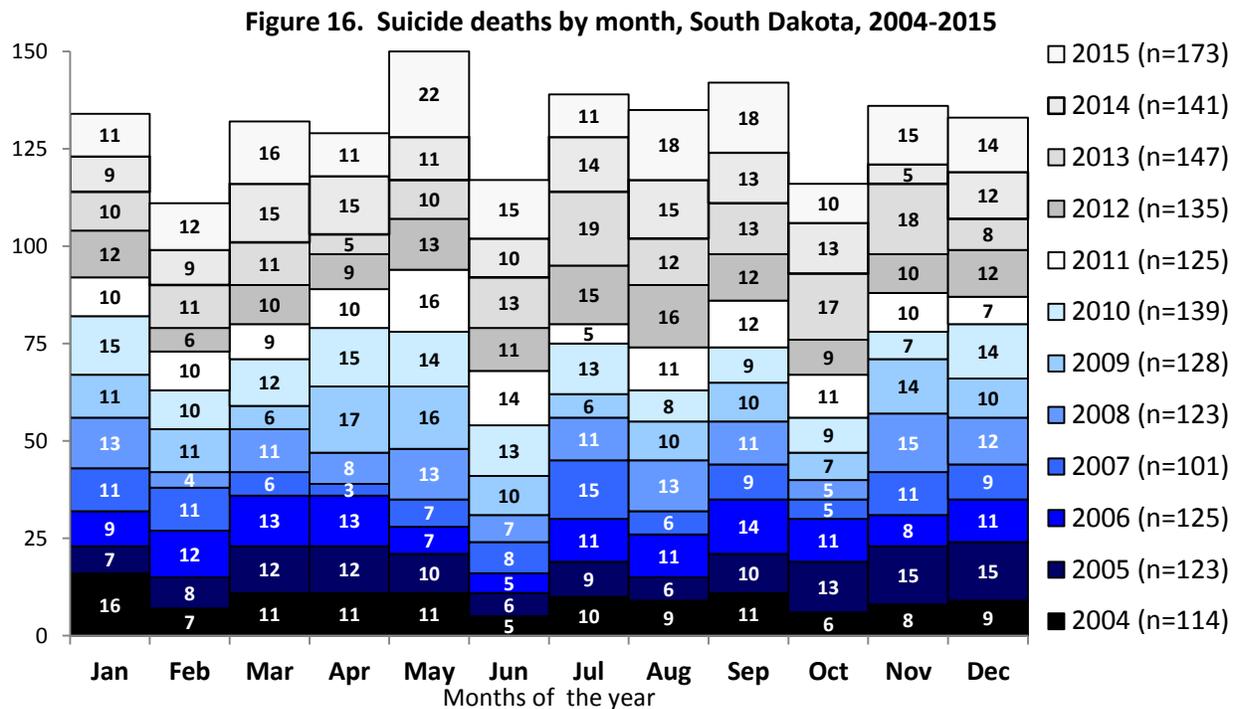
	Total	Firearms (%)	Hanging (%)	Poison or Gas (%)	Other (%)
Total	1,574	798 (50.7%)	507 (32.2%)	219 (13.9%)	50 (3.2%)
Age group					
10-19 yrs	208	63 (30.3%)	131 (63.0%)	12 (5.8%)	2 (1.0%)
20-29 yrs	325	158 (48.6%)	134 (41.2%)	28 (8.6%)	5 (1.5%)
30-39 yrs	252	113 (44.8%)	92 (36.5%)	38 (15.1%)	9 (3.6%)
40-49 yrs	280	127 (45.4%)	67 (23.9%)	75 (26.8%)	11 (3.9%)
50-59 yrs	262	152 (58.0%)	61 (23.3%)	38 (14.5%)	11 (4.2%)
60-69 yrs	125	89 (71.2%)	11 (8.8%)	20 (16.0%)	5 (4.0%)
70-79 yrs	75	58 (77.3%)	8 (10.7%)	7 (9.3%)	2 (2.7%)
80+ yrs	47	38 (80.9%)	3 (6.4%)	3 (6.4%)	3 (6.4%)
Sex					
Male	1,260	714 (56.7%)	389 (30.9%)	121 (9.6%)	36 (2.9%)
Female	313	84 (26.8%)	117 (37.4%)	98 (31.3%)	14 (4.5%)
Race					
White	1,230	736 (59.8%)	270 (22.0%)	185 (15.0%)	39 (3.2%)
Am Indian	299	45 (15.1%)	216 (72.2%)	32 (10.7%)	6 (2.0%)
Other race	45	17 (37.8%)	21 (46.7%)	3 (6.7%)	1 (2.2%)

Table 5. Suicide methods by ICD-10 code, South Dakota 2004-2015

Death by intentional self-harm (X60-X84, Y870) http://apps.who.int/classifications/apps/icd/icd10online2003/fr-icd.htm?gx60.htm		N	Percent
Poisonings or Gas			
X60	Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics. [Includes: 4-aminophenol derivatives, nonsteroidal anti-inflammatory drugs [NSAID], pyrazolone derivatives, salicylates.	5	0.3%
X61	Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified. [Includes: antidepressants, barbiturates, hydantoin derivatives, iminostilbenes, methaqualone compounds.	40	2.5%
X62	Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified. Includes: cannabis (derivatives), cocaine, codeine, heroin, lysergide [LSD], mescaline, methadone, morphine, opium (alkaloids).	31	2.0%
X63	Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system. [Includes: parasympatholytics [anticholinergics and antimuscarinics] and spasmolytics, parasympathomimetics [cholinergics], sympatholytics [antiadrenergics], sympathomimetics [adrenergics].	4	0.3%
X64	Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances. Includes: agents primarily acting on smooth and skeletal muscles and the respiratory system, anaesthetics (general)(local), drugs affecting the cardiovascular system, gastrointestinal system, hormones and synthetic substitutes, systemic and haematological agents, systemic antibiotics and other anti-infectives, therapeutic gases, topical preparations, vaccines, water-balance agents and drugs affecting mineral and uric acid metabolism.	75	4.8%
X65	Intentional self-poisoning by and exposure to alcohol. Includes: alcohol: NOS, butyl [1-butanol], ethyl [ethanol], isopropyl [2-propanol], methyl [methanol], propyl [1-propanol], fusel oil.	4	0.3%
X66	Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapors. Includes: benzene and homologues, carbon tetrachloride [tetrachloromethane], chlorofluorocarbons, petroleum (derivatives).	4	0.3%
X67	Intentional self-poisoning by and exposure to other gases and vapors. Includes: carbon monoxide, lacrimogenic gas [tear gas], motor (vehicle) exhaust gas, nitrogen oxides, sulfur dioxide, utility gas.	55	3.5%
X69	Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances. Includes: corrosive aromatics, acids and caustic alkalis, glues and adhesives, metals including fumes and vapors, paints and dyes, plant foods and fertilizers poisonous foodstuffs and poisonous plants soaps and detergents.	3	0.2%
Hangings			
X70	Intentional self-harm by hanging, strangulation and suffocation.	507	32.2%
Firearms			
X72	Intentional self-harm by handgun discharge.	401	25.5%
X73	Intentional self-harm by rifle, shotgun and larger firearm discharge.	369	23.4%
X74	Intentional self-harm by other and unspecified firearm discharge.	28	1.8%
Other			
X71	Intentional self-harm by drowning and submersion.	4	0.3%
X76	Intentional self-harm by smoke, fire and flames.	4	0.3%
X78	Intentional self-harm by sharp object.	13	0.8%

X80	Intentional self-harm by jumping from a high place.	11	0.7%
X81	Intentional self-harm by jumping or lying before moving object.	5	0.3%
X82	Intentional self-harm by crashing of motor vehicle. Includes: intentional collision with motor vehicle, train, tram.	1	0.1%
X83	Intentional self-harm by other specified means. Includes: intentional self-harm by: caustic substances, except poisoning, crashing of aircraft, electrocution.	7	0.4%
Y870	Sequelae of intentional self-harm.	3	0.2%
Total intentional self-harm.		1,574	100.0%

During 2004-2015, suicides occurred in South Dakota every month during the 144 months, with an average of 11 suicides per month (standard deviation 3.4). During these years the most suicides occurred during the month of May, followed by September and July, whereas the fewest suicides occurred during February, which is the shortest month. May of 2015 had the most suicides (n=22), while April 2007 had the fewest (n=3). Any single month with 18 or more suicides (mean +2SD) is considered a suicide crisis month, which were May, August and September of 2015, and July and November of 2013. Debunking the myth of Christmas holiday suicides, in South Dakota during the 11 day holiday period, 23 December – 2 January, a total of 48 suicides occurred during the 12-year period. During any 11-day period during the year 47.4 suicides would have typically occurred, so the 48 suicides during the holiday period are not unexpected.



2016 Preliminary Update

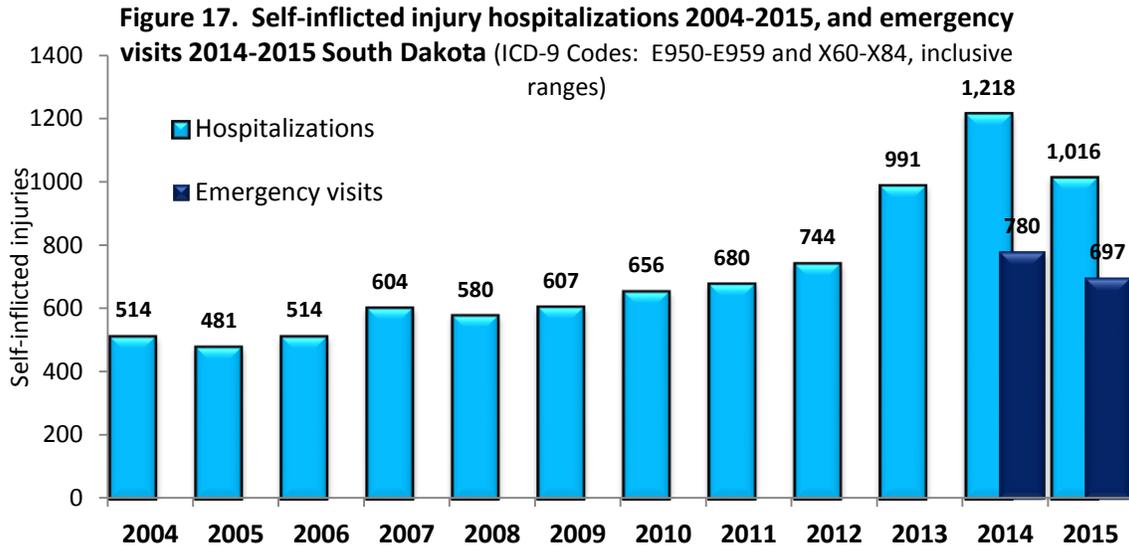
Provisionally, 154 suicides of South Dakota residents had been reported for 2016. This is a lower number than the previous year and a return to near baseline. Of these 79% were male, 12% were youth 19 years and younger, 73% were White race and 19% were American Indian. The data are provisional.

Self-Inflicted Injury Hospitalizations and Emergency Visits in South Dakota

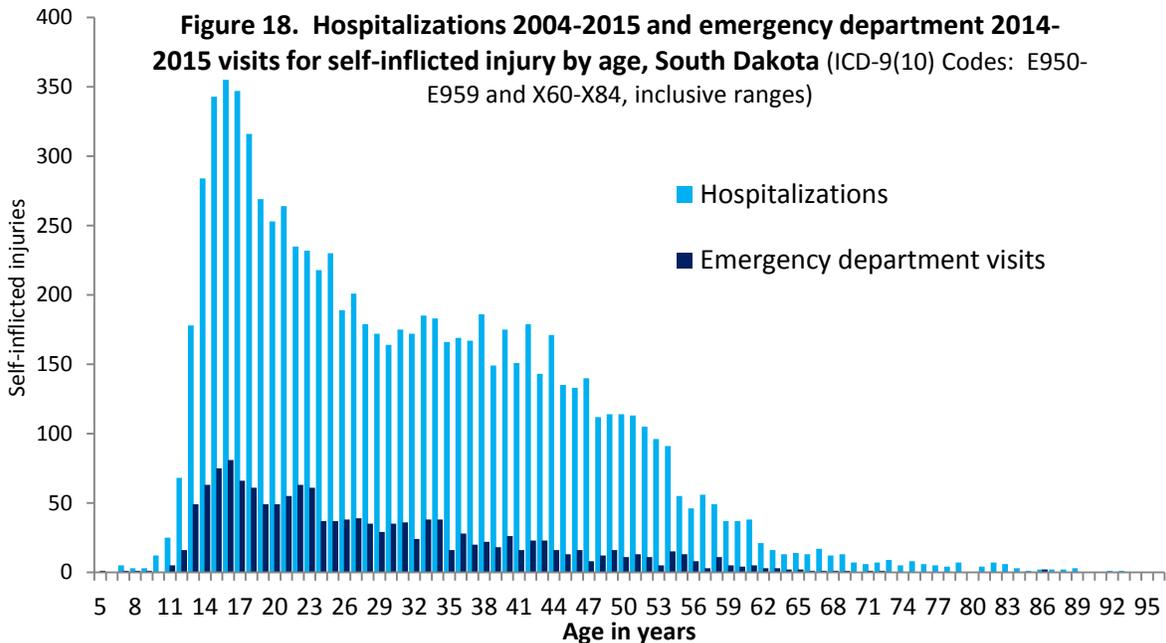
During 2004-2015, there were 8,605 hospitalizations for self-inflicted injuries among South Dakota residents. Of these, 62.4% were female and 37.6% were male. Over this 12 year period, hospitalizations for self-inflicted injury roughly doubled from 514 in 2004 to 1,218 in 2014 (Figure 17). When stratified by race 68.0% of hospitalizations were White race, 22.9% were American Indian, 1.8% Black, 1.0% other

racess and 6.3% unknown race. (Hospitalizations do not include IHS and VA hospitals. Please see technical notes.)

During the two years, 2014-2015, there were 1,477 emergency department visits for self-inflicted injury reported among South Dakota residents, including 780 in 2014 and 697 during 2015. Fifty-eight percent (n=864) of self-injury emergency department patients were females and 42% (n=613) were males. Race stratification shows 57.0% (n=842) were White race, 34.5% (n=509) American Indian, 2.2% (n=33) other races and 6.3% (n=93) unknown race.



Half of the self-inflicted injury hospitalizations were younger than 30 years of age, including 26% who were youth 19 years and younger (Figure 18). Patient ages ranged from 5 years to 86 years of age, with the peak age at 16 years and 32% of patients being 19 years of age or younger. After the teenage years self-inflicted injury hospitalizations decreased so that by age 65 there was about one hospitalization per year, with the numbers decreasing as age increased.



Stratifying the self-inflicted injury hospitalizations by county in Table 6 reveals that 46% of the 8,605 cases reported were among Minnehaha and Lincoln county residents, i.e., Greater Sioux Falls. These

two counties account for 28% of the state's population. Whereas Pennington County, the state's second most populated county with 13% of the people, had 11% of the self-inflicted injury hospitalizations.

Table 6. Hospitalizations (Hosp) 2004-2015 and emergency department visits (Eme) 2014-2015 for self-inflicted injury by county of residence, South Dakota (ICD-9 Codes: E950-E959 and X60-X84, inclusive ranges)

<u>COUNTY</u>	<u>Hosp</u>	<u>Eme</u>	<u>COUNTY</u>	<u>Hosp</u>	<u>Eme</u>	<u>COUNTY</u>	<u>Hosp</u>	<u>Eme</u>
Aurora	15	0	Fall River	36	8	McPherson	8	≤2
Beadle	78	3	Faulk	≤2	≤2	Meade	155	38
Bennett	41	5	Grant	31	12	Mellette	35	4
BonHomme	31	5	Gregory	36	11	Miner	15	4
Brookings	164	52	Haakon	≤2	2	Minnehaha	3,537	343
Brown	459	38	Hamlin	24	6	Moody	108	3
Brule	25	24	Hand	12	0	Oglala Lakota	272	25
Buffalo	24	28	Hanson	7	0	Pennington	978	149
Butte	49	22	Harding	0	≤2	Perkins	0	≤2
Campbell	0	0	Hughes	136	43	Potter	11	≤2
Charles Mix	126	36	Hutchinson	27	10	Roberts	90	59
Clark	8	8	Hyde	6	≤2	Sanborn	8	≤2
Clay	63	36	Jackson	42	12	Spink	35	11
Codington	188	80	Jerauld	10	≤2	Stanley	17	7
Corson	8	45	Jones	8	0	Sully	≤2	0
Custer	39	37	Kingsbury	23	≤2	Todd	218	10
Davison	133	≤2	Lake	52	21	Tripp	45	25
Day	53	16	Lawrence	110	42	Turner	56	14
Deuel	17	6	Lincoln	390	43	Union	64	10
Dewey	92	14	Lyman	30	20	Walworth	9	13
Douglas	7	5	Marshall	28	0	Yankton	209	54
Edmunds	19	≤2	McCook	54	≤2	Ziebach	28	≤2
SOUTH DAKOTA							8,605	1,447

Poisonings comprised the majority of hospitalizations for self-inflicted injuries, 76% (n=7,119), during 2004-2015. Overdose poisoning by tranquilizers was the most common method. The number of hospitalizations for poisoning was nearly 5-times higher than the next leading cause, cutting 16%. All other cases of self-inflicted injury hospitalization included hanging, firearms, gases, jumping and drownings.

Poisonings, 57% (n=955), accounted for over half of emergency department visits for self-inflicted injuries in 2014 and 2015, with tranquilizers being the most common overdose method. Cuttings were the next leading cause of emergency visits at 27%, followed by hanging 3%.

Table 7. Cause of suicide, 2004-2015, self-inflicted Injury hospitalizations, 2004-2015, and emergency department visits, 2014-2015, South Dakota (some patients may have more than one method)

Cause	Suicide deaths 2004-2015		Self-inflicted hospitalization 2004-2015		Self-inflicted emergency visit 2014-2015	
	N	%	N	%	N	%
Total	1,574	100%	9,383	100%	1,663	100%
Firearm	798	50.7%	79	0.8%	13	0.8%
Hanging	507	32.2%	285	3.0%	87	5.2%
Poisoning	159	10.1%	7,119	75.9%	955	57.4%
Gases	62	3.9%	64	0.7%	18	1.1%
Cutting	13	0.8%	1,455	15.5%	444	26.7%
Jumping	11	0.8%	32	0.3%	3	0.2%
Drowning	4	0.3%	5	0.1%	0	0%
Other	17	1.1%	301	3.2%	142	8.5%
Late effects	3	0.2%	43	0.5%	1	0.1%

The table below details the specific causes of self-inflicted injury hospitalizations by ICD9 and converted ICD10 categorizations. Tranquilizer poisonings (ICD E950.3) were the leading cause of self-inflicted injury.

Table 8. Causes of self-inflicted injury hospitalizations (Hosp) 2004-2015 and emergency department visits (Eme) 2014-2015, South Dakota, 2004-2015 (ICD9 and converted ICD10)

Causes of self-inflicted injury	Hosp	Eme
Poisoning	7,119	955
E950 Suicide and self-inflicted poisoning by solid or liquid substances, unspecified	1,852	223
E950.1 Barbiturates	24	0
E950.2 Other sedatives and hypnotics	341	39
E950.3 Tranquilizers and other psychotropic agents	2,779	303
E950.4 Other specified drugs and medicinal substances	1,690	292
E950.5 Unspecified drug or medicinal substance	133	51
E950.6 Agricultural and horticultural chemical and pharmaceutical preparations	18	4
E950.7 Corrosive and caustic substances	42	8
E950.9 Other and unspecified solid and liquid substances	240	35
Gases	64	18
E951.1 Liquefied petroleum gas distributed in mobile containers	1	2
E951.8 Other utility gas	1	0
E952.0 Motor vehicle exhaust gas	49	7
E952.1 Other carbon monoxide	4	1
E952.8 Other specified gases and vapors	7	7
E952.9 Unspecified gases and vapors	2	1
Hanging, strangulation, and suffocation	285	87
E953 Suicide and self-inflicted injury by hanging, strangulation, and suffocation	220	70
E953.1 Suffocation by plastic bag	8	1
E953.8 Other specified means	52	12
E953.9 Unspecified means	5	4
E954 Suicide and self-inflicted injury by submersion [drowning]	5	0
Firearms and explosives	79	13
E955.0 Handgun	22	3
E955.1 Shotgun	16	1
E955.2 Hunting rifle	15	1
E955.4 Other and unspecified firearm	13	5
E955.5 Explosives	1	3
E955.6 Air gun	3	0
E955.9 Unspecified	9	0
E956 Suicide and self-inflicted injury by cutting and piercing instrument	1,455	444
Jumping from high place	32	3
E957.0 Residential premises	11	2
E957.1 Other man-made structures	16	1
E957.2 Natural sites	2	0
E957.9 Unspecified	3	0
Other and unspecified means	301	142
E958.0 Jumping or lying before moving object	11	3
E958.1 Burns, fire	32	6
E958.2 Scald	1	0
E958.3 Extremes of cold	8	2
E958.4 Electrocutation	2	0
E958.5 Crashing of motor vehicle	15	3
E958.7 Caustic substances, except poisoning	5	1
E958.8 Other specified means	131	82
E958.9 Unspecified means	96	42
E959 Late effects of self-inflicted injury	43	1
TOTAL	9,383	1,663

Table 9. Suicide deaths, self-inflicted injury hospitalizations and emergency visits by age, sex and race, South Dakota

	Suicides (%) 2004-2015	Self-inflicted injury hospitalization (%) 2004-2015	Self-inflicted injury emergency department visits (%) 2014-2015
Total	1,574	8,605	1,477
Age group			
≤19 yrs	208 (13.2%)	2,208 (25.7%)	469 (31.8%)
20-29 yrs	325 (20.6%)	2,173 (25.3%)	443 (30.0%)
30-39 yrs	252 (16.0%)	1,716 (19.9%)	275 (18.6%)
40-49 yrs	280 (17.8%)	1,453 (16.9%)	169 (11.4%)
50-59 yrs	262 (16.6%)	762 (8.9%)	95 (6.5%)
60-69 yrs	125 (7.9%)	194 (2.3%)	23 (1.6%)
70-79 yrs	75 (4.8%)	64 (0.7%)	2 (0.14%)
80+ yrs	47 (3.0%)	32 (0.4%)	2 (0.1%)
Sex			
Male	1,260 (80.1%)	3,234 (37.6%)	613 (41.1%)
Female	313 (19.9%)	5,371 (62.4%)	864 (58.5%)
Race			
White	1,230 (78.1%)	5,855 (68.0%)	842 (57.2%)
Am Indian	299 (19.0%)	1,969 (22.9%)	509 (34.5%)
Other race	45 (2.9%)	236 (2.8%)	93 (6.3%)

Suicide Ideation and Attempts Reported by High School Students

Questions about self-reported suicide attempts and suicide ideation by high school students are part of the biannual Youth Risk Behavior Survey (YRBS).⁹ YRBS is conducted in South Dakota and most other states during the spring of odd numbered years. The YRBS asks students a variety of questions including: unintentional and intentional injuries, tobacco use, alcohol and other drug use, sexual behaviors, dietary behaviors, and physical activity. Survey questions (See Technical Notes) relating to suicide ideation and behavior, and bullying includes the following:

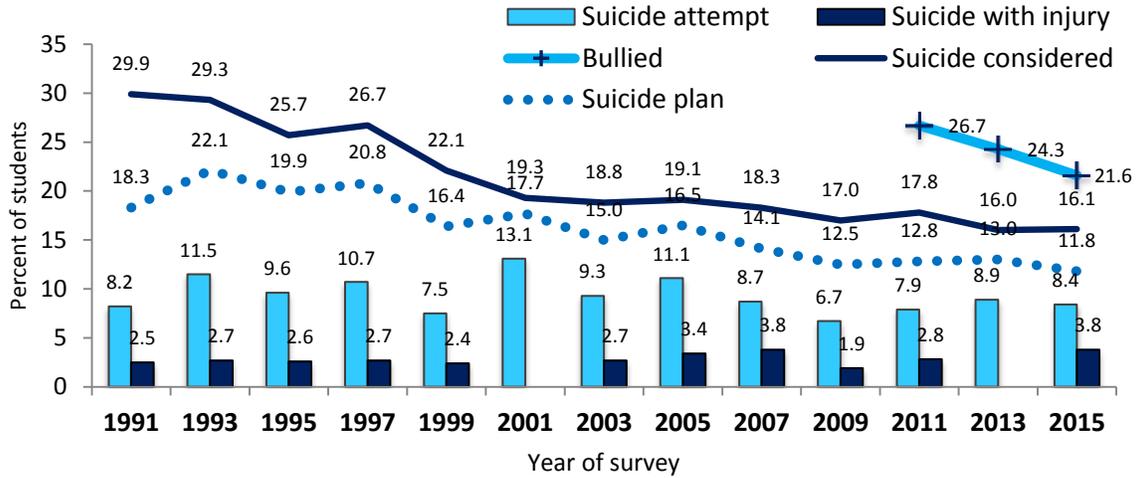
During the past 12 months :

- Did you seriously consider attempting suicide?
- Did you make a plan about how you would attempt suicide?
- Did you actually attempt suicide?
- If you attempted suicide, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?
- Were you bullied on school property?

Over the past 25 years the rate of South Dakota high school students responding that they had attempted suicide has not increased or decreased appreciably, although the highest percent having attempted suicide was 13.1% in 2001 and the lowest rate was 6.7% in 2009 (Figure 19). The percentage of South Dakota high school students reporting to have considered suicide or planned suicide has decreased over time. In 1991, nearly one-third of South Dakota high school students reported having considered suicide. By 2015 that percentage dropped to 16.1%. A similar downward trend was observed for students planning suicide, with 18.3% of students planning suicide in 1991 decreasing to 8.4% in 2015. The 2001 increase in attempted suicides did not correspond with increases in considering or planning suicides. The “bullying” question was added to the YRBS in 2011 and shows over 21% of students having been bullied.

⁹ CDC. Youth Risk Behavior Survey www.cdc.gov/HealthyYouth/yrbs/index.htm

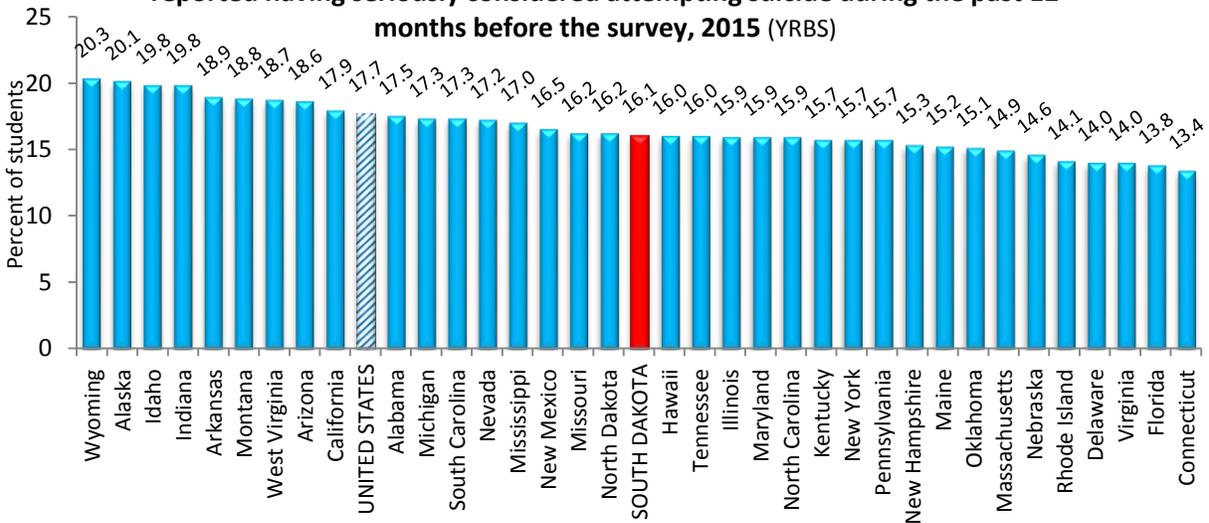
Figure 19. High school students (percent) who reported having considered, planned, attempted, injured in a suicide attempt, or bullied during the past 12 months, South Dakota, 1991-2015 (YRBS). Note that some questions not asked at every survey



High School Students Seriously Considering Suicide

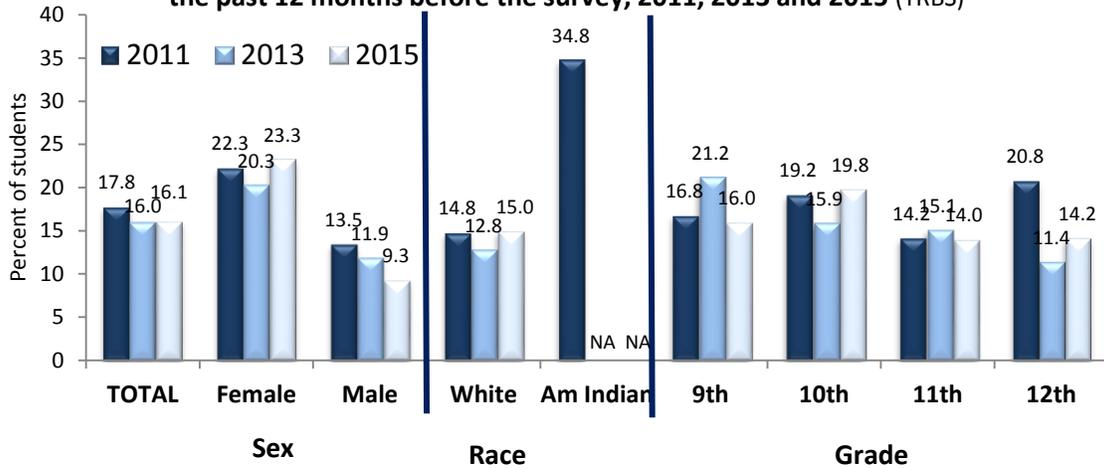
During 2015, 16.1% of South Dakota high school students had seriously considered suicide, which was below the national rate, 17.7%. South Dakota ranked 18th out of the 36 states asking that question (Figure 20). States with the highest rates include Wyoming, Alaska and Idaho, whereas states with the lowest rates include Virginia, Florida and Connecticut.

Figure 20. High school students (percent) in South Dakota and other states who reported having seriously considered attempting suicide during the past 12 months before the survey, 2015 (YRBS)



During the three most recent YRBS reports for South Dakota high school students (2011, 2013 and 2015), the overall percent of students seriously considering suicide has decreased. In 2015 female students reported significantly more suicide considerations than male students (23.3% vs. 9.3%, respectively). The American Indian sample was large enough to be statistically reliable in 2011 only. During that year 34.8% American Indian students considered suicide, which was more than twice as high as White race students at 14.8%. Suicide consideration by grade varied by year.

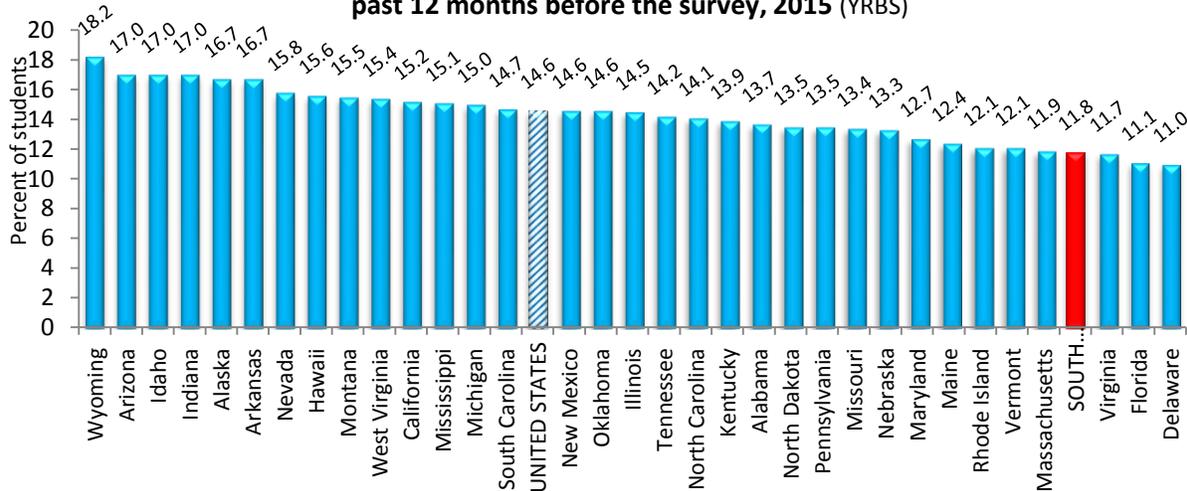
Figure 21. South Dakota high school students (percent) who reported having reported having seriously considered attempting suicide during the past 12 months before the survey, 2011, 2013 and 2015 (YRBS)



High School Students Planning Suicide

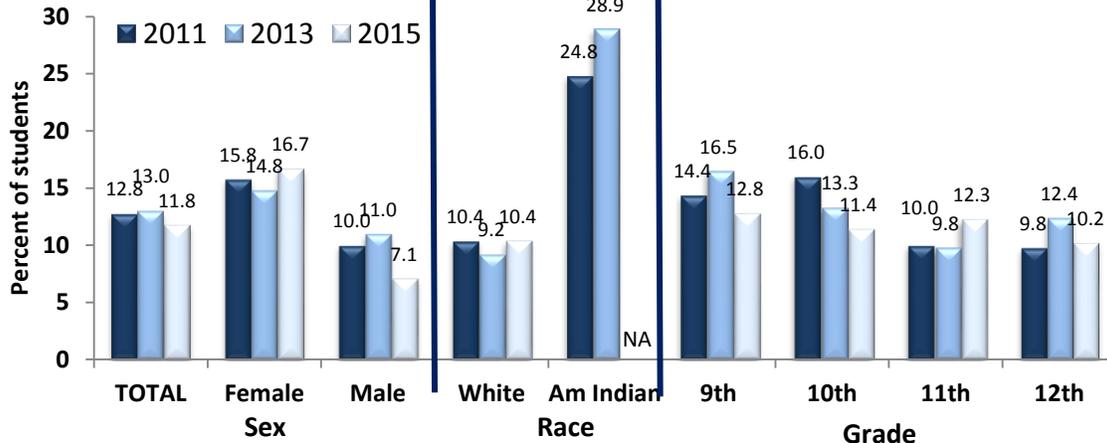
National and state YRBS rates in 2015 for students having planned how to attempt suicide during the past 12 months show South Dakota high school students, 11.8%, below the national rate, 14.6% ranking 31st out of the 35 states asking that question (Figure 22). States with the highest rates include Wyoming, Alaska and Idaho, whereas states with the lowest rates were Virginia, Florida and Delaware.

Figure 22. High school students (percent) in South Dakota and other states who reported having made a plan about how they would attempt suicide during the past 12 months before the survey, 2015 (YRBS)



During the three most recent YRBS reports for South Dakota high school students (2011, 2013 and 2015) the overall percent of students planning suicide changed little between 2011 and 2015. South Dakota male students reported significantly less suicide planning than female students, 7.1% vs. 16.7% respectively, in 2015. The years 2011 and 2013 were the only years the American Indian sample was large enough to be reliable. During those years the rate of American Indian students planning suicide was two- to three-times higher than White race students. Ninth graders had the highest, but non-significant, rates of planning suicide in 2013 and 2015, while 10th graders had the highest rate in 2011.

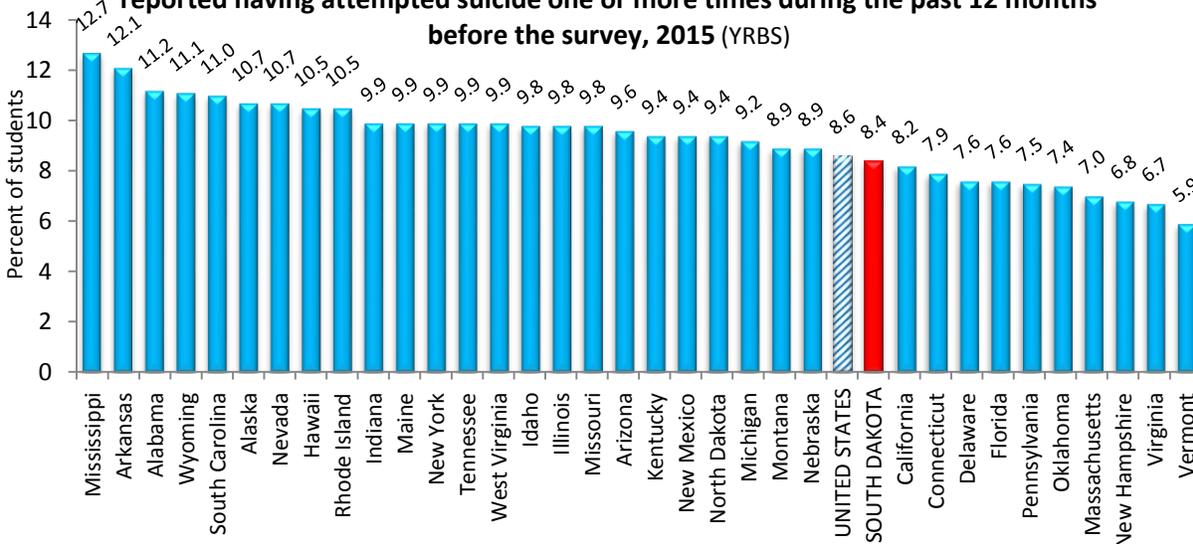
Figure 23. South Dakota high school students (percent) who reported having made a plan about how they would attempt suicide during the past 12 months before the survey, 2011, 2013 and 2015 (YRBS)



High School Students Attempting Suicide

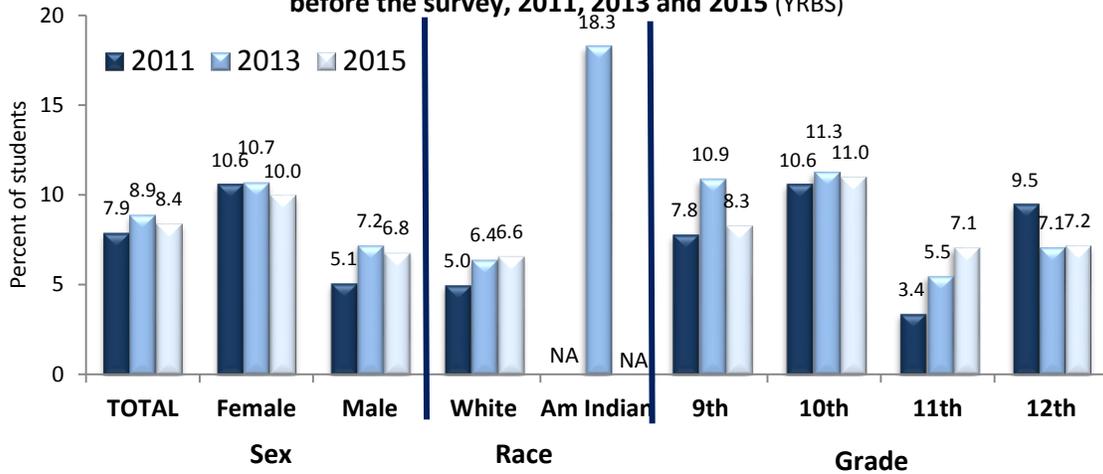
National YRBS rates for attempting suicide during the past 12 months show South Dakota high school students near the national rate, 8.4% vs. 8.6%, respectively, ranking 25th out of the 35 states asking the question in 2015 (Figure 24). States with the highest rates include Mississippi, Arkansas and Alabama, whereas states with the lowest rates include New Hampshire, Virginia and Vermont.

Figure 24. High school students (percent) in South Dakota and other states who reported having attempted suicide one or more times during the past 12 months before the survey, 2015 (YRBS)



The overall percent of South Dakota high school students attempting suicide changed little between 2011 and 2015 (Figure 25). Female students in South Dakota reported more suicide attempts than male students in 2015, 10.0% vs. 6.8%. The only year the American Indian sample was large enough to be reliable was 2013. During that year the rate of American Indian students attempting suicide was nearly three-times as high as White race students. Tenth graders had the highest rates of attempting suicide, whereas 11th graders had the lowest rates.

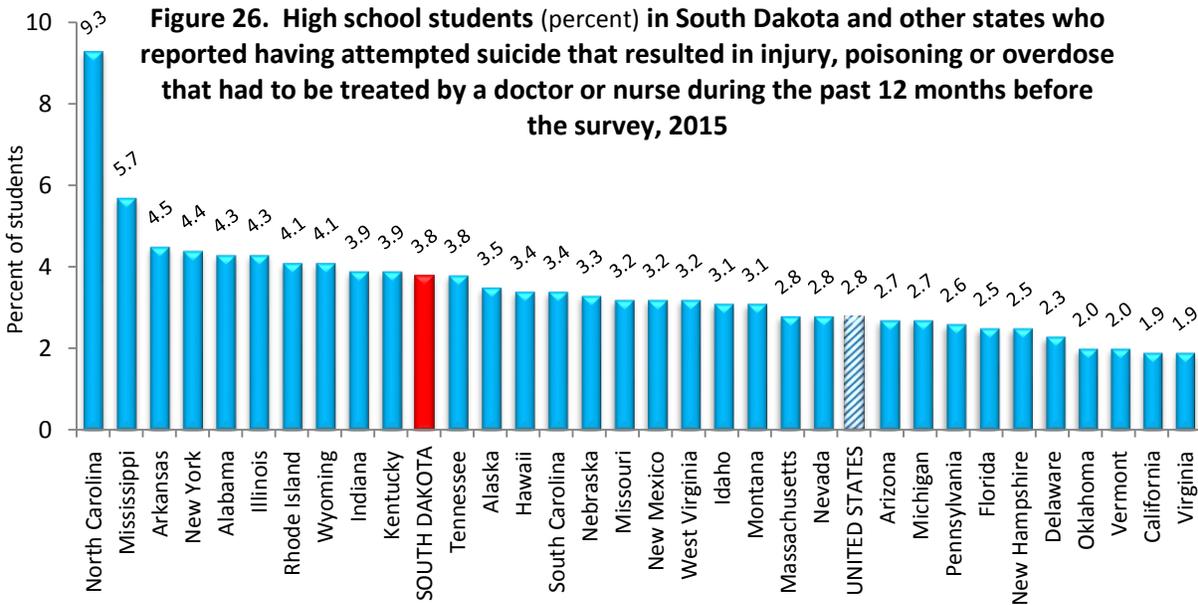
Figure 25. South Dakota high school students (percent) who reported having attempted suicide one or more times during the past 12 months before the survey, 2011, 2013 and 2015 (YRBS)



High School Students Needing Medical Care After Attempting Suicide

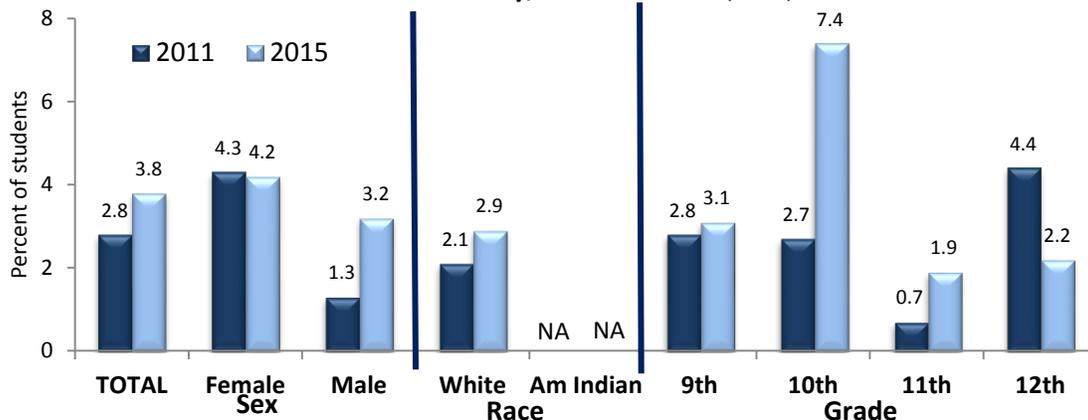
National YRBS rates for students attempting suicide which resulted in injury, poisoning or overdose that had to be treated by a doctor or nurse during the past 12 months showed South Dakota high school students higher than the national rate, 3.8% vs. 2.8%, respectively, ranking 11th out of the 33 states asking that question in 2015 (Figure 26). States with the highest rates include North Carolina, Mississippi and Arkansas, whereas states with the lowest rates were Vermont, California and Virginia.

Figure 26. High school students (percent) in South Dakota and other states who reported having attempted suicide that resulted in injury, poisoning or overdose that had to be treated by a doctor or nurse during the past 12 months before the survey, 2015



The percent of South Dakota high school students who reported having attempted suicide resulting in injury, poisoning or overdose that had to be treated by a doctor or nurse changed little between 2011 and 2015. In 2015 female students reported more of these suicide attempts than male students, 4.2% vs. 3.2%, respectively. The American Indian sample was not large enough to be reliable either year. Tenth graders had the highest rates of attempting suicide during 2015, while 12th graders had the highest rate in 2011.

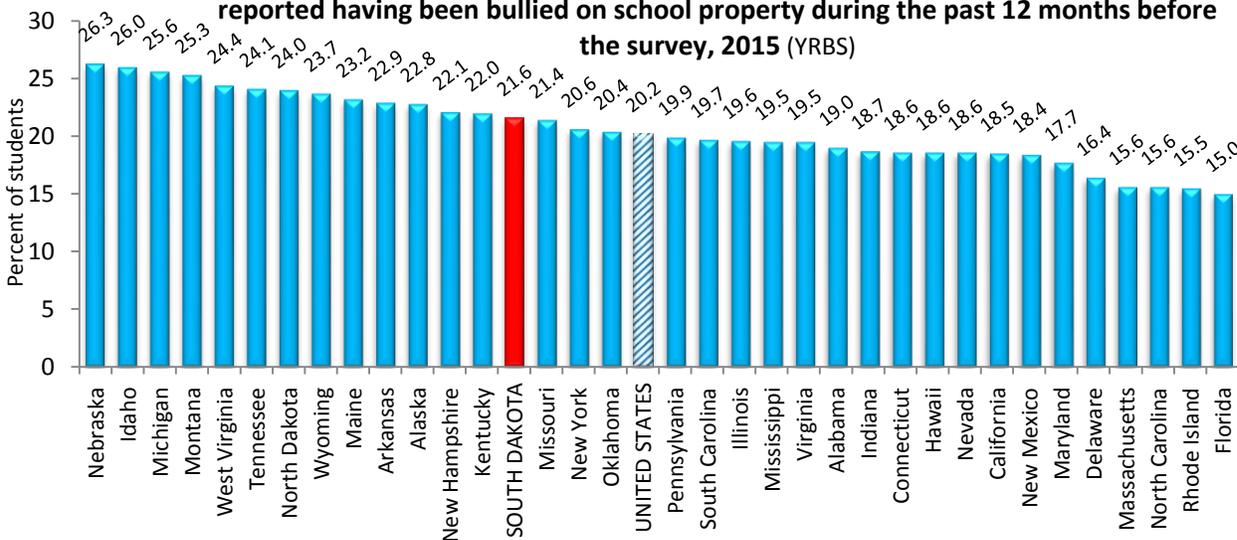
Figure 27. South Dakota high school students (percent) who reported having attempted suicide that resulted in injury, poisoning or overdose that had to be treated by a doctor or nurse during the past 12 months before the survey, 2011 and 2015 (YRBS)



High School Students Bullied

Youth who report bullying behavior are more likely to report suicide-related behaviors.¹⁰ It is not known, however, if bullying directly results in suicide. National YRBS percentages for students having been bullied on school property during the past 12 months show South Dakota high school students bullied slightly above the national rate, 21.6% vs. 20.2%, respectively, ranking 14th out of the 35 states asking that question in 2015 (Figure 28). States with the highest rates of bullying include Nebraska, Idaho and Michigan, while states with the lowest rates were North Carolina, Rhode Island and Florida.

Figure 28. High school students (percent) in South Dakota and other states who reported having been bullied on school property during the past 12 months before the survey, 2015 (YRBS)



During the most recent YRBS the overall percent of South Dakota high school students who were bullied on school property decreased. Female students reported higher rates of bullying than male students for each of the years. The only year the American Indian sample was large enough to be reliable was 2011.

¹⁰ CDC. The Relationship Between Bullying and Suicide: What We Know and What it Means for Schools www.cdc.gov/violenceprevention/pdf/bullying-suicide-translation-final-a.pdf

During that year the rate of American Indian students being bullied was lower than White race students. Bullying tended to be highest for 9th graders and lowest for 12th grade students.

Figure 29. South Dakota High school students (percent) who reported having been bullied on school property during the past 12 months before the survey, 2011, 2013 and 2015 (YRBS)

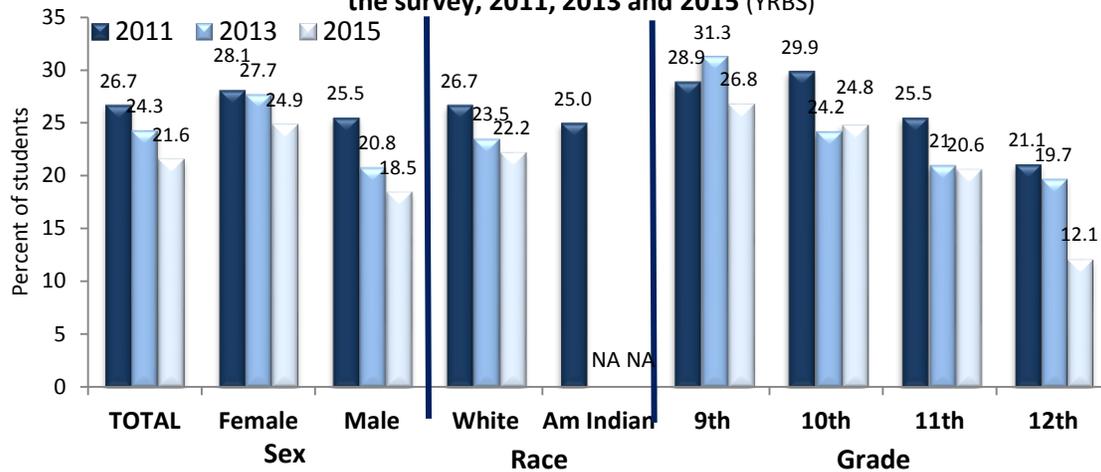


Table 10. High school students (percent) who reported having considered, planned, attempted, been injured in a suicide attempt, or been bullied during the past 12 months, South Dakota 2011-2015 (YRBS) ¹¹

	Total	Female	Male	White	Am Indian	9 th grade	10 th grade	11 th grade	12 th grade
Seriously considered suicide (percent)									
2011	17.8	22.3	13.5	14.8	34.8	16.8	19.2	14.2	20.8
2013	16.0	20.3	11.9	12.8	na	21.2	15.9	15.1	11.4
2015	16.1	23.3	9.3	15.0	na	16.0	19.8	14.0	14.2
Planned suicide (percent)									
2011	12.8	15.8	10.0	10.4	24.8	14.4	16.0	10.0	9.8
2013	13.0	14.8	11.0	9.2	28.9	16.5	13.3	9.8	12.4
2015	11.8	16.7	7.1	10.4	na	12.8	11.4	12.3	10.2
Attempted suicide (percent)									
2011	7.9	10.6	5.1	5	na	7.8	10.6	3.4	9.5
2013	8.9	10.7	7.2	6.4	18.3	10.9	11.3	5.5	7.1
2015	8.4	10	6.8	6.6	na	8.3	11	7.1	7.1
Attempted suicide resulting in injury (percent)									
2011	2.8	4.3	1.3	2.1	na	2.8	2.7	0.7	4.4
2013	--	--	--	--	--	--	--	--	--
2015	3.8	4.2	3.2	2.9	na	3.1	7.4	1.9	2.2
Bullied on school property (percent)									
2011	26.7	28.1	25.5	26.7	25.0	28.9	29.9	25.5	21.1
2013	24.3	27.7	20.8	23.5	na	31.3	24.2	21.0	19.7
2015	21.6	24.9	18.5	22.2	na	26.8	24.8	20.6	12.1

¹¹ CDC. Youth Risk Behavioral Survey. <https://nccd.cdc.gov/youthonline/App/Results.aspx?LID=SD>

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Technical Notes

Abbreviations:

- **CDC:** Centers for Disease Control and Prevention www.cdc.gov
- **ICD:** International Classification of Diseases www.cdc.gov/nchs/icd/icd10cm.htm
- **IHS:** Indian Health Service www.ihs.gov/suicideprevention/providers
- **NCHS:** National Center for Health Statistics www.cdc.gov/nchs
- **SDAHO:** South Dakota Association of Healthcare Organizations sdaho.org
- **SD-DOH:** South Dakota Department of Health doh.sd.gov
- **VA:** Veterans Administration www.vets.gov
- **YRBS:** Youth Risk Behavior Survey www.cdc.gov/healthyyouth/data/yrbs/index.htm

South Dakota Death Certificates, Vital Statistics, Department of Health. Death Certificate data for all ICD10 coded deaths (X60-X84, Y87.0) for South Dakota residents. Out-of-state suicides of South Dakota residents are reported to SD-DOH and are included in this report. The specified cause of death is determined by the local coroner, law enforcement or physician, and then reported to the Department of Health on the death certificate. The cause of death is then coded using ICD10 standards. In this report suicides are stratified by county, age, race, sex, method and time. Race groupings included single and multiple race American Indians in American Indian race group. County-level numbers of 1 or 2 cases is redacted to ≤ 2 .

Hospital discharge and emergency department principal diagnosis. The hospital discharge and emergency department principal diagnosis data were collected, coded and submitted by hospitals to the South Dakota Association of Healthcare Organizations (SDAHO <http://sdaho.org>). Federal hospitals in South Dakota did not submit discharge data, i.e., Indian Health Service (IHS) and Veterans Administration (VA) hospitals, and neither did the South Dakota Human Services Center. South Dakota residents who were hospitalized out of state are not included. ICD9 and converted ICD10: cases E950-E959 and X60-X84. The datasets were purchased by the South Dakota Department of Health from SDAHO included admission date, age, sex race, county of residence, and diagnosis codes grouped by principal diagnosis based on ICD9 and ICD10 standards. The 2015 data may not include patients who were admitted in 2015, but discharged in 2016.

National Center for Health Statistics (NCHS) Death Database. CDC-NCHS WONDER mortality file ICD-10 Codes X60-X84 (Intentional self-harm), Y87.0 (Sequelae of intentional self-harm) <http://wonder.cdc.gov> CDC's WONDER (Wide-ranging OnLine Data for Epidemiologic Research) is an easy-to-use internet system that makes the CDC information resources available to public health professionals and the public at large. It provides access to a wide array of public health information, including NCHS mortality data.

Youth Risk Behavior Survey (YRBS). The YRBS is conducted biannually on odd years in randomly selected high schools in South Dakota by the Department of Health or the Department of Education in collaboration with and funded by the Centers for Disease Control and Prevention. Participating schools are from the public and private sectors and Bureau of Indian Education schools. YRBS is a voluntary, confidential pencil-circle self-reporting survey with questions on suicide ideation, suicide attempts and bullying along with other health risk behaviors such as tobacco use, eating habits, physical activity, sexual behaviors, alcohol/drug use and violence, and many other topics. During the 2015 survey 1,313 South Dakota high schoolers participated, including 48.7% female and 51.3% male students. South Dakota YRBS <http://doh.sd.gov/statistics/YRBS.aspx>
CDC YRBS: www.cdc.gov/healthyouth/data/yrbs/index.htm

Questions on 2015 YRBS related to suicide:

During the past 12 months, did you ever seriously consider attempting suicide?

- A. Yes
- B. No

During the past 12 months, did you make a plan about how you would attempt suicide?

- A. Yes
- B. No

During the past 12 months, how many times did you actually attempt suicide?

- A. 0 times
- B. 1 time
- C. 2 or 3 times
- D. 4 or 5 times
- E. 6 or more times

If you attempted suicide during the past 12 months, did any attempt result in an injury, poisoning, or overdose that had to be treated by a doctor or nurse?

- A. I did not attempt suicide during the past 12 months
- B. Yes
- C. No

During the past 12 months, have you ever been bullied on school property?

- A. Yes
- B. No

Resources

- National Suicide Prevention Lifeline at 1-800-273-TALK (1-800-273-8255).
- Centers for Disease Control and Prevention www.cdc.gov/violenceprevention
- CDC Facebook Page on Violence Prevention www.facebook.com/vetoviolence
- CDC. The Relationship Between Bullying and Suicide: What We Know and What it Means for Schools www.cdc.gov/violenceprevention/pdf/bullying-suicide-translation-final-a.pdf
- National Institute for Mental Health www.nimh.nih.gov/health/topics/suicide-prevention/index.shtml
- American Association of Suicidology <http://www.suicidology.org>
- Substance Abuse and Mental Health Services Administration www.samhsa.gov/suicide-prevention
- Suicide Prevention Resource Center www.sprc.org
- Preventing Suicide: A Global Imperative www.who.int/mental_health/suicide-prevention/world_report_2014/en/