

Intentional self-harm is anything a person does to purposefully cause injury to themselves. Death by suicide is intentionally taking one's own life. Research suggests that self-injurious behaviors, which include suicide attempts, are risk factors for suicide.¹

Trends in Intentional-Self Harm & Death by Suicide

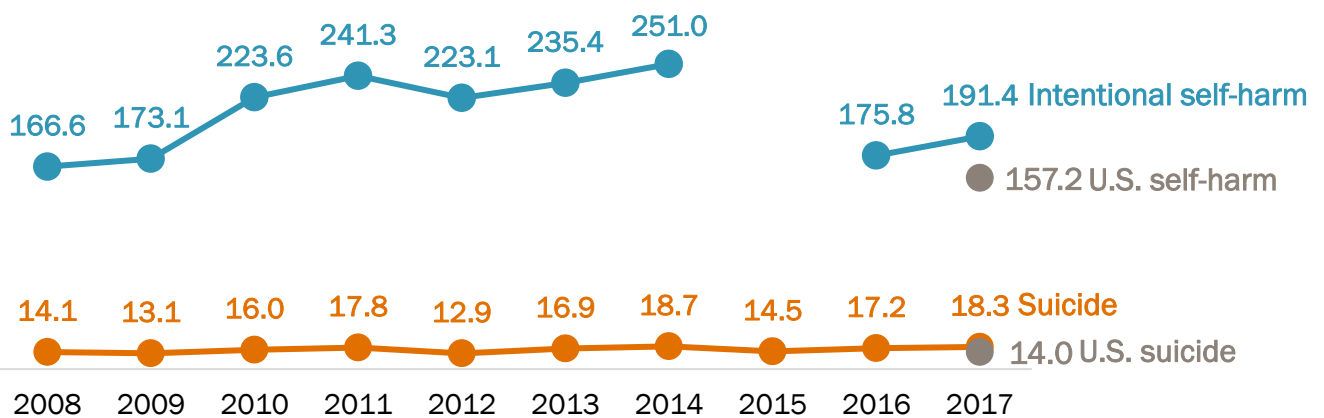
In 2017, there were **1,098 hospital visits** (which includes ED and inpatient visits) for **intentional self-harm** and **112 deaths by suicide** among Vermont residents. Vermont's intentional self-harm and death by suicide rates are significantly higher than the United States.²

In 2017, Vermont's rate of **intentional self-harm** was 191.4 per 100,000. From 2008 to 2014, the rate of intentional self-harm significantly increased 51%, from 166.6 to 251.0 visits per 100,000. Starting in October 2015, hospital billing codes switched from using ICD-9 to ICD-10. Because of this midway change, no 2015 rate is presented.³ While the rates in 2016 to 2017 follow the same trend of increasing over time, caution should be taken when comparing 2008-2014 to 2016-2017 because of the change in coding. Rates of intentional self-harm did not change statistically from 2016 to 2017.

In 2017, Vermont's **suicide** rate was 18.3 per 100,000. Suicide is the 8th leading cause of death in the state. Over the past 10 years, the rate of death by suicide has fluctuated, with the rate lowest (12.9) in 2012, and highest (18.7) in 2014. The rate of suicide has not significantly increased or decreased over the past 10 years.

Over the past decade, intentional self-harm rates have significantly increased while death by suicide rates have not significantly changed.

Age-adjusted rates per 100,000 Vermonters



Source: Vermont Vital Statistics, 2008-2017. Vermont Uniform Hospital Discharge Data System, 2008-2017.

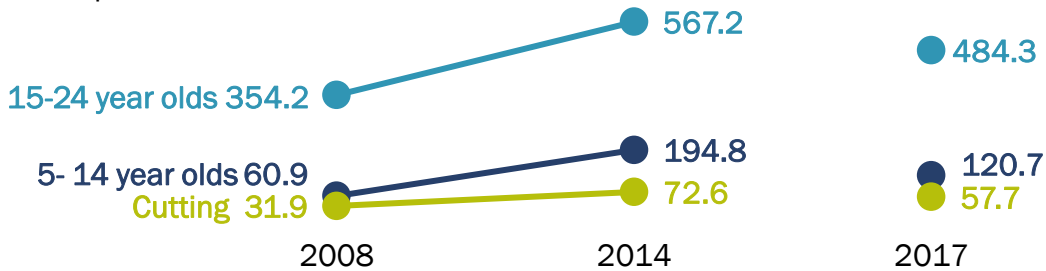
KEY POINTS

- In 2017, Vermont's intentional self-harm and suicide rates are significantly higher than the U.S.
- Hospital visits for intentional self-harm in youth and young adults are increasing.
- Firearms are used in many deaths by suicide; poisonings account for many hospital visits for intentional self-harm.
- Caledonia county has a significantly higher rate of suicide compared to Vermont.
- Among people who died by suicide, 32% were currently enrolled in mental health treatment.

Vermont Population at Risk for Intentional Self-Harm and Death by Suicide

The increase in the trend of hospital visits (ED and inpatient visits) for intentional self-harm between 2008 and 2014 is particularly apparent in Vermont youth and young adults. Rates have increased 220% in 5 to 14-year-olds, and 60% in 15 to 24-year-olds. Rates for visits due to cutting have also significantly increased 127%. Due to the change in hospital billing code methodology, comparisons between 2014 and data collected later cannot be made. There is no statistical change in intentional self-harm, overall and cutting specifically, by age between 2016 and 2017.

Hospital visits for 5 to 14-year-olds, 15 to 24-year-olds, and cutting are increasing. Rates per 100,000 Vermonters



Source: Vermont Uniform Hospital Discharge Data System, 2008–2014.

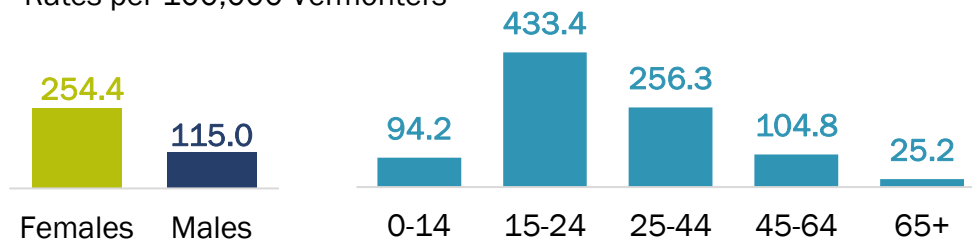
Hospital visits for intentional self-harm are higher among females and young Vermonters. Males are more likely to die by suicide.

Hospital visits for intentional self-harm is significantly higher among females compared to males (254.4 vs. 115.0 per 100,000 respectively). Younger populations, specifically 15 to 24-year-olds have intentional self-harm rates significantly higher than any other age group.

Males are significantly more likely to die by suicide (28.0 per 100,000 versus 8.2 for females). Death by suicide is statistically higher among 25-44 year-olds than those 15-24. All other age groups have rates of death by suicide that are statistically similar.

Intentional self-harm by gender and age

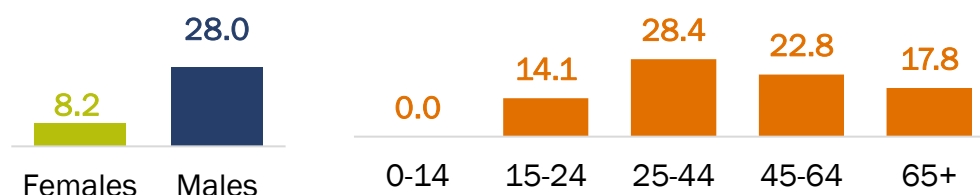
Rates per 100,000 Vermonters



Source: Vermont Uniform Hospital Discharge Data System, 2016–2017.

Death by suicide by gender and age

Rates per 100,000 Vermonters



Source: Vermont Vital Statistics, 2016-2017.

Vermont Population at Risk for Intentional Self-Harm and Death by Suicide

Three in five intentional self-harm hospital visits are due to poisonings; three in five deaths by suicide are due to firearms.

Leading causes of intentional self-harm and suicide with average number visits/ deaths a year		
Rank	Intentional Self-Harm	Suicide
1	Poisoning 597	Firearm 66
2	Cutting or Piercing 325	Hanging/ Suffocation 23
3	Other 102	Poisoning 16
4	Firearm 10	Cutting or Piercing 5
5	Fire/Flame 8	Fall from tall height 3

Poisonings account for 57% of intentional self-harm hospital visits. Following poisonings, the leading causes are cutting (31%), other (10%), firearm (1%), and fire (1%). Females are significantly more likely than males to visit the hospital for intentional self-harm by cutting or poisonings.

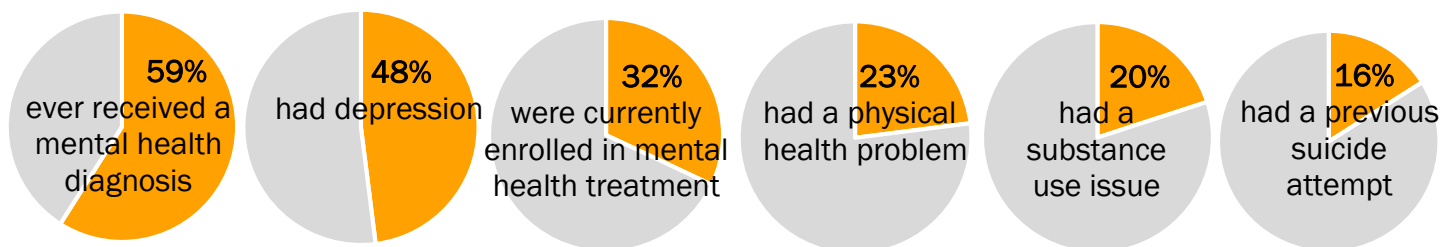
Among suicides, firearms account for 57% of deaths, hanging/ suffocation accounts for 20%, poisoning 14%, cutting 4% and falls from a tall height 2%. Males are significantly more likely than females to die by suicide using a firearm.

Source: Vermont Vital Statistics, 2016-2017. Vermont Uniform Hospital Discharge Data System, 2016-2017

Most deaths by suicide had noted risk factors.

Research suggests there are several risk factors for suicide, including: individuals with a family history of suicide, personal history of suicide attempts, a mental health diagnosis, feelings of hopelessness, isolation, history of alcohol and substance use, having experienced maltreatment as a child, easy access to lethal means, and stigma around seeking mental health treatment.⁴ The following information is from death scene investigation reports recorded in Vermont's Violent Death Reporting System (VTVDRS).

Risk Factors Reported Among Vermont Deaths by Suicide



Source: Vermont National Violent Death Reporting System (NVDRS), 2015-2016





Vermont Population at Risk for Intentional Self-Harm and Death by Suicide

Hospital visit rates for intentional self-harm are significantly higher in three counties. Suicide is significantly higher in Caledonia County.

County of Residence	Intentional Self-Harm rate per 100,000	Death by Suicide rate per 100,000
Addison	143.0	6.5
Bennington	345.1	21.5
Caledonia	187.7	34.6
Chittenden	147.8	12.2
Essex	143.5	21.4
Franklin	328.0	15.0
Grand Isle	170.5	19.4
Lamoille	121.8	20.1
Orange	109.1	11.6
Orleans	169.1	15.2
Rutland	218.3	18.7
Washington	159.7	15.7
Windham	261.2	29.1
Windsor	123.6	18.1
Vermont	191.4	18.3

Intentional self-harm rates are significantly higher than Vermont overall in Franklin, Bennington, and Windham County. Intentional self-harm rates are significantly lower than Vermont overall in Chittenden, Lamoille, and Orange County.

Death by suicide rates are significantly higher than Vermont overall in Caledonia County. Suicide in Addison County is significantly lower than Vermont overall. This is the first time since 2002 that any counties have rates statistically different from the state overall.

  Significantly lower than VT
  Significantly higher than VT

Source: Vermont Vital Statistics, 2015-2017. Vermont Uniform Hospital Discharge Data System, 2016-2017.

Populations at risk for intentional self-harm and suicide.

Vermont is working to address disparities and promote health equity. Several populations are at greater risk for suicide and intentional self-harm. These populations include veterans, people who identify as lesbian, gay, bisexual, transgender, queer (LGBTQ), refugees, and people of color.^{4,5}

LGBT students are four times more likely to make a suicide plan or attempt.

Students of color are more likely to make a suicide plan or attempt.

Veterans of a war account for 11% of deaths by suicide.

According to the 2017 Vermont Youth Risk Behavior Survey, LGBT high school students are significantly more likely to make a suicide plan or attempt than their peers (plan 33% vs. 8%; attempt 18% vs. 4%). High school students of color are significantly more likely to make a suicide plan or attempt (plan 15% vs. 10%; attempt 8% vs. 5%). People of color account for 5% of deaths by suicide. Although we do not collect information on refugee status for deaths, Vermont residents born outside of the United States account for 5% of suicides. Veterans of war account for 11% of suicides.

Key Takeaways

Suicide and intentional self-harm are preventable public health problems. These are priorities in the Vermont State Health Improvement Plan. Based on the data, there are several populations and counties to work with in expanding suicide and intentional self-harm prevention efforts. For intentional self-harm this includes 15 to 24-year-olds, females, and residents in Bennington, Franklin, and Windham County. For deaths by suicide, working with males and residents in Caledonia County could help reduce the number of suicide deaths in Vermont.

Among people who died by suicide, 32% were currently enrolled in mental health treatment.

The Vermont Department of Mental Health and the Vermont Department of Health support multiple evidence-based suicide prevention programs to help increase public awareness, train providers, develop treatment networks within schools and communities, and increase prevention outreach. Through continued collaboration with our partners, we can work to reduce the burden of intentional self-harm and suicide within Vermont's communities.

Resources to get help

If you or someone you know is thinking about or planning to take their own life, there is help 24/7:

- Call the National Suicide Prevention Hotline at 800-273-8255.
 - Veterans crisis line: press 1 when prompted
- Text the Crisis Text Line – text “VT” to 741741 anywhere in the U.S. about any type of crisis
- Trevor Lifeline: LGBTQ Crisis Lifeline: 1-866-488-7368

References

1. Olfson, M., et al. (2017). Suicide following deliberate self-harm. *American Journal of Psychiatry*, 174(8), 765-774.
2. United States rates of intentional self-harm and suicide: <https://www.cdc.gov/injury/wisqars/facts.html>
3. For more information on the issues of comparing ICD-9 and ICD-10 injury indicators used in this brief, see the CSTE Injury Toolkit: <https://resources.cste.org/Injury-Surveillance-Methods-Toolkit>
4. Suicide risk factors from CDC: <https://www.cdc.gov/violenceprevention/suicide/riskprotectivefactors.html>
5. Vijayakumar, L. (2016). Suicide among refugees – A mockery of humanity. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, 37(1), 1-4.

Methodology

Intentional self-harm is defined using primary hospital billing codes from emergency department visits and hospitalizations. This data brief shares the latest information we have for all Vermont resident deaths and for intentional self-harm among Vermonters treated at Vermont hospitals. Statistics for age, gender, and sex are two-year averages to ensure stable estimates. County of residence is examined using 3-year averages for death by suicide.

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