
**Report to
The Vermont Legislature**

**Suicide Prevention Recommendations
2020 Report to the Legislature**

In Accordance with Act 37 (2017), Section 1, An act relating to evaluation of suicide profiles

Submitted to: House Committee on Health Care
Senate Committee on Health and Welfare
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Suicide Prevention Recommendations 2020 Report to the Legislature

Executive Summary

Suicide is the eighth leading cause of death in Vermont overall and the second leading cause of death for Vermonters age 15 to 34. Rates of death from suicide in Vermont are higher than- and increasing at a faster rate than- the national average.

The VT Youth Risk Behavior Survey indicates a growing sense of hopelessness and despair for young people with one in four high school students feeling sad or hopeless almost every day for two or more weeks during the past year. Among LGBT youth nearly 6 in 10 (58%) reported feeling sad or hopeless in 2017. The growing rate of suicide deaths among Vermont adults suggests that this sense hopelessness translates to them as well. Older adults and Veterans are vulnerable populations for suicide. Among Vermonters 60-74 the rate of suicide was 20.9 deaths per 100,000 people in 2013-2017, higher than the 16.1 seen for U.S. adults of the same age. [Veterans are twice as likely to die by suicide than non-veterans](#) The Agency of Human Services Suicide Prevention Team has reviewed the data and existing suicide prevention efforts in Vermont, and recommends the following potential strategies to address this serious public health problem:

1. Expand the Zero Suicide prevention strategy across Vermont's mental health system
2. Increase the in-state Suicide Prevention Lifeline call response from 0% to 70%
3. Implement a Mobile Response and Stabilization Services system
4. Increase the investment in the Elder Care Clinician Program and "Vet to Vet" visitor program
5. Request a Medicare waiver to improve access to mental health and substance misuse treatment for older Vermonters
6. Invest in Area Agencies on Aging to address social isolation for older Vermonters and Veterans
7. Train health care and social service providers in lethal means counseling and institute lethal means counseling policies
8. Invest in programs for youth that promote connectedness and community engagement activities such as: Up for Learning, U Matter YYA, Outright VT outreach, and afterschool programming
9. Expand investment in U Matter Suicide Prevention for schools (different from U Matter YYA above)

Introduction

Act 34 (2017), An act relating to evaluation of suicide profiles, requires the Secretary of the Agency of Human Services to report on suicide data for Vermont with national comparisons, and provide recommendations and an action plan based on those data.

[Suicide is the eighth leading cause of death in Vermont](#) overall and the second leading cause of death for Vermonters age 15 to 34. Suicide death rates in Vermont [are higher than- and increasing at a faster rate than-](#) the national average. One in four Vermont high school students report feeling sad or hopeless almost every day for two or more weeks during the past year, increasing to 58 percent among non-heterosexual students ([2017 Youth Risk Behavior Survey](#)).

The problem of social isolation is pervasive among older Vermonters as well. The rate of death by suicide among Vermonters ages 60 to 74 is 20.9 per 100,000 people, compared to the national rate for that age group of 16.1 per 100,000 people (2013-2017, Vermont Vital Statistics and CDC WISQARS).

Recommendations

Expand the Zero Suicide prevention strategy statewide

Zero Suicide is a specific set of strategies and tools to address suicide prevention in health and mental health care systems developed by the Education Development Center's Suicide Prevention Resource Center (SPRC) and supported by the Substance Abuse and Mental Health Services administration (SAMHSA). Inspired by health care systems that had seen dramatic reductions in patient suicide, the foundational belief of Zero Suicide is that suicide deaths are preventable.

Zero Suicide includes workforce training to ensure that mental health and health care providers feel confident in their ability to provide care and effective assistance to patients with suicide risk. Zero Suicide also utilizes evidence-based practices including screening and suicide risk assessment, suicide-focused care, intervention and collaborative safety planning, treating suicide risk, and care coordination and follow-up. Expanding Zero Suicide statewide is a strategy that supports Suicide Prevention for Veterans. The VA's Gatekeeper Program (SAVE) is part of the Zero Suicide Framework and Training. Vermont has piloted Zero Suicide in limited regions of the state and requires additional resources to become statewide.

The Vermont All-Payer Accountable Care Organization Model Agreement has three high level population health improvement goals, one of them including reducing the rate of deaths due to suicide. Accountable Care Organizations working in Vermont and participating in payment reform through the statewide framework, i.e. OneCare Vermont, can and should be a partner in expanding Zero Suicide through its network of health care providers.

Increase the in-state Suicide Prevention Lifeline call response from 0% to 70%

The National Suicide Prevention Lifeline is a national network of local crisis centers that provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. The National Suicide Prevention Lifeline is dependent on local

in-state call response infrastructure. Vermont currently ranks at the very bottom of in-state response for National Lifeline calls, at a 0% response rate. Vermont callers are routed out of state, resulting in potential delays and barriers to appropriate referrals. Vermont has set a target to increase in state call response to 70% by 2021 (approximately 1,672 calls) by investing in local response agencies.

Implement a Mobile Response and Stabilization Services system

Mobile Response and Stabilization Services (MRSS) is a flexible crisis response unit run by the Designated Agencies that can provide a face-to-face encounter with a family before an emotional or behavioral situation escalates. MRSS has been shown in other states to be responsive to child, youth and family needs, clinically and cost effective in “averting unnecessary” higher levels of care in settings such as emergency departments, inpatient psychiatric care, residential treatment or other placement disruptions, and is often the first point of contact with families (NASMHPD 2018). MRSS differ from traditional crisis services in that MRSS provides preventive services.

Increase the investment in the Elder Care Clinician Program (ECC) and Vet-to-Vet visitor program

The program was initially funded with a \$250,000 General Fund appropriation in 2000, and in the last 20 years has never been increased but has in fact decreased by \$15,000. This has prevented DAs from maintaining stable staffing and serving more people despite growing mental health needs. An increase of at least \$15,000 is recommended to begin to address some of the waiting lists for ECC services at the DA’s; additional funding to target those areas with waiting lists could also really help. In the FY20 DA Master Grants, the ECCs will now be screening annually for suicide risk in addition to screenings for depression, substance use and dementia.

Request a Medicare waiver to improve access to mental health and substance misuse treatment for older Vermonters

Request that CMS approve a waiver to allow Medicare reimbursement to those mental health and substance use treatment professionals who are enrolled as providers in Vermont Medicaid under Vermont Medicaid provider requirements as part of the Vermont All-Payer Accountable Care Organization Model Agreement. Much of Vermont’s existing clinical workforce does not meet the eligibility requirements and licensing requirements in the Medicare conditions of participation, while most older Vermonters rely on Medicare (and Medicare providers) for all health-related services. This means that many older Vermonters cannot access necessary mental health and substance use treatment services, and that older Vermonters at risk of suicide cannot access appropriate treatment.

Invest in Area Agencies on Aging to address social isolation for older Vermonters and veterans

Suicide risk is often coupled with social isolation and a lack of meaningful relationships. Research shows that chronic social isolation has the equivalent health impact of smoking 15 cigarettes a day, increasing risk of death by 50 percent. Older Vermonters have a high risk of social isolation. As an upstream suicide prevention strategy Vermont proposes to support the five Area Agencies on Aging (AAA) in working with older Vermonters to build their capacity for social connections in their community. After screening for social isolation and suicide risk, AAA Community Health Workers will use a person-centered approach to help individuals identify meaningful opportunities for connection, support them to build those connections and overcome barriers to accessing those connections, whether it be volunteering, going to church, taking a

class at the senior center, playing cards at the VFW or having a friend meet them for lunch. Community Health Workers will slowly phase out their involvement as people's natural community connections grow and their screened risk of social isolation decreases.

Train health care and social service providers in lethal means counseling and institute lethal means counseling policies

Restricting access to lethal means is the single most important factor in reducing suicidal action when someone is going through a difficult time and experiencing suicidal thoughts. Safe storage of medications, risk mitigation on bridges and tall buildings, and proper firearm and ammunition storage are critical means of reducing the suicide rate in Vermont. The national Suicide Prevention Resource Center suggests the following evidence-based strategies to approach this issue:

- Train healthcare professionals in lethal means counseling (CALM training)
- Train nontraditional providers in lethal means counseling (e.g. first responders, faith leaders, divorce and defense attorneys, probation and parole)
- Institute lethal means counseling policies in mental health and healthcare settings
- Ensure that bridges and high buildings have protective barriers

In Vermont, 57% of suicide deaths are completed using a firearm, making suicide death by firearm more prevalent than **all other lethal means combined**. Effective ways to address this issue include educating family members and the community about options for temporary storage of firearms during a suicidal crisis, distributing free or low-cost gun locks or gun safes, and working collaboratively with gun retailers and gun owner groups on suicide prevention efforts (Suicide Prevention Resource Center).

Invest in programs for youth that promote connectedness and community engagement

Investing in promoting connectedness through opportunities for supportive social relationships can help buffer suicide risk factors. Teaching coping and problem-solving skills through social emotional learning programs improve protective factors against suicide such as critical thinking, stress management, conflict resolution, problem-solving, and coping skills. Vermont must invest in a synergistic package of youth-related prevention efforts:

Expand investment in U Matter Suicide Prevention for schools

U Matter Suicide Prevention is a designated national best practice program which helps schools create suicide prevention-prepared communities. U Matter was developed from extensive research of effective national suicide prevention programs. U Matter for schools includes Gatekeeper training, development of suicide prevention and postvention protocols, and prepares health educators to implement the *Lifelines* curriculum with students.

Up for Learning's Getting to 'Y' program promotes healthy behaviors among youth through an empowerment model by providing opportunities for students to take a lead in bringing meaning to their own Youth Risk Behavior Survey data and taking steps to strengthen their school and community based on their findings by addressing risks and promoting strengths.

U Matter for Youth and Young Adults (YAA) (different from U Matter Prevention for schools) is a youth leadership and engagement initiative. The goal is to promote mental health wellness through healthy coping mechanisms among youth and young adults, and the ability to recognize

when a peer needs help and how to provide it. Core content and skills development includes changing mindset, assessing personal strengths, building resiliency, strategies to cope with stress, self-care, recognizing signs of distress in self and others, how to reach out for help and how to help a friend.

Outright Vermont programming increases understanding, foster respect and inclusion, and promote cultures of safety and support for LGBTQ youth.

Vermont Afterschool provides innovative programming to support youth voice, resilience and sense of belonging in their communities. The presence of supervision, caring adults, academic support, and a safe, healthy environment between school and home reduces risk behavior and promotes youth resilience and healthy, pro-social engagement.

Investment

The above recommendations require financial investment beyond the Agency of Human Services current budget in fiscal year 2020. Some recommended programs or initiatives are new and would require investment to be developed and implemented. Other programs or initiatives exist but would need additional investment in order to reach more constituents and/or to be implemented statewide.

2020 Action Plan

The Agency of Human Services continues to work toward increasing effective suicide care in Vermont through a variety of efforts. The AHS Suicide Prevention Team is dedicated to implementing Zero Suicide as an effective population health approach to reducing death by suicide. With existing resources this work will continue through the Department of Mental Health partnership with the Center for Health and Learning with a plan to bring on four new Designated Agency pilots in 2020. Additionally, efforts to introduce Zero Suicide to healthcare leadership are on-going and gaining momentum.

Activities related to the National Suicide Prevention Lifeline Capacity Building Grant are also underway, which will bring additional NSPL certified crisis centers on board in 2020. Funding through the grant will end in October of 2021, with the goal of increasing our certified National Lifeline centers in Vermont from one to three, with trained staff who can meet the needs of all Vermonters experiencing suicidal crisis.

The following action plan is intended to illustrate current efforts and timeline for activities planned over the next two years. This work will lay the foundation on which the recommendations in this report could build sustainable suicide prevention infrastructure across the state.

Zero Suicide Pilots

Initial Zero Suicide Pilots were completed in Chittenden, Franklin Grand Isle, and Lamoille counties from 2016 - 2019. Lessons Learned were developed and utilized to develop a plan for initiating four more pilot regions in 2020.

The four additional Designated Agencies that have committed to piloting Zero Suicide in 2020 are Rutland Mental Health, Washington County Mental Health, Health Care & Rehabilitation Services of Vermont, and North East Kingdom Human Services.

The Department of Mental Health has developed a work plan with the Center for Health and Learning for the following activities for a Zero Suicide in Vermont 2020 pilot project.

Participating Designated Agencies commit to:

1. Engage their leadership team in a commitment to implementing steps of the Zero Suicide framework.
2. Identify a Project Liaison/Clinical Coordinator
3. Establish a Site-based Zero Suicide Steering Committee
4. Identify a Community Advisory Group – Include People with Lived Experience
5. Review organizational policies and procedures

These efforts are currently funded through an allocation of \$141,500 from the Department of Mental Health to the Center for Health and Learning. The pilots will prepare agencies to fully implement Zero Suicide if the state is able to fully invest in the framework statewide.

The Department of Vermont Health Access has also proposed limited Delivery System Reform (DSR) investments to support OneCare Vermont in working with its network of providers to increase readiness for expansion of Zero Suicide.

Increase In-State Response for the National Suicide Prevention Lifeline

The Department of Mental Health and the Department of Health worked together to secure a National Suicide Prevention Lifeline Capacity Building grant for Federal Fiscal Year 2020 through 2021. The grant award is \$59,539 in the first year and \$76,189 in the second. These funds will support the development of in state capacity for responding to calls to the National Suicide Prevention Lifeline (NSPL) from Vermonters. Vermont's rate of in state response to the National Suicide Prevention Lifeline is tied for the lowest in the nation, at 0%.

Capacity building funds are directed to support startup costs for centers, including adapting technology for connecting to the National Suicide Prevention Lifeline and meeting all telephonic requirements. Additionally, all crisis centers must adapt their policies to meet the NSPL risk assessment requirements and train staff in evidence-based suicide screening and assessment practices.

Vermont's approach for state capacity building is to bolster our two existing call centers 2-1-1 and Northwestern Counseling and Support Services (NCSS), and to support an additional organization, Pathways Vermont to become a Lifeline member. These efforts will build capacity; however, they will not sustain the effort past the capacity building process. Ongoing funding is necessary to fund staff time and maintain capacity built through this grant period.

Annual funding recommended in this report would be directed to the following organizations to support staff time and training efforts beyond the grant period ending Fiscal Year 2021:

Vermont 2-1-1

Vermont 2-1-1 has been a member of the Lifeline network since 2009. They continue to meet all telephonic, policy and practice requirements, however they have endured a 50% turnover rate since they initially invested in suicide specific training for staff.

Northwestern Counseling and Support Services (NCSS)

NCSS is also a partner in the NSPL Capacity Building grant. NCSS came online in August of 2019 and they are expected to reach full capacity within Federal Fiscal Year 2021.

Both Vermont 2-1-1 and NCSS are limited by business day operating hours that are immutable within the grant period. This requires Vermont to build capacity through onboarding an additional call center.

Pathways Vermont

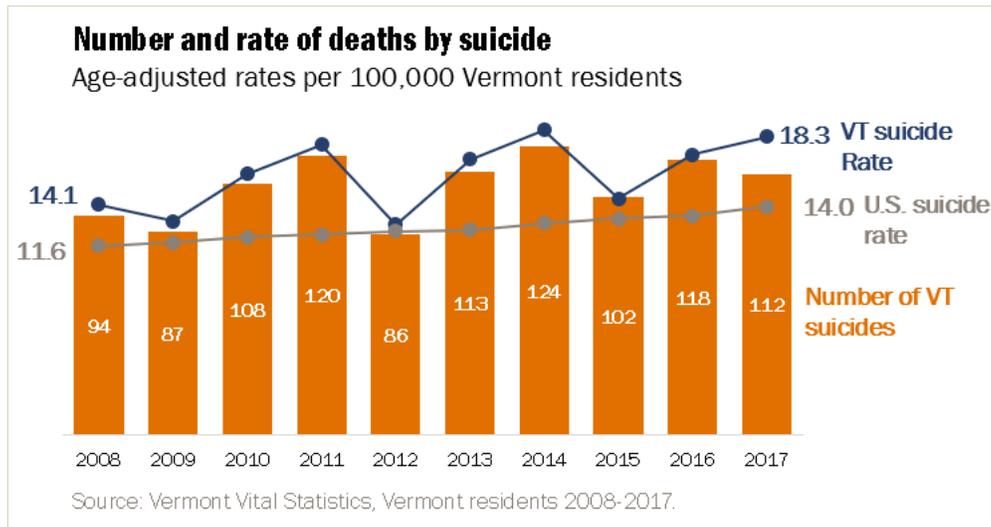
Pathways VT Support Line has the afterhours and weekend capacity Vermont needs to reach the goal of 70% in-state call response and they are committed to partnering with AHS on this aim. Pathways brings experience with peer supports through their existing warmline and have been identified as a unique opportunity to expand peer supports in suicide prevention infrastructure. It is expected that it will take Pathways VT up to two years to reach full capacity, answering calls from 6 pm to 6 am.

Suicide Data in Vermont

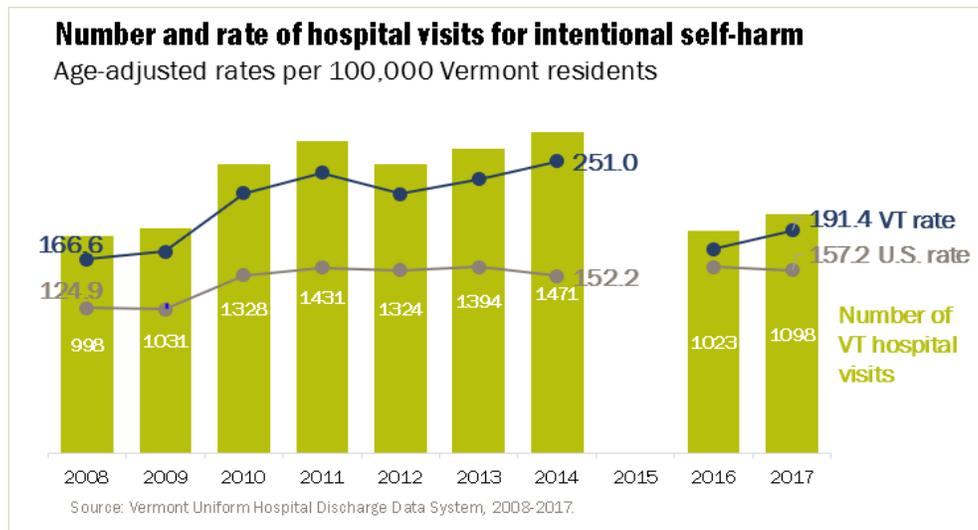
Trends of Vermont Death by Suicide and Intentional Self-Harm

In 2017, Vermont's rate of death by suicide was significantly higher than the U.S. (Vermont 18.3, U.S. 14.0 per 100,000 people). Suicide is the eighth leading cause of death in Vermont and the tenth leading cause of death in the U.S. Information from the Vermont National Violent Death Reporting System indicates that in 2015-2016, 59% of Vermonters who died by suicide had ever received a mental health diagnosis and only 32% were enrolled in mental health treatment, highlighting that suicide prevention is not just a mental health issue but a public health crisis that requires a comprehensive public health approach.

The rate of death by suicide has fluctuated over the past 10 years from a low of 12.9 per 100,000 people in 2012 to a high of 18.7 per 100,000 people in 2014. The change in the rate over the past 10 years has not significantly increased or decreased.



In 2017, the Vermont rate of hospital visits for intentional self-harm was significantly higher than the U.S. (Vermont 191.4 vs. U.S. 157.2 per 100,000 persons). The rate of hospital visits for intentional self-harm has significantly increased by 50% from 2008 to 2014. Starting in October 2015, hospital billing codes switched from ICD-9 to ICD-10; therefore, caution should be taken when comparing 2014 and earlier rates to rates after 2016. From 2016 to 2017, the rate continues to follow the increasing trend, but is not statistically significant.



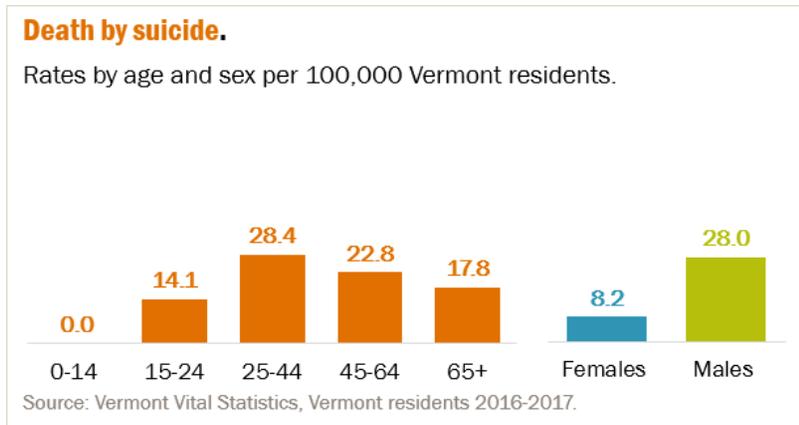
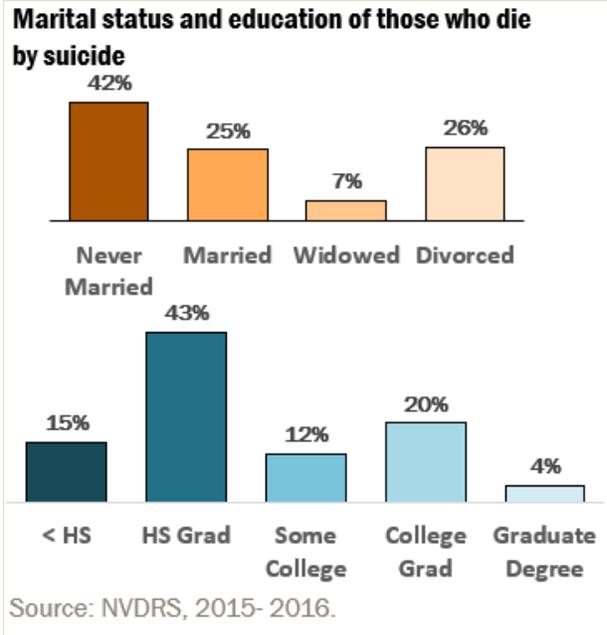
Demographics of Vermont Death by Suicide and Intentional Self-Harm

Deaths by suicide are more likely to be among male Vermonters who are never married or divorced and achieved a high school diploma or lower education.

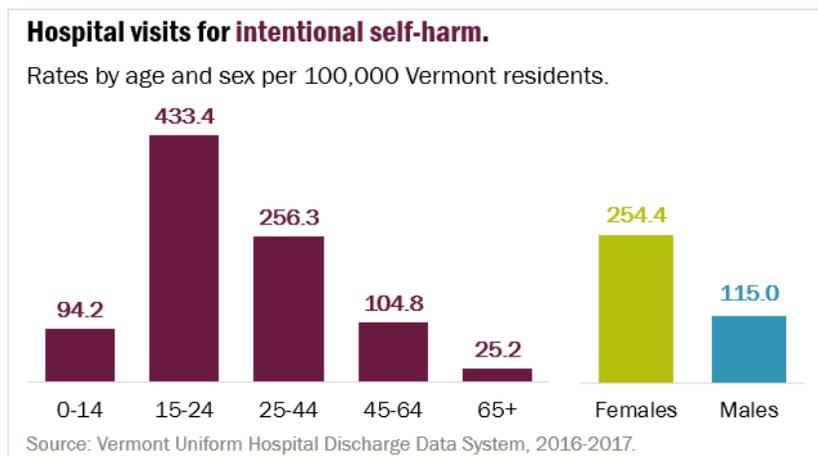
Those who die by suicide in Vermont are also most likely to:

- Be white, non-Hispanic (98%);
- Have a diagnosis of depression (48%);
- Have received mental health treatment (32%);
- Have been recently released from a jail, detention center, hospital, residential or health facility (14%).

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. Males are three times more likely to die by suicide compared to females.

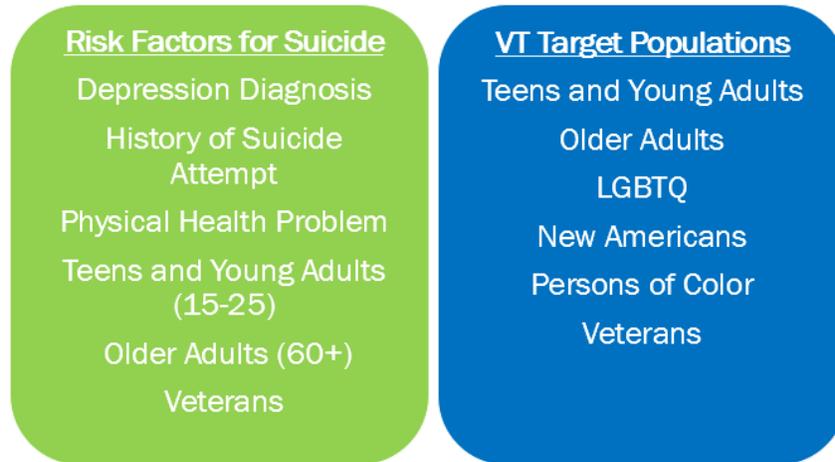


Compared to other age groups, intentional self-harm is significantly higher in 15-24-year-old Vermonters. Females are two times more likely to visit a hospital for intentional self-harm compared to males.



Vermont's Risk Factors and Target Populations

Suicide is a preventable public health problem. Scientific literature suggests there are several populations at high risk for suicide. For example, those between 15 and 25 years of age, those 60 years of age or older, persons with a diagnosis of depression, a history of suicide thoughts or attempts, physical health problems, and veterans. Vermont specific data suggests there are several target populations to focus on for the prevention of suicide, some of which overlap with the known risk factors from the literature. These include teens and young adults, older adults, LGBTQ persons, New Americans, and persons of color.



The following analyses examine these risk and target groups by looking at the data on suicide deaths in the Vermont Violent Death Reporting System (VTVDRS) and the prevalence estimates for suicide risk behavior.

Depression

Half of Vermonters who die by suicide also have a diagnosis of depression (48%). These individuals are significantly more likely to have a history of suicidal thoughts, suicide attempts, or recent death of one close to them. VTVDRS data shows that those who die by suicide and have a diagnosis of depression are two times more likely to have had suicidal thoughts prior to their death. They are three times more likely to have previously attempted suicide. They are 11 times more likely to have recently experienced a close friend or family member's death. This data suggests that of the 48% of Vermont suicide deaths that have depression, they were more likely to have a history of suicide thoughts, attempts, and experienced a recent death of a loved one.

Vermonters who die by suicide and had a diagnosis of depression are significantly less likely to have died by a firearm, indicated a depressed mood to someone, or had problems with an intimate partner.

Overall, in Vermont, one in five adults indicate they have been diagnosed with a depressive disorder (21%). Among teens, one in four high school students report feeling sad or hopeless (25%).

History of suicide attempt

One in six Vermonters who die by suicide had attempted suicide previously (16%). These individuals are significantly more likely to have a history of suicidal thoughts, a diagnosis of

depression, been currently enrolled in mental health treatment, and been female. VTVDORS data shows that those who die by suicide and attempted suicide previously are three times more likely to have had suicidal thoughts. They are three times more likely to have a diagnosis of depression. They are four times more likely to have been receiving mental health treatment at the time of death. They are also five times more likely to be female. This data suggests that of the 16% of Vermont deaths by suicide that had attempted suicide previously, most were currently seeking mental health treatment, were diagnosed with depression, and female.

Vermonters who die by suicide and had a history of previously attempting suicide were significantly less likely to have used a firearm.

Among all Vermont teens, one in 10 high school students made a suicide plan, and one in 20 attempt suicide (11%, 5%). Fewer Vermont adults report suicidal thoughts or attempt suicide. One in 25 adults seriously thought about suicide, and one in 100 adults attempted (4%, 1%). Among adults who have seriously thought of suicide and have a firearm in the home, one in three keep a firearm loaded (33%).

Teens and young adults

Vermont teens and young adults who die by suicide are significantly more likely to have been receiving mental health treatment at the time of their death. Teens who die by suicide are two times more likely to have been receiving mental health treatment. This may suggest Vermont is more successful at identifying suicidality in teenagers than other age groups, however improvement is needed in care for teens who do seek help.

Among Vermont teens, one in four high school students feel sad or hopeless, one in ten made a suicide plan, and one in 20 attempted suicide (25%, 11%, 5%).

Older adults

Older Vermont adults (60 years+) who die by suicide are significantly more likely to have a health problem and to die using a firearm. VTVDORS data shows that older adults who die by suicide are three times more likely to have a physical health problem. They are also three times more likely to have used a firearm.

Older Vermont adults who die by suicide are significantly less likely to have a criminal problem, a substance use disorder, or had a recent argument with someone. Among older adults in Vermont, two in five have a disability (38%). Disabilities include difficulty seeing, hearing, walking or climbing stairs, dressing or bathing, concentrating or making decisions, or who because of physical, mental, or emotional condition has difficulty doing errands alone. Among all Vermont adults, two in five have a firearm in their home (43%).

Physical health problem

Vermont adults who die by suicide and have a physical health problem are significantly more likely to be a veteran and 45 years or older. VTVDORS data shows that those who die by suicide and have a physical health problem are three times more likely to be a veteran. They are also four times more likely to be 45 years or older. This suggests that of the 23% of Vermont deaths by suicide that had a physical health problem, they were more likely to be a veteran and 45 years or older.

Vermont adults who die by suicide and have a physical health problem are significantly less likely to have problems with an intimate partner.

Overall, in Vermont, two in three adults have a chronic disease and one in four have a disability (66%, 24%). There are also specific Vermont populations that are significantly more likely to have a disability. Those who are more likely to have a disability includes adults older than 65, adults with a high school education or less, and adults with a lower income.

Veterans

Vermont veterans who die by suicide are significantly more likely to be 60 years or older, died by a firearm, and have a physical health problem. VTDRS data shows that veterans who die by suicide are 11 times more likely to be older than 60 years. They are 11 times more likely to have died by a firearm. They are also three times more likely to have a physical health problem. This data suggests that of the 17% of Vermont veteran deaths by suicide, they were more likely to be 60 years or older, died by a firearm, and had a physical health problem.

In Vermont, one in two veterans are older than 65 years. One in three veterans have a disability (34%). Veterans are significantly more likely than nonveterans to have a firearm in their house. Three in five veterans have a firearm in their home, and three in seven nonveterans have a firearm in their home (63% vs. 41%). Veterans who have a firearm in their home are also significantly more likely to keep their firearm loaded (24% vs. 16%).

Lesbian, gay, bisexual, or transgender (LGBT)

Despite the known risk to LGBT Vermonters, VTVDRS does not have reliable data on LGBT status. However, we do know the prevalence of risk factors in LGBT Vermonters.

LGBT teens and adults are significantly more likely to feel sad or hopeless or have depression compared non-LBGT teens and adults. More than half of LGBT teens feel sad or hopeless (58%), and 41% of LGBT adults have depression. Furthermore, LGBT teens and adults are significantly more likely to make a suicide plan or seriously thought about suicide. One third of LGBT teens made a suicide plan (33%), and 12% of LGBT adults seriously thought of suicide.

Persons of Color

In Vermont, 5% of deaths by suicide are persons of color, similar to the 6% of the Vermont population who are persons of color. However, Vermonters of color are significantly more likely to feel sad or hopeless, or have depression compared to white non-Hispanic Vermonters. More than one quarter of students of color feel sad or hopeless (28%), and 30% of adults of color have depression. High school students of color are significantly more likely to have made a suicide plan compared to white non-Hispanic students (15% vs. 10%). High school students of color are also significantly more likely to have attempted suicide (8% vs. 5%).

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Appendix A: Methodology

Suicide Deaths

Data on suicide deaths comes from Vermont Vital Statistics. Death by suicide is determined using the International Classification of Diseases Tenth Revision (ICD-10) codes X60- X84, Y87.0, U03. The statistics on death by suicide is Vermont residents. Demographic information on death certificates is reported by family members and funeral directors who fill out the death certificate.

The Vermont Violent Death Reporting System (VTVDRS) collects detailed information on violent deaths in Vermont including suicide. VTVDRS collects information from death certificates, law enforcement, and medical examiner reports. VTVDRS data is subject to the comprehensiveness of the medical examiner, law enforcement, and reports that are available at the time case entry into VTVDRS. Furthermore, not all fields are required or routinely part of death scene investigation. Therefore, the prevalence of any circumstance may be underestimated. The data from VTVDRS in this report is death by suicide in Vermont occurrent resident deaths in 2015-2016.

Risk Factors

Data on Vermont suicide risk factors comes from three sources. The Vermont Youth Risk Behavior Survey (YRBS) monitors health risk behaviors in youth. This survey is conducted every two years among middle and high school students. The data in this report is from the 2017 Vermont High School Youth Risk Behavior Survey.

The Vermont Behavioral Risk Factor Surveillance System (BRFSS) monitors health risk behaviors in adults. This survey is conducted every year among adults 18 years and older. The data in this report is from the 2018 Behavioral Risk Factor Surveillance System.

The Vermont Uniform Hospitalization Discharge Data System (VUHDDS) collects information on non-fatal emergency room visits and hospitalizations. The Vermont Uniform Hospitalization Discharge Data System is used to look at intentional self-harm. Intentional self-harm is

determined using ICD-9 (2008–2014 statistics) and ICD-10 (2016- 2017) billing codes for any of 20 diagnoses an individual can be given. The data on intentional self-harm is Vermont residents who visited Vermont hospitals. Vermont residents who visited out of state hospitals are not reflected in this data.

Rates

Annual rates of suicide and intentional self-harm are age adjusted to the U.S. 2000 standard population. Age adjustment helps take into account the different age structures of the populations that die by suicide or visit the hospital for intentional self-harm so Vermont's rates can be compared to the U.S. and other jurisdictions. U.S. rates for suicide and intentional self-harm are from the Centers for Disease Control and Prevention (CDC), WISQARS.

Statistical Tests

Testing for statistical significance was determined when the probability of a false positive is less than 5% (i.e. $p < .05$). Trend analysis for statistical changes over time use Joinpoint regression. VTVDRS analyses used logistic regression analyses using SAS version 7.1. BRFSS and YRBS data is weighted and tested for statistical significance using proc descript.