

Firearms and Suicide in Vermont: Public Health Perspectives on Prevention

Rebecca Bell, MD, MPH

Tom Delaney, PhD

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Acknowledgements and Disclosures

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Overview of this presentation

Review of recent trends in Vermont firearm suicide deaths

Risk factors for firearm suicide death

- Role of impulsivity / lack of reversibility
- Access to firearms

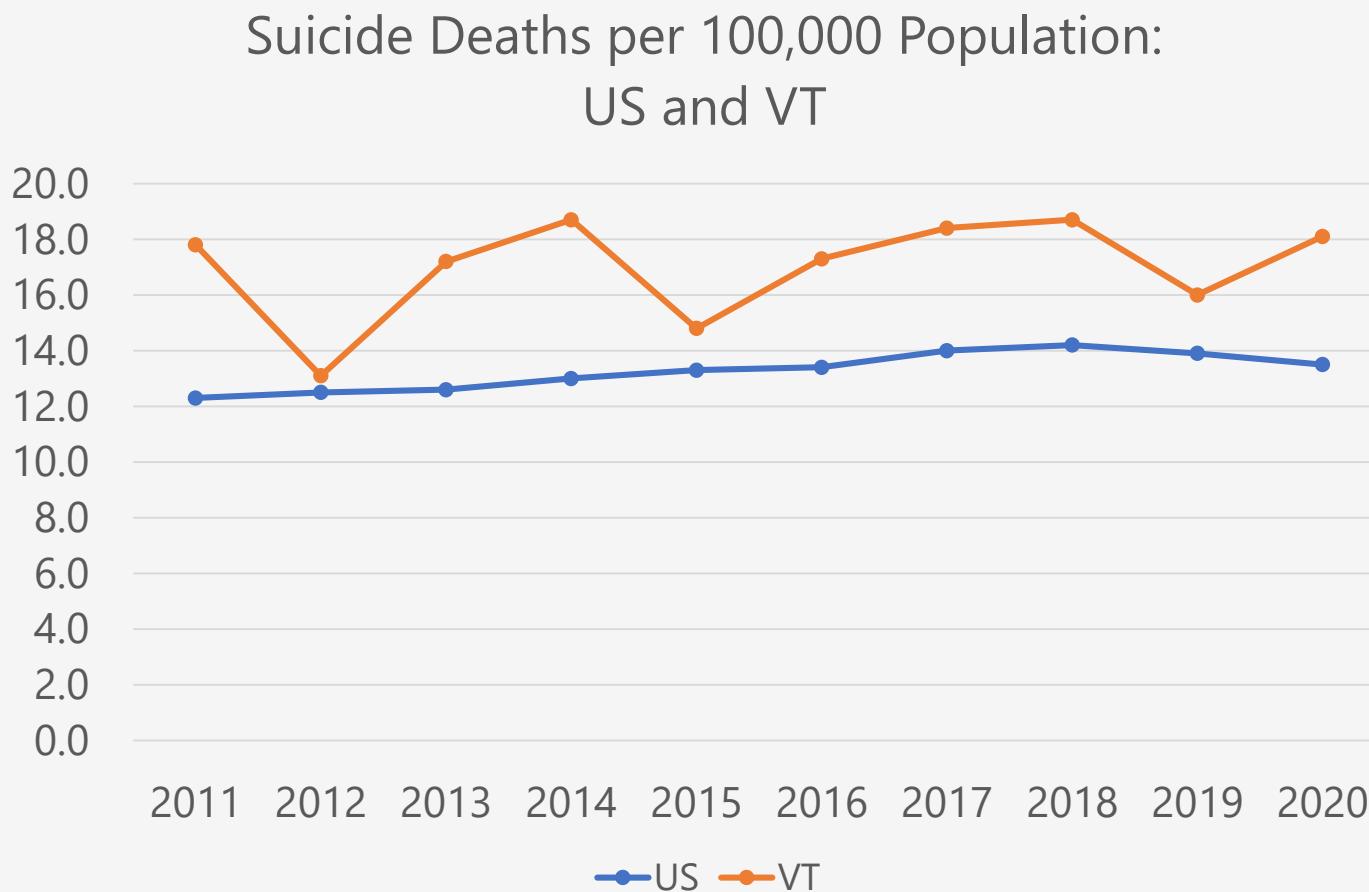
Public health-informed strategies for reducing firearms suicides

- Promoting firearm safe storage screening and counseling

Review and discussion



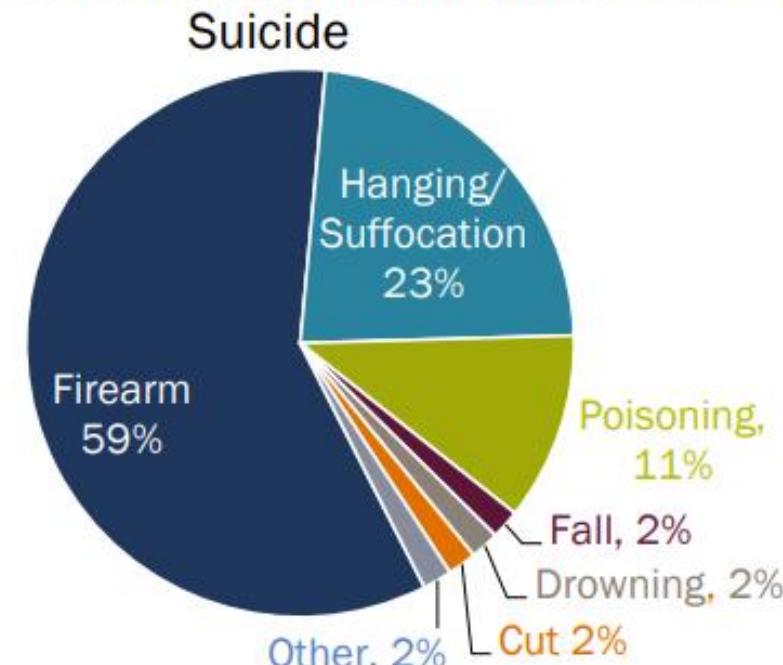
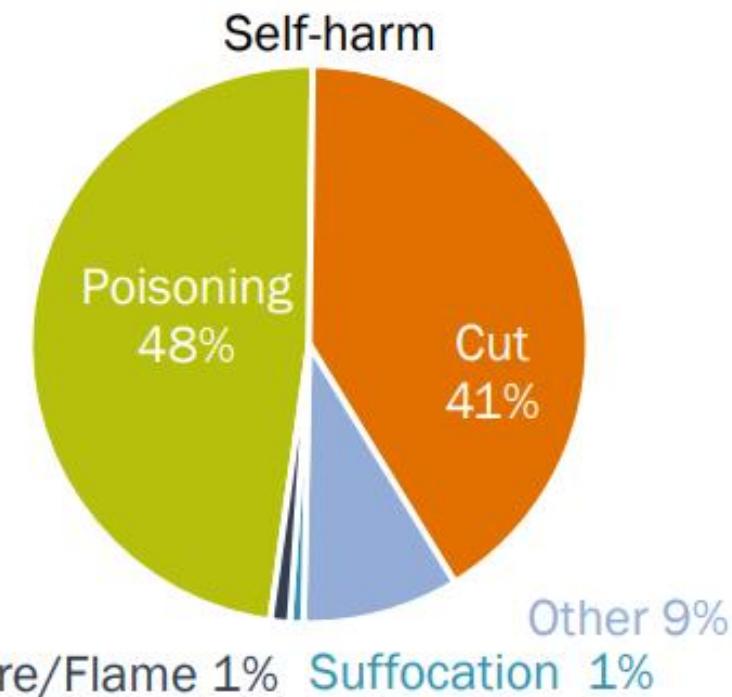
Trends in US and Vermont Suicide Mortality



- Using rates to account for population size differences
- VT consistently higher over time
- VT has more variability

Firearms and Suicide in Vermont

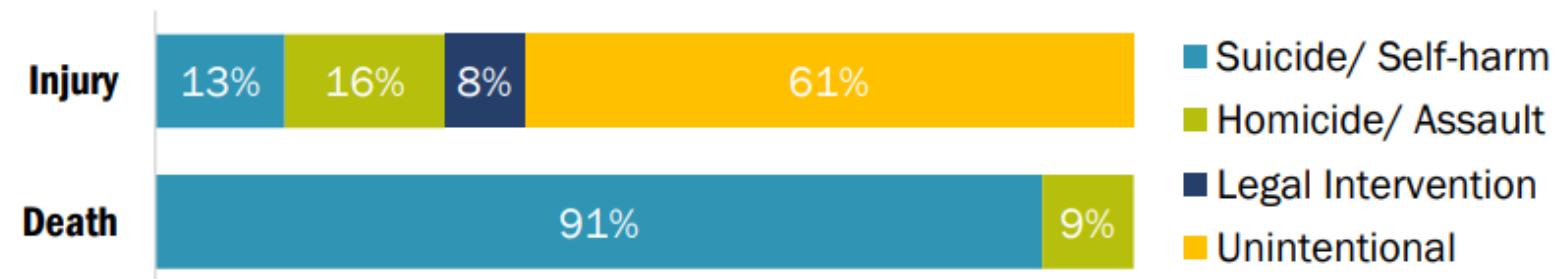
Most hospital visits for self-harm are poisonings. Most suicide deaths are due to firearms.



Source: Vermont Vital Statistics 2020, Vermont Uniform Hospital Discharge Data Set 2020

Firearms and Suicide in Vermont

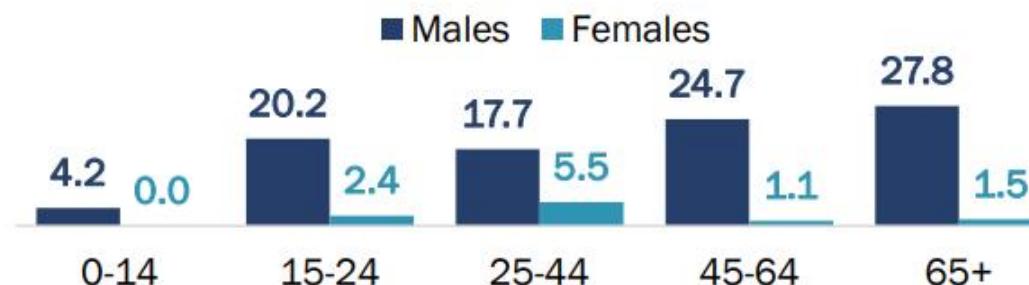
A majority of firearm injuries are unintentional, while the majority of deaths are suicide.



Source: Vermont Vital Statistics 2020, Vermont Uniform Hospital Discharge Data Set 2019-2020

Firearm suicide death rates are highest for 65+ year old males.

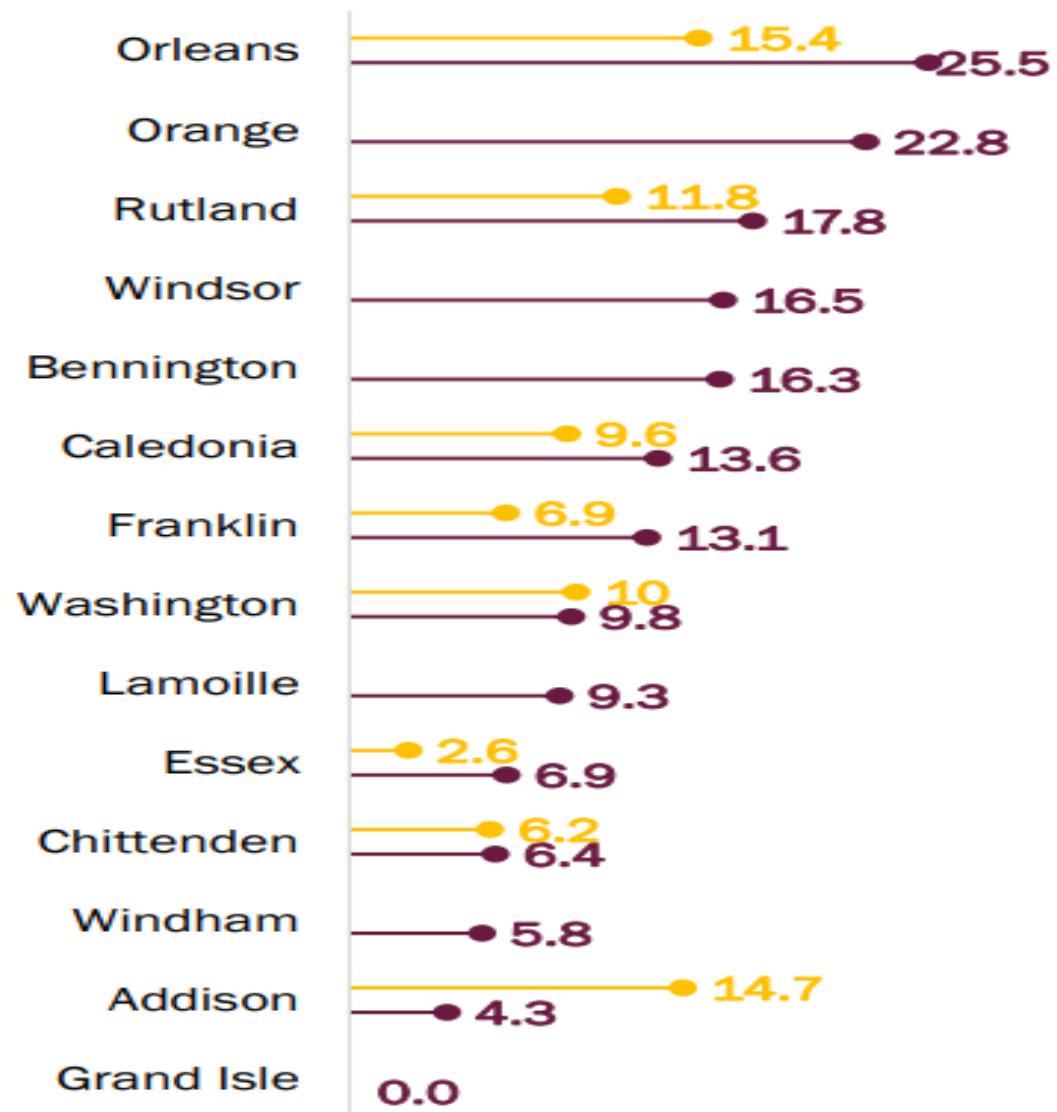
Rate per 100,000 Vermonters



Source: Vermont Vital Statistics 2020

Firearm injury and death rates.

Age-adjusted rate per 100,000 Vermonters



Source: Vermont Vital Statistics 2020,
Vermont Uniform Hospital Discharge Data
Set 2019- 2020

Firearms and Suicide in Vermont

Key Points:

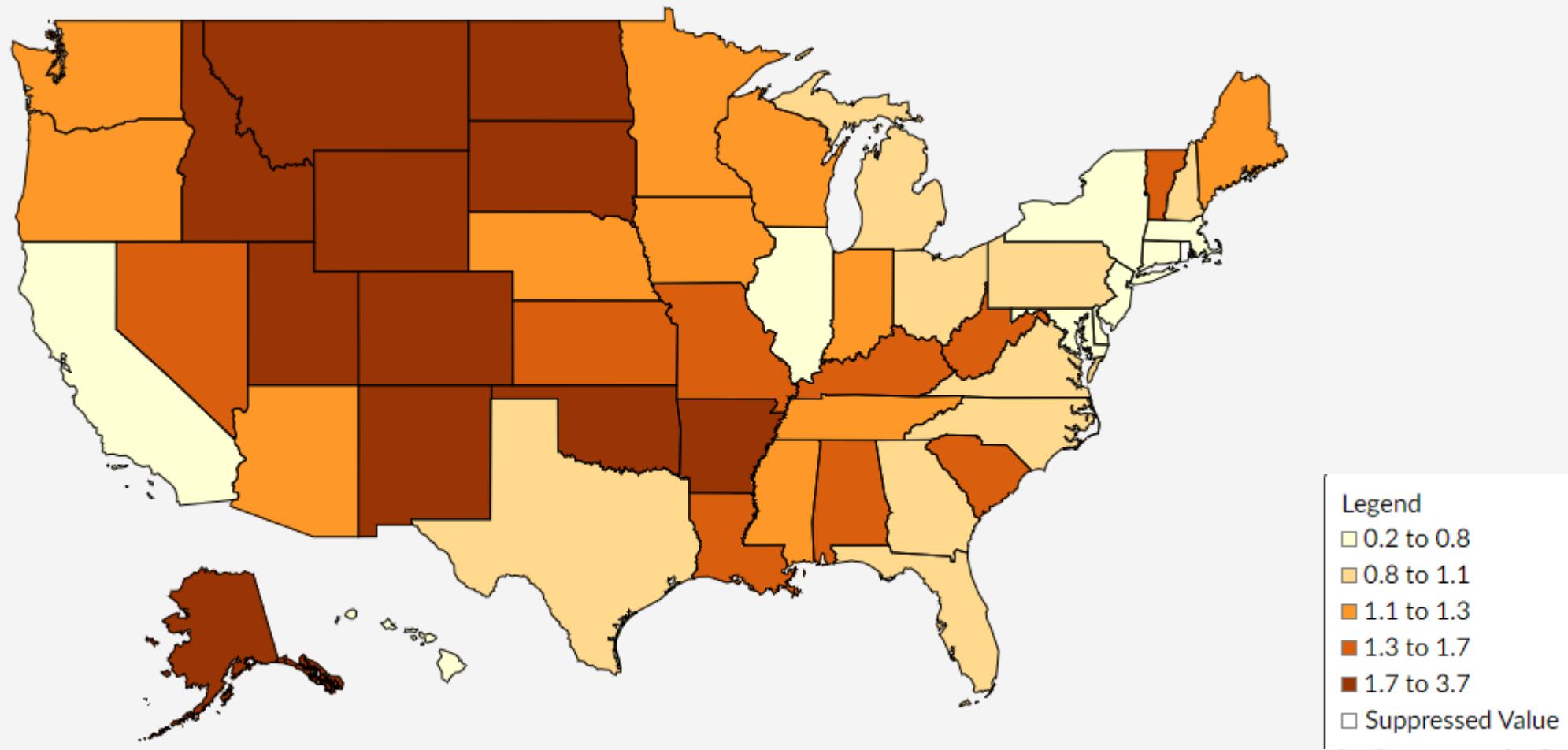
High variability in firearm injury and suicide death rates across the state.

Firearm deaths are more common than injuries.

We know that most of the firearm deaths are suicide deaths.

43% of Vermont households have one or more firearm (VT BRFSS)

Suicide Fatalities (Firearms) \leq 18 years of age, 2005-2020



WHO?

WHAT?

WHEN?

WHERE?

WHY?

HOW?

How do states compare?

Suicide in States with the Highest and Lowest Gun Ownership Levels, 2000-2002

	High-Gun States *	Low-Gun States **
Population	39 Million	40 Million
% Of Adults With A Gun At Home	47%	15%
Male		
Firearm Suicide	8,489	2,430
Non-Firearm Suicide	3,572	4,007
Total Suicide	12,061	6,437
Female		
Firearm Suicide	1,260	176
Non-Firearm Suicide	1,488	1,439
Total Suicide	2,748	1,615

*WY, SD, AK, WV, MT, AR, MS, IO, ND, AL, KY, WI, LA, TN, UT

** HI, MA, RI, NJ, CT, NY

Source: Miller M, Lippmann S, Azrael D, Hemenway D. Household firearm ownership and rates of suicide across the 50 US States. Journal of Trauma. 2007;62(4):1029-35.

WHO?

WHAT?

WHEN?

WHERE?

WHY?

HOW?

Where there are more guns, there are more suicides.

Characteristics of Impulsive Suicide Attempts and Attempters

Thomas R. Simon, PhD, Alan C. Swann, MD, Kenneth E. Powell, MD, MPH,
Lloyd B. Potter, PhD, MPH, Marcie-jo Kresnow, MS,
and Patrick W. O'Carroll, MD, MPH

Suicide attempts often are impulsive, yet little is known about the characteristics of impulsive suicide. We examined impulsive suicide attempts within a population-based, case-control study of nearly lethal suicide attempts among people 13-34 years of age. Attempts were considered impulsive if the respondent reported spending less than 5 minutes between the decision to attempt suicide and the actual attempt. Among the 153 case-subjects, 24% attempted impulsively. Impulsive attempts were more likely among those who had been in a physical fight and less likely among those who were depressed. Relative to control subjects, male sex, fighting, and hopelessness distinguished impulsive cases but depression did not. Our findings suggest that inadequate control of aggressive impulses might be a greater indicator of risk for impulsive suicide attempts than depression.

Survivors of near-lethal suicide attempt:

- 24% spent <5 mins between decision and attempt
- Impulsive attempts more likely to be violent
- Impulsive attempters less likely to be depressed

Firearms and Suicide in Vermont

The outcome of suicide death is most strongly predicated on the lethality of the method used – not on a history of depression or other mental illness.

Lethality of method is determined by:

1. inherent deadliness
2. accessibility
3. ease of use
4. ability to abort mid-attempt





Firearm Storage Safety

2018 Behavioral Risk Factor Surveillance System

December 2019

**On average, in Vermont,
firearms cause:**

39

**ED Visits and
Hospitalizations, and**

74

Deaths each year.

Gun Storage Practices and Risk of Youth Suicide and Unintentional Firearm Injuries

JAMA. 2005;293(6):707-714.

David C. Grossman, MD, MPH

Beth A. Mueller, DrPH

Christine Riedy, PhD, MPH

M. Denise Dowd, MD, MPH

Andres Villaveces, MD, PhD

Janice Prodzinski, BA

Jon Nakagawara, MHA

John Howard, MD

Norman Thiersch, MD

Richard Harruff, MD

Case-control study

Cases: incident where child/adolescent <20yo shot a firearm intentionally or unintentionally injuring self or others

Controls: homes with children and firearms without shooting incident

Conclusion: 4 methods of storage each had protective plus additive safety effect:

- Storing gun locked
- Storing gun unloaded
- Storing ammunition locked
- Storing ammunition in separate location



Firearm Storage Safety

2018 Behavioral Risk Factor Surveillance System

December 2019

43%

of all Vermont households store firearms in or around the home.

17%

of households with firearms in the home keep a firearm loaded.

65%

of households with a loaded firearm in the home keep a firearm **unlocked**.

7% of all Vermont households have a loaded firearm in the home.

5% of all Vermont households have a loaded firearm in the home that is unlocked.



About 13,000 Vermont Households

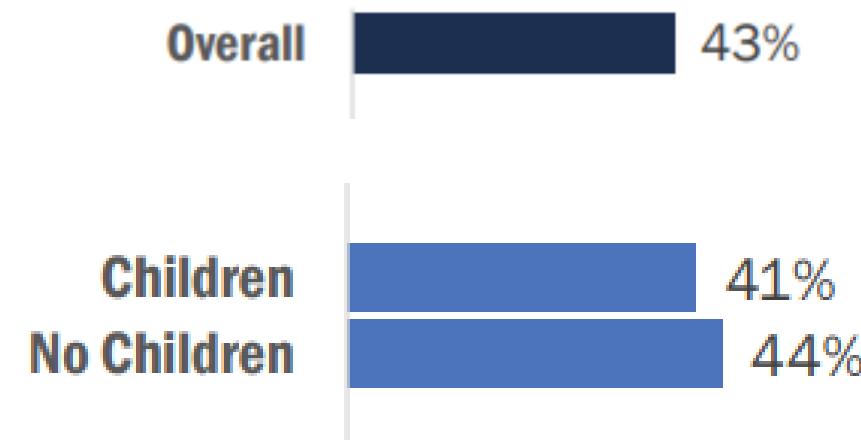


Firearm Storage Safety

2018 Behavioral Risk Factor Surveillance System

December 2019

Prevalence of Firearms in the Home Vermont Households, 2018





Vermont Child Health Improvement Program

Provider Counseling on Firearm Safe Storage



https://www.med.uvm.edu/vchip/projects/injury_prevention



storing firearms prevents harm

The Safer training platform provides universal firearm injury prevention guidance for pediatric clinical settings. MOC 2 credit can be earned for completing the course!

This platform was built in response to AAP member interest to increase skills around firearm injury prevention counseling during pediatric visits.



Find the Safer training and study by searching "Safer: Storing Firearms Prevents Harm" on the AAP website. Or go to <https://shop.aap.org/safer-storing-firearms-prevents-harm/>

Let's take a look at a clinical counseling scenario "Teens + Hunting Rifles".

Understanding why families own firearms, helps tailor counseling to their personal context. In this video, we will see a teen who lives in a rural community and owns rifles for hunting with his family and friends.



Counseling Tips

1. Ask open-ended questions.
2. Communicate dangers specific to teens.

Screenshot from the Safer Training platform showcasing one of the many counseling scenarios featured on the platform. Video Link: [Teens & Hunting Rifles](#)

Firearms & suicide

90% of people who survive near-lethal suicide attempts do not go on to die by suicide

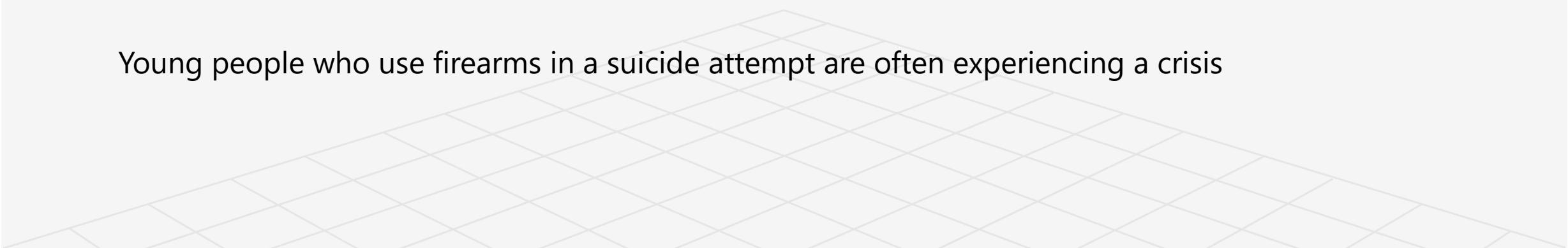
Those who attempt suicide with firearms (compared to other methods):

- Almost always die

- More likely to have made the attempt impulsively

- Are less depressed than those who use other methods

Young people who use firearms in a suicide attempt are often experiencing a crisis



Review and Discussion

Vermont suicide death rates are consistently higher than the US in recent years.

Firearms are used for in majority of suicide deaths in Vermont.

Impulsivity is a major factor in firearm suicide deaths.

Safe storage is a key aspect of reducing firearm suicide risk.

Educating health care and other types of providers to engage their patients about firearm safe storage is a promising approach.

Questions/Comments? Email Dr. Bell (Rebecca.bell@uvmhealth.org) or Dr. Delaney (thomas.delaney@uvm.edu)