

# Suicide Mortality – Data Brief

## Vermont Injury Prevention Program

### Background

Suicide was the eighth leading cause of death among Vermont residents and the tenth leading cause in the United States in 2015<sup>12</sup>. Research suggests that more than nine in ten people who die by suicide have depression or another mental health diagnosis, or a substance-abuse disorder, often in combination with a mental health disorder. Other risk factors for suicide include: a prior suicide attempt; firearms in the home; exposure to suicide behavior; family history of suicide, mental disorders or substance abuse; and family violence.<sup>3</sup> The rate of suicide in VT is statistically similar to the rate of suicide in the U.S. (14.3 vs 13.7). However, in 2015, men in Vermont had a statistically significantly higher rate of suicide compared to the U.S. as a whole (25.0 vs 21.0) while the rates among women are similar (4.9 vs 6.0).

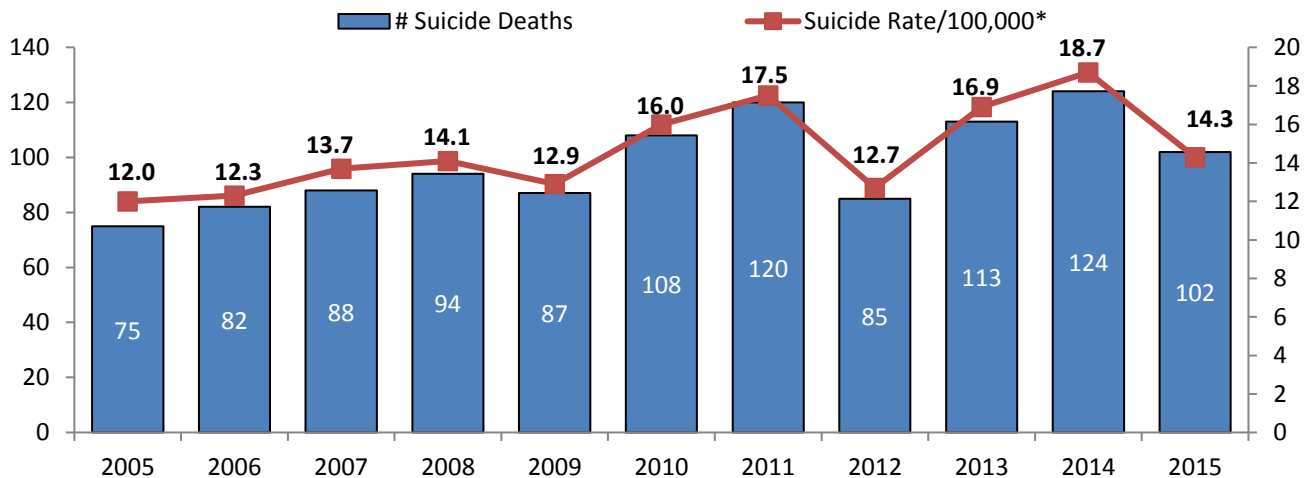
### Years of Potential Life Lost

Years of Potential Life Lost (YPLL) is defined as the sum of the years of life lost by persons who suffered early deaths, those dying before age 75<sup>4</sup>. It estimates the average time a person would have lived had he or she not died prematurely and is used to help quantify social and economic loss owing to premature death. In 2015, the age adjusted YPLL due to suicide in Vermont was 449 years per 100,000 persons aged 1-74. This is higher than, but statistically similar to the U.S. rate of 429 per 100,000<sup>5</sup>. Suicide accounted for seven percent of total YPLL in Vermont in 2015.

### Suicide Deaths

A [Healthy Vermonters 2020](#) goal is to reduce suicide deaths from 16.0 per 100,000 in 2010 to 11.7 per 100,000 in 2020. After consistently increasing from 75 deaths in 2005 to 120 deaths in 2011, the number of suicide deaths has fluctuated. There were 102 suicide deaths, or 14.3 per 100,000 Vermont residents in 2015, similar to the U.S. (13.7 per 100,000). Changes in the number and rate of suicide death in Vermont over time are not statistically significant.

**Number of Suicide Deaths and Suicide Death Rate Per 100,000  
Vermont Residents, 2005-2014**



<sup>1</sup> Source: Vermont Vital Statistics, Vermont Death rankings from 2015 are not yet available.

<sup>2</sup> Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online] [cited 2017 September 21]. Available from: <http://www.cdc.gov/injury/wisqars>

<sup>3</sup> Mann, J.J. (2002). *A Current Perspective of Suicide and Attempted Suicide*. *Annals of Internal Medicine* 136: 302-311.

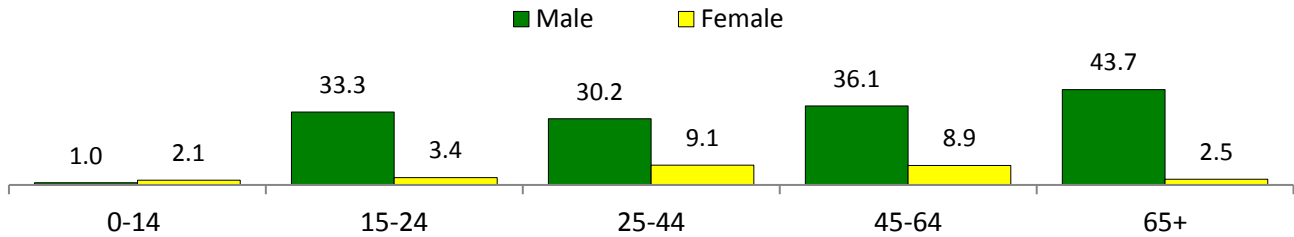
<sup>4</sup> Years of potential life lost (YPLL) is a standard measure of the extent of premature mortality in a population and is based on the life expectancy in the US.

<sup>5</sup> *National Center for Health Statistics. Health, United States, 2016: With Chartbook on Long-term Trends in Health*. Hyattsville, MD. 2017. (<https://www.cdc.gov/nchs/data/hus/hus16.pdf>).

## Suicide Deaths by Age and Gender

Male Vermont residents are much more likely to die by suicide than females. In 2014-2015 there were nearly five times as many male deaths (184) as female deaths (38). Correspondingly, Vermont's suicide rate is significantly higher among men than women (29.8 vs. 6.0 per 100,000 in 2014-2015). Suicide rates by age are consistently and significantly higher among males than females, except in the 0 to 14 years age range where the rates are similar. Among men the rate is highest in the 65 and older age range (43.7 per 100,000), while women 45-64 years of age have the highest rate (9.1 per 100,000).

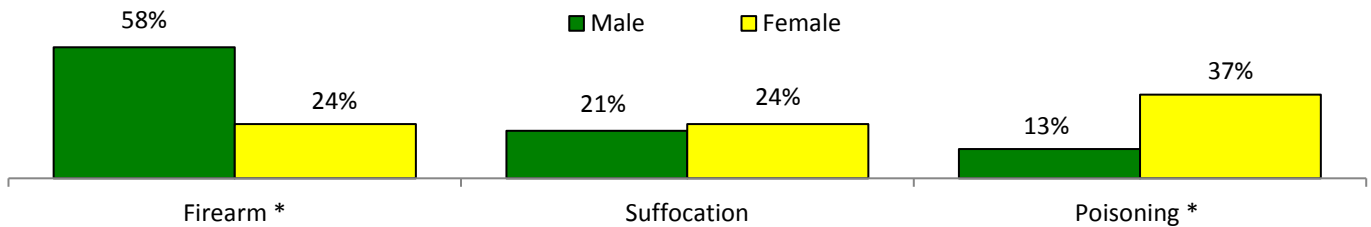
**Suicide Death Rate per 100,000 Vermont Residents, 2014-2015**



## Leading Cause of Suicide Deaths

In 2014-2015, the most common cause of suicide death among Vermont residents was firearms (52%). Suffocation<sup>6</sup> accounted for two in ten (21%) suicides while 17% were due to poisoning. Few suicides (less than 10%) were the result of other causes, including, drowning, intentional motor vehicle crash, and falls. The cause of suicide varies by gender. Male residents are twice as likely as females to die by suicide using a firearm (58% vs 24%), while female residents are about three times as likely to die by suicide through poisoning (37% vs 13%). Suffocation as a mechanism for suicide is similar among males and females.

**Suicide Deaths by Cause and Gender, Vermont Residents, 2014-2015**



\*Differences by gender are statistically significant

## Places of Suicide

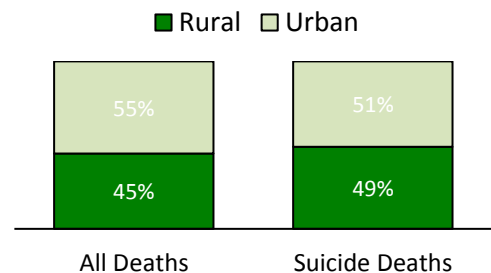
### Description

In 2011-2015, the most common place of suicide death was the decedents own home (65%). One in ten (11%) were declared dead upon arrival to the hospital or died at a hospital/ED. One quarter (24%) died in other places such as: in the woods/outside (8%), in a car/roadside/parking lot (7%), or at another person's residence (5%). One percent or less of suicide deaths occurred at a nursing home or long-term care facility, at a camp, camper/trailer, in a hotel, in a dorm room, or in an office.

### Rural & Urban

As a rural state, it is interesting to note that, from 2011-2015, nearly half (49%) of suicide-related Vermont deaths occurred in rural areas. This is slightly higher than the 45% seen among Vermont resident deaths overall. Despite this, there were no statistically significant differences in rate of suicide by county from 2011-2015.

**Percentage of Rural and Urban Deaths Vermont Residents, 2011-2015**

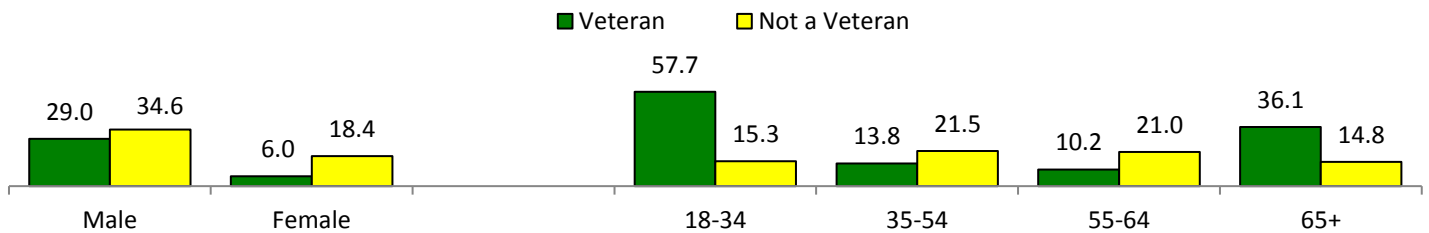


<sup>6</sup> Suffocation includes intentional self-harm deaths from hanging, strangulation, or suffocation.

## Suicide Deaths by Veteran Status<sup>7</sup>

Veterans are known to be at a higher risk of suicide<sup>8,9</sup>. In Vermont, while the average rate of suicide death among veterans from 2011-2014 is higher than non-Veterans (27.3 vs. 25.6 per 100,000 population 18 and older), the difference is not statistically significant. The highest rate of suicide among veterans is among those 18-34, followed by those 65 and older, in contrast to non-veterans where the highest rates are among those 35-54 and 55-64. Lastly, from 2011-2015 a higher percentage of veterans used a firearm to end their lives, regardless of gender, when compared with non-veterans. Among males, eight in ten veterans used firearms, whereas 59% of male non-veterans used a gun to die by suicide. All female veterans that died by suicide used a firearm, compared with only 27% among non-veterans. The overall rate of suicide among veterans is higher than non-veterans, conversely, the rate of suicide deaths among male and female non-veterans is higher than veterans. This statistical anomaly occurs when differences in the distribution of deaths and population increases when stratified by a third variable, such as gender.

**Suicide Death Rate per 100,000 by Veteran Status, Gender and Age, Vermont Residents, 2011- 2015**

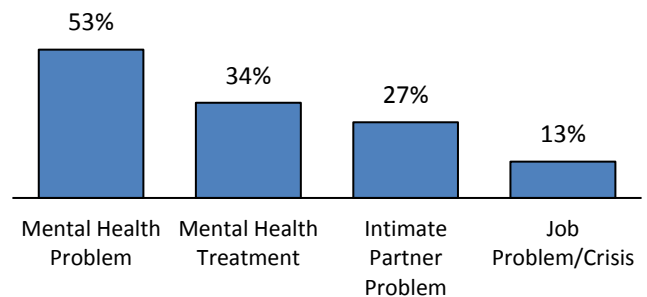


## National Violent Death Reporting System (NVDRS) Data<sup>10</sup>

The NVDRS system collects data on violent deaths, including suicides. The three major NVDRS data sources are: death certificates, coroner/medical examiner reports and law enforcement reports. The information collected includes circumstances related to suicide such as depression and major life stresses like relationship or financial problems. Vermont began submitting data to the NVDRS in 2015.

Over half (53%) of those who died by suicide in Vermont in 2015 had a mental health problem, a third had a history of mental health treatment and 27% had a reported intimate partner problem. Thirteen percent (13%) had a job problem or crisis in the past two weeks, including being laid off, trouble finding a job or being recently fired.

**Circumstances Surrounding Suicides in Vermont, 2015 NVDRS**



NVDRS data shows that among veterans who died by suicide in Vermont in 2015, 24% had a documented history of suicidal thoughts and 15% had attempted suicide in the past.

## Suicide prevention resources:

- National Suicide Prevention Lifeline: 800-273-TALK (8255) --Dial 211 for a Counselor if you are in VT
- VT Suicide Prevention Lifeline: (802) 273-8255 --Confidential online chat: [www.suicidepreventionlifeline.org](http://www.suicidepreventionlifeline.org)

For more information on injury surveillance or suicide data, please contact Leslie Barnard, MPH: [leslie.barnard@vermont.gov](mailto:leslie.barnard@vermont.gov).

<sup>7</sup> Veteran status is included in the Vermont Vital Records System and is defined here as a veteran, no war specified. Population data used to calculate rates are from the American Community Survey five-year estimates from 2011-2015:

[https://factfinder.census.gov/faces/nav/jsf/pages/community\\_facts.xhtml](https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml)

<sup>8</sup> Kaplan MS, Huguette N, McFarland BH, Newsom JT. Suicide among male veterans: a prospective population-based study. *J Epidemiol Community Health*. 2007;61(7):619-24.

<sup>9</sup>Kang HK, Bullman TA. Is there an epidemic of suicides among current and former US military personnel? *Ann Epidemiol*. 2009;19(10):757-60

<sup>10</sup> NVDRS data is restricted to occurrent deaths rather than resident deaths.