



Recent Suicide Trends in Vermont: What Are We Learning?

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We have several data sources on Vermont suicide and risk factors.

Data on suicide deaths

- Vermont Vital Statistics (X60-X84, Y87.0, U03)
- Vermont resident deaths
- The Vermont Violent Death Reporting System (VTVDRS) collects detailed information on violent deaths including suicide
 - Death certificates
 - Law enforcement reports
 - Medical examiner reports

Data on suicide risk factors

- Youth Risk Behavior Survey (YRBS)
- Behavioral Risk Factor Surveillance System (BRFSS)
- Vermont Uniform Hospitalization Discharge Data System (VUHDDS)
- Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)

Statistics 101: Small numbers in Vermont

Data-driven decision making needs the best possible data.

Small numbers create unstable estimates.

- Can result in dramatic fluctuations over time.
- See variation that is due to chance alone.
- Make a conclusion that isn't based on a true statistical difference.

Typically small numbers are less than 20 or 25.

How do we analyze data with small numbers?

Combine data years

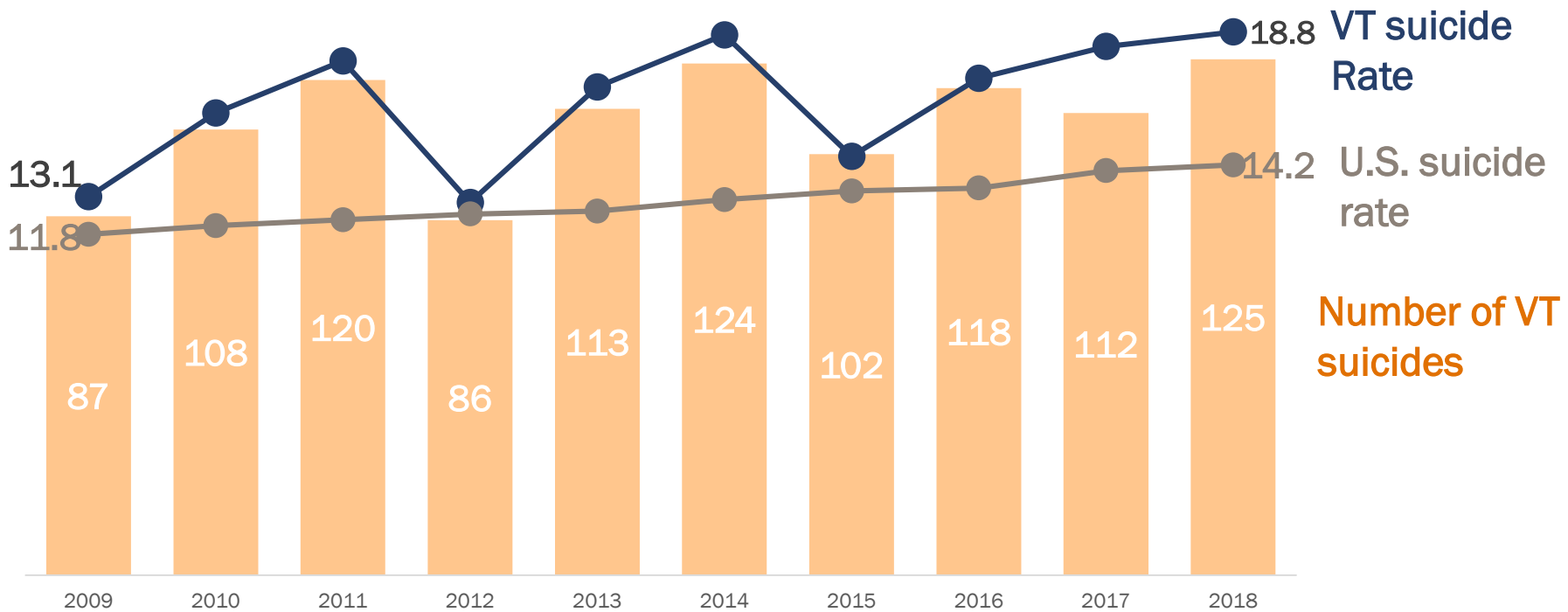
Perform statistical tests, generate confidence intervals

What have we learned from Vermont suicide death and intentional self-harm trends over time?

For the past two years, Vermont's suicide rate has been significantly higher than the U.S.

Number and rate of deaths by suicide

Age-adjusted rates per 100,000 Vermont residents

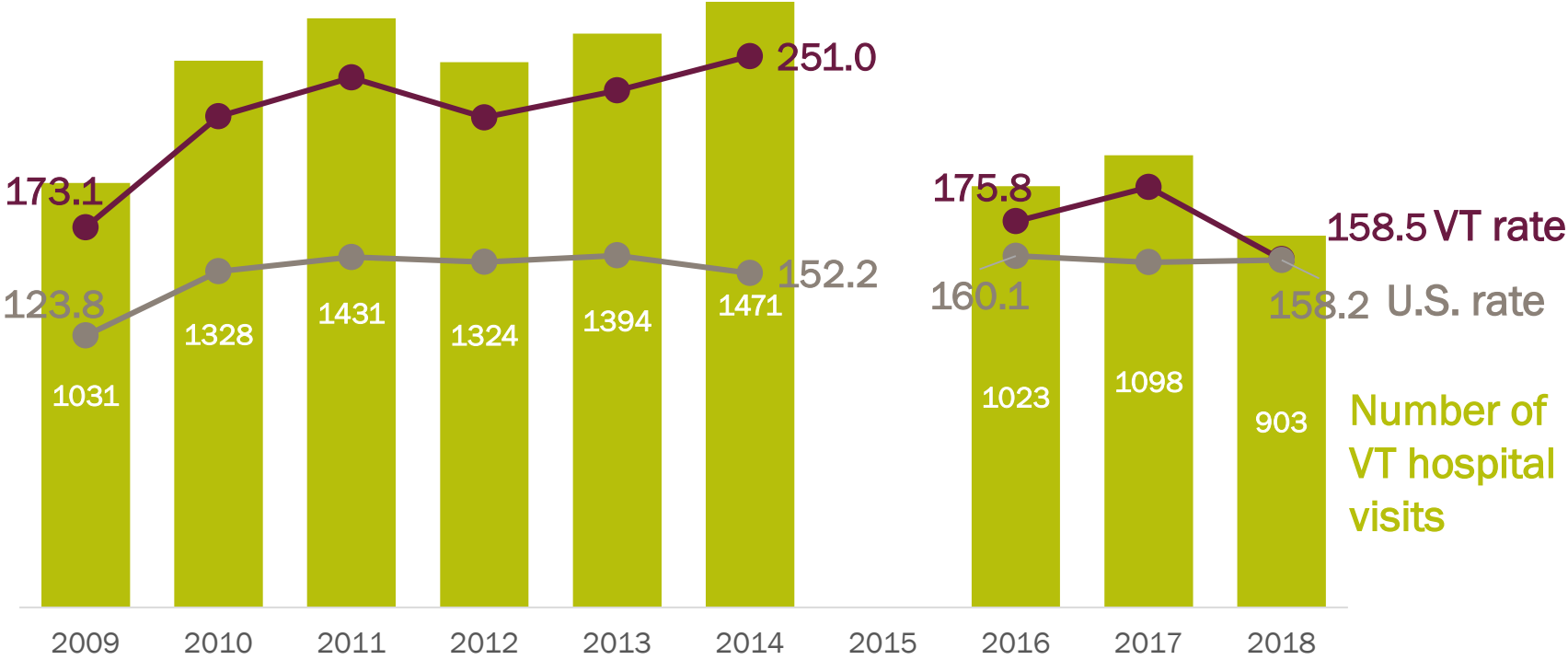


Source: Vermont Vital Statistics, Vermont residents 2008-2017.

Hospital visits for intentional self-harm in 2018 decreased.

Number and rate of hospital visits for intentional self-harm

Age-adjusted rates per 100,000 Vermont residents



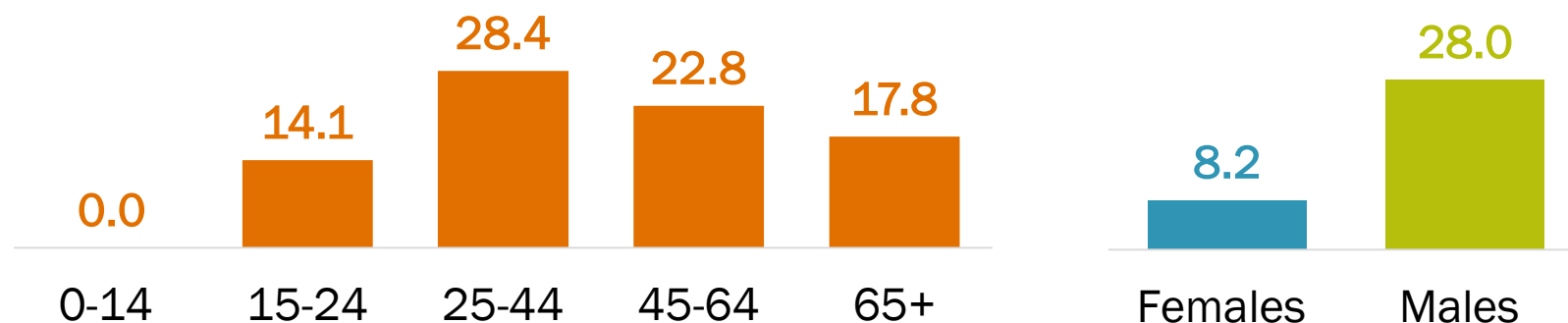
Source: Vermont Uniform Hospital Discharge Data System, 2008-2017.

Who is disproportionately at-risk for suicide and intentional self-harm in Vermont?

Suicide death rates are similar by age. Males are three times more likely to die by suicide.

Death by suicide.

Rates by age and sex per 100,000 Vermont residents.

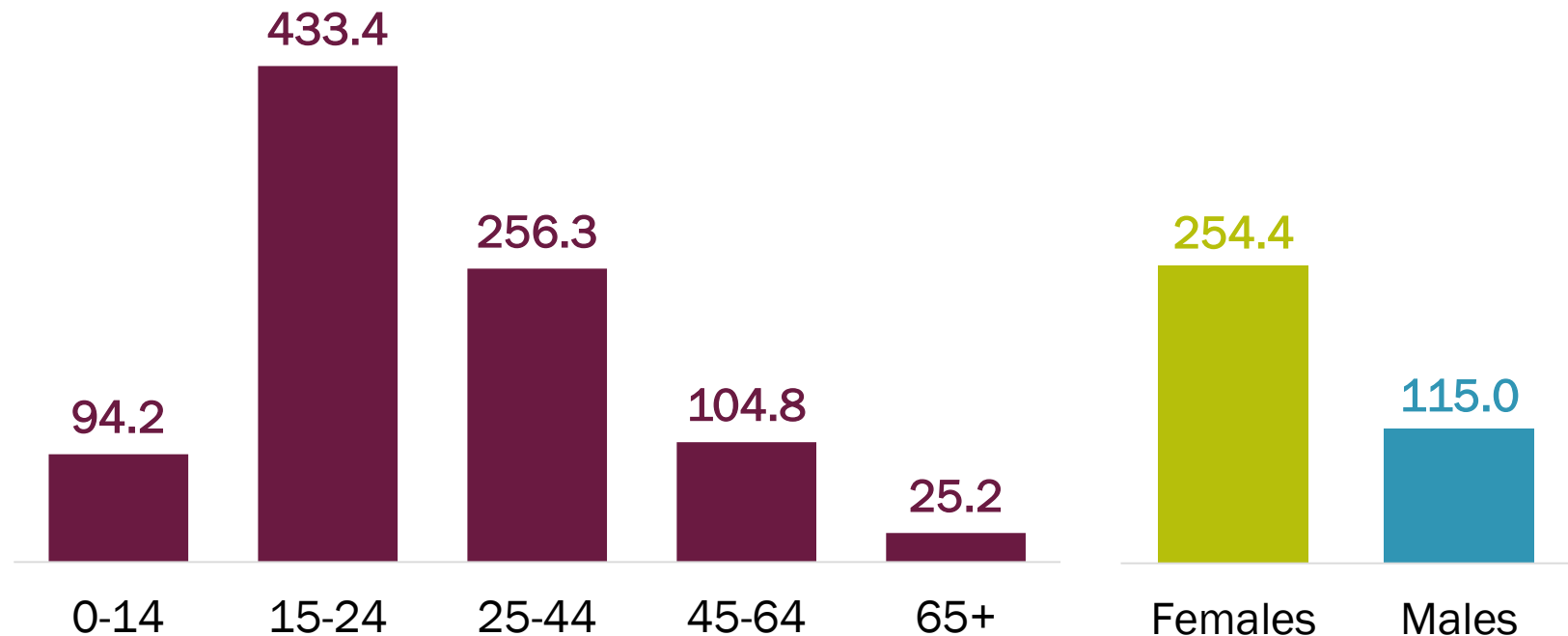


Source: Vermont Vital Statistics, Vermont residents 2016-2017.

Intentional self-harm is significantly higher in 15-24-year olds. Females are two times more likely to visit a hospital for intentional self-harm.

Hospital visits for intentional self-harm.

Rates by age and sex per 100,000 Vermont residents.



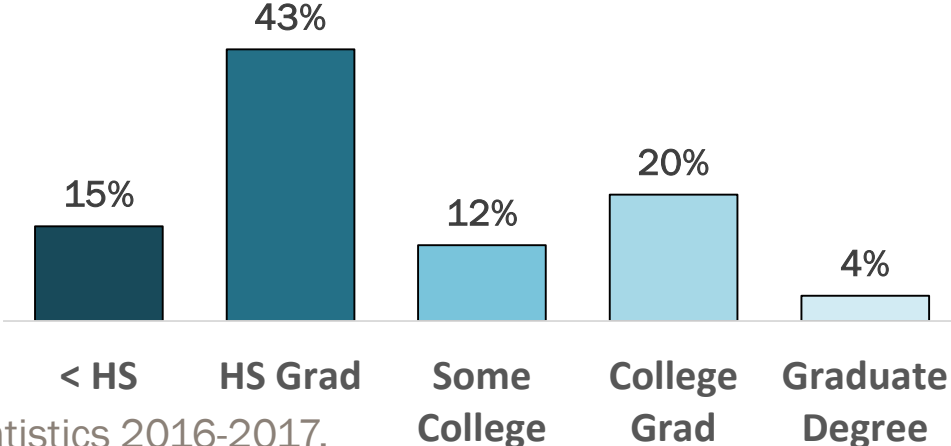
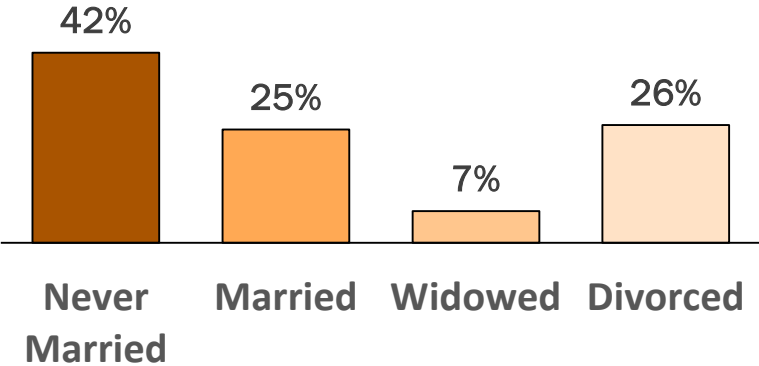
Source: Vermont Uniform Hospital Discharge Data System, 2016-2017.

Deaths by suicide are more likely to be among those who are never married or divorced, white, or had a high school education or less.

95% White/Non-Hispanic

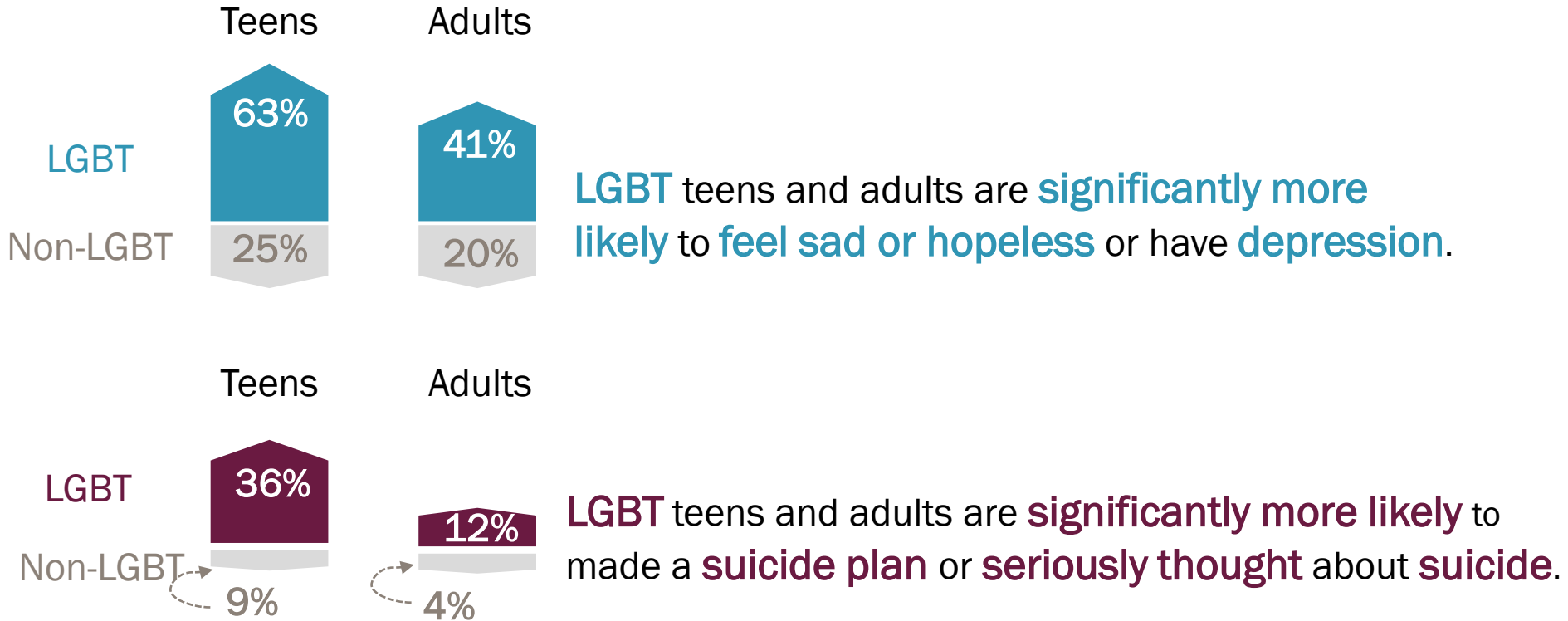
44% High school education

42% Were never married



Source: NVDRS, 2015- 2016; Vermont vital statistics 2016-2017.

LGBT Vermonters are at significant risk.



Source: YRBS, High School 2019; BRFSS, 2018.

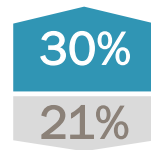
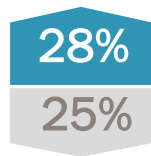
Teen questions from YRBS references feeling sad or hopeless; if they made a suicide plan. Adult questions from BRFSS references a diagnosed depressive disorder; if they seriously thought about suicide.

Vermonters of color are more likely to experience suicide risk factors.

Teens

Adults

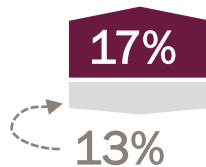
Persons of Color
White Non-Hispanic



Persons of color are significantly more likely to feel sad or hopeless or have depression.

Teens

Persons of Color
White Non-Hispanic







Teens of color are significantly more likely to made a suicide plan.

Source: Vital statistics, 2016-2017; YRBS, High School 2019; BRFSS, 2018.

Teen questions from YRBS references feeling sad or hopeless; if they made a suicide plan. Adult questions from BRFSS references a diagnosed depressive disorder.

Hospital visits for self-harm are higher in Bennington, Franklin, and Windham. Suicide is higher in Caledonia.

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


 Significantly lower than VT

 Significantly higher than VT

Most hospital visits for self-harm are poisonings. Most suicides are by firearm.

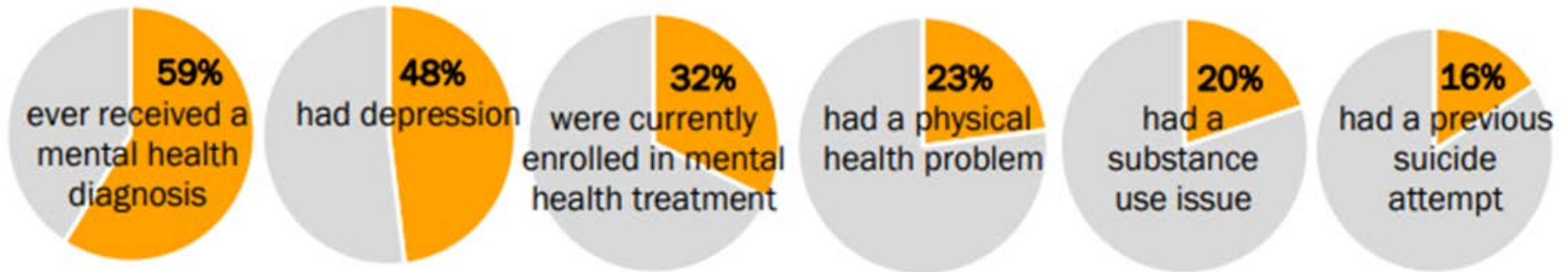
Leading causes of intentional self-harm and suicide with average number visits/ deaths a year		
Rank	Intentional Self-Harm	Suicide
1	Poisoning 597	Firearm 66
2	Cutting or Piercing 325	Hanging/ Suffocation 23
3	Other 102	Poisoning 16
4	Firearm 10	Cutting or Piercing 5
5	Fire/Flame 8	Fall from tall height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

- 57% of suicides are by firearm
- Males are significantly more likely to use a firearm compared to females
- 57% of hospital visits for self-harm are for poisonings

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

Most suicide deaths had noted risk factors

Risk Factors Reported Among Vermont Deaths by Suicide

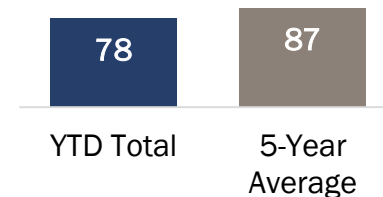


Source: Vermont National Violent Death Reporting System (NVDRS), 2015-2016

What can we learn from timely suicide data ?

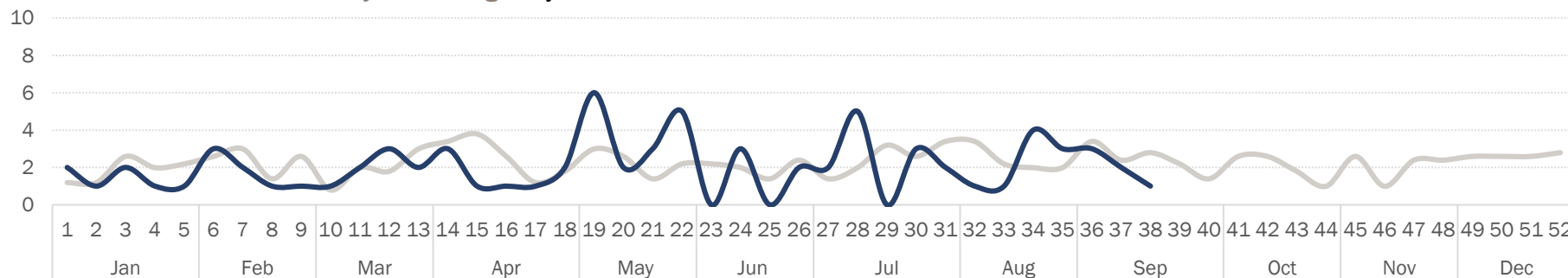
Deaths

As of September 25th there have been 78 suicide deaths in Vermont this year. So far in September there have been 4 deaths. The number of suicide deaths in August and July was similar to previous years, June was lower, and in May numbers were higher. We cannot yet determine whether there has been a statistical increase or a decrease in suicide deaths this year or in the past few months. This data is preliminary and subject to change.

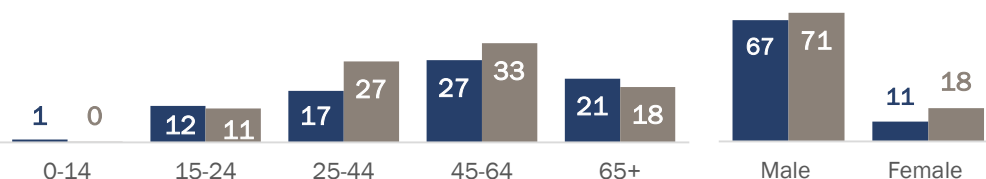


Number of Deaths by Suicide in Vermont by Week

Suicide deaths in 2020 and 5-year averages by week*



The number of deaths by suicides by age and sex is similar to previous years. Older Vermonters may be disproportionately affected.



Source: Vermont Vital Statistics, 2015-2020.

*5-year averages are calculated using the years 2015 to 2019.

Manner of death is used to determine deaths by suicide.

All suicide deaths in Vermont are included. On average, 5% of suicides among Vermont residents occur out of state; 9% of suicides in Vermont are not Vermont residents.

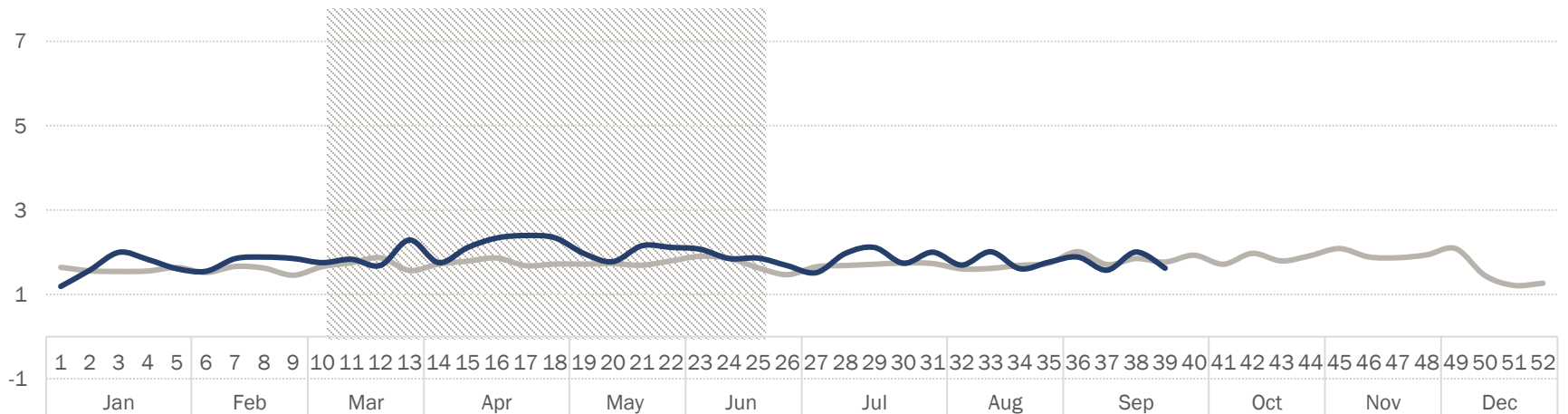
Please note Vermont Department of Health typically uses ICD-10 codes to capture suicide deaths, and focuses on Vermont resident deaths, therefore the number of suicide deaths may differ from results published elsewhere.

As of September 25th, 49 death certificates are pending. All data should be interpreted as preliminary.

Syndromic Surveillance

As of September 25th, emergent care visits for suicidal ideation and/or self-directed violence account for less than 2% of all emergent care visits in September. This data is preliminary and subject to change.

Percent of Emergent Care Visits for Suicidal Ideation and/or Self-Directed Violence by Week 2020 and 3-year averages of visits from 13 of 14 Vermont Hospitals and 2 Urgent Care Centers*




Source: Electronic Notification for the Early Notification of Community-based Epidemics, 2017- 2019.

*3-year averages are calculated using the years 2017 to 2019.

Suicidal ideation or self-directed violence is determined using the patient's chief complaint and/or discharge diagnosis.

Due COVID-19, there have been recommendations to stay home and only seek emergency room care for life threatening situations.

 From March 15 to the end of June, there was approximately a 50% reduction in ED and urgent care visits and a 43% reduction in visits for suicidal ideation and self-directed violence. Suicide related visits during this timeframe should not be compared to the 5-year average. Currently ED and urgent care visits are approximately 10% lower than previous years.

For more information about the data, contact: Caitlin Quinn, MPH, Caitlin.jelinek@vermont.gov

For more data on suicide morbidity and mortality in Vermont, see the annual: [Intentional Self-Harm and Death by Suicide data brief](#)

For more information on suicide prevention in Vermont, visit: <https://www.healthvermont.gov/emergency/injury/suicide-prevention>

I would love your help making our data better!

Hospital data fact sheets

- Goal: promote data sharing, improve suicide ED visit coding, and improve collaborations between hospitals and VDH data analysts
- 1-2 page data briefs with suicide related ED visits
 - Demographic information like age, sex, county of residence
 - Trends over time

And our data briefs...

[Intentional Self-Harm and Death by Suicide](#)
[Firearm Injury and Death](#)



Thank you!

Let's stay in touch.

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