# SUICIDE AMONG YOUTH IN COLORADO, 2013-2017: AGES 10-18



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# I. INTRODUCTION

#### AN OVERVIEW OF YOUTH SUICIDE, NATIONALLY AND IN COLORADO

Suicide is a complex, multifaceted issue which is rarely the result of a single source of trauma or stress.<sup>1</sup> In 2017, suicide was the tenth leading cause of death in the United States, with about 47,200 people dying by suicide.<sup>2</sup> Suicide is the second leading cause of death among persons aged 10-24 years in the United States, although the majority of suicide deaths occur among adults.<sup>3,4</sup> In addition to high rates of suicide deaths among young people, the prevalence of suicidal ideation and suicide attempts have been rising. Nationally, rates of suicidal ideation and planning increased among high school students between 2007 and 2017.<sup>5</sup> The impact of suicide exists across a continuum with many more people who seriously consider suicide or make a suicide attempt than die by suicide. According to national data from the Centers

for Disease Control and Prevention (CDC), for every one adult death by suicide, there are three attempts resulting in hospital admission, nine attempts leading to an emergency department visit, 27 attempts that are not medically treated, and 228 individuals who experience thoughts of suicide.<sup>6</sup>

In Colorado, suicide was the leading cause of death among youth ages 10-18 between 2013 and 2017 (10.1 per 100,000 population).<sup>7</sup> The 2017 Healthy Kids Colorado Survey (HKCS) indicated that 31.4% of Colorado high school students reported feeling sad or hopeless almost every day for two weeks or more in a row during the previous 12 months. Further, 17.0% reported considering suicide, and 7.0% reported making one or more suicide attempts in the previous twelve months.<sup>8</sup>

#### YOUTH SUICIDE PREVENTION

There is an opportunity to prevent suicide during adolescence (age 10-14). Because individuals interact with families, schools, communities, systems, and broader society, youth and young adult suicide prevention is not a just school or parent issue alone: it is a community issue as well. Research from the CDC shows that many forms of violence and injury share many of the same risk and protective factors. These factors can put someone more or less at risk of experiencing violence and injury. By focusing efforts on those upstream common factors, the Colorado Department of Public Health and Environment (CDPHE) breaks down silos that often exist between public health issues, and works to prevent much of the violence and injury that occurs in Colorado.

Particularly in cases where youth suicide, bullying, sexual violence, and child maltreatment may be contributing factors to the death. Research has shown that any involvement with bullying (perpetrating, receiving or observing) is a stressor which can significantly increase feelings of helplessness and hopelessness, which further raises the risk of suicide.9 Additionally, experiencing trauma such as sexual violence<sup>10</sup> and child maltreatment<sup>11</sup> increases the risk of suicidal despair across the lifespan. Research has not indicated that bullying and other forms of trauma directly cause suicidal behavior, although they do contribute to suicidal despair. Suicidal despair encompasses a range of emotions, thoughts, and behaviors and can include feelings of hopelessness and being a burden, thoughts of suicide, suicidal ideation, chronic or acute suicidality, suicidal behaviors, and suicide attempts.<sup>12</sup> Fortunately, prevention efforts which build shared protective factors such as family support, commitment to school, and connections to caring adults may prevent or decrease the likelihood of bullying and suicide.<sup>13</sup>

## **SCOPE OF REPORT**

The focus of this report is suicide among youth ages 10-18. The stressors and contributing factors that lead to suicidal despair for youth ages 10-18 may continue into young adulthood (ages 19-24). In addition to big life transitions that can feel isolating or stressful, certain mental health diagnoses tend to emerge during young adulthood. The suicide rate for Colorado young adults ages 19-24 is more than double that of the rate for Colorado youth ages 10-18. It can be beneficial, from a suicide prevention perspective, to consider both age ranges (10-18 and 19-24) when interpreting data and implementing suicide prevention strategies. A future report that focuses on suicide rates for Colorado young adults (ages 19-24) is forthcoming. We recommend pairing these two reports to consider youth and young adult suicide data and prevention efforts along the same lifespan.

It is important to note that suicide deaths for Colorado youth younger than age 10 are infrequent. These deaths are so rare that they do not meet privacy criteria for sharing data publicly. Although it is rare for children under age 10 to die by suicide, their deaths are devastating for their communities. The prevention recommendations for youth ages 10-18 are often appropriate for youth younger than age 10. This report presents findings using Colorado Violent Death Reporting System (CoVDRS) surveillance data from 2013 to 2017. This report includes summaries of demographic characteristics, trends, and life and situational circumstances most frequently associated with youth suicide deaths in Colorado. The CoVDRS began at CDPHE in 2004 in an effort to help reduce violent death. The Co-VDRS is a public health surveillance system designed to obtain a complete census of all violent deaths occurring in Colorado, to collect demographic information and associated risk factor data, and to track the circumstantial information surrounding each death. A violent death includes any death by suicide, homicide, unintentional firearm discharge, legal intervention, or acts of terrorism, as well as selected deaths of undetermined intent when the death may have been the result of violence.

The purpose of this report is to increase awareness of youth suicide and to explore recent trends. This information informs prevention and intervention efforts by agencies interested in decreasing the impact of youth suicide.

## STRUCTURAL INEQUITY

CDPHE acknowledges that generations-long social, economic, and environmental inequities result in adverse health outcomes. They affect communities differently and have a greater influence on health outcomes than either individual choices or one's ability to access health care. Reducing health disparities through policies, practices and organizational systems can help improve opportunities for all Coloradans.<sup>14</sup>

Some families lose children and youth to violence not as the result of the behaviors of those who died, or their parents or caregivers. Social factors such as where they live, how much money or education they have, and how they are treated because of their racial or ethnic backgrounds can also contribute to a child's death.<sup>15</sup> In the United States, most residents grew up and continue to live in racially and economically segregated neighborhoods, which can lead to marginalization.<sup>16,17</sup> This marginalization of groups into segregated neighborhoods further impacts access to high-quality education,<sup>18</sup> employment opportunities,<sup>19</sup> healthy foods<sup>20</sup> and health care.<sup>21</sup> Combined, the economic injustices associated with residential, educational, and occupational segregation have lasting health impacts that include high rates of homicide, gun violence<sup>22</sup> and suicide.<sup>2324,,25</sup>

When interpreting the data in this report, it is critical not to lose sight of these systemic, avoidable, and unjust factors. These factors perpetuate the inequities that we observe in youth deaths across populations in Colorado. Research is making progress in understanding how race and ethnicity, economic status, sexual orientation, and gender identity correlate with health. It is critical that data systems identify and understand the life-long inequities that persist across groups in order to eradicate these injustices.

# **II. METHODS**

The data for this report came from the Colorado Vital Statistics Program and the Colorado Violent Death Reporting System (CoVDRS) at CDPHE as part of the larger National Violent Death Reporting System (NVDRS). CoVDRS collects data on all violent deaths in Colorado including suicides, homicides, unintentional firearm deaths, and undetermined deaths that may have been violent in nature. The basis for inclusion of a death in the CoVDRS is by the manner of death or International Classification of Disease, 10th Revision (ICD-10)-coded underlying cause of death as reported on the death certificate. Cases included in the CoVDRS with an undetermined manner of death have coding or injury descriptions consistent with violent death.

The CoVDRS represents an enhanced surveillance program. Data entered into the NVDRS web-based system for each death comes from death certificates, coroner/ medical examiner reports and law enforcement reports. The final dataset includes information from all three primary sources. Advantages of this approach include increased circumstantial information, improved weapon information, toxicology information, medical and mental health history, and many other variables.

This report includes all occurrences of youth suicide in the state of Colorado among Colorado residents from 2013 through 2017. For the purpose of this report, youth is defined as ages 10 to 18. The results examine youth suicide deaths by year, geographic region of residence, sex, race/ethnicity, method, toxicology results, preceding and contributing circumstances, month of death, and area-based poverty estimates.

Age group comparisons are between youth (ages 10-18), young adults (ages 19-24), and those ages 25 and older. The results present youth suicide deaths as number of cases, specific categorical counts, percentages of total suicide deaths for a given category, and demographic-specific mortality rates per 100,000 population. For computing demographic-specific mortality rates, population estimates for denominator data come from 2013-2017 population estimates from the State Demography Office, Colorado Department of Local Affairs.

The area-based poverty estimates use population estimates from the U.S. Census Bureau. Measures of area-based poverty status represent the percent of the population in each decedent's census tract of residence that is living at or below the federal poverty level.<sup>26</sup> These population data come from the 2013-2017 five-year American Community Survey estimates made available by the United States Census Bureau. The poverty level categories used in this report include 0-9.9% of the population in a decedent's community living at or below the federal poverty level, 10-19.9%, 20-29.9% and 30% or greater.

The results present data by geographic location within the state in two different ways. Sharing data by Health Statistics Region (HSR) is a method often used to examine regional differences for various health indicators within Colorado. The results also show county patterns by urban, rural, or frontier status, according to the Colorado Office of Rural Health.<sup>27</sup> Both ways of looking at geographic location in this report are by the decedent's county of residence, which is not always the same as the county of injury or the county of death.

The results share method of injury data in four categories: firearm, hanging, poisoning, and other. These four categories represent more than 20 possible options of weapon type in the CoVDRS that combine into these broader groups. Toxicology information at the time of death comes from the coroner/medical examiner documents. This data report displays the following substance categories: alcohol, marijuana, antidepressant, opioid, amphetamine, cocaine, anticonvulsant, and antipsychotic. Toxicology data represent the presence of a substance in the young person's system at the time of death and do not speak directly to a cause of death (e.g. poisoning or overdose).

# **III. RESULTS**

# SUICIDE RATES - STATE OF COLORADO

Table 1 contains the counts and rates of suicide deaths from 2013 to 2017, broken out by age group. There were 320 deaths of Colorado youth (ages 10-18), with an age-specific rate of 10.0 deaths per 100,000 population. Among youth, both the rate and count of deaths trended upwards from 2013 to 2017. The rate increased from 7.7 to 12.3 within the time period, but this increase was not statistically significant. Young adults (19-24 years) and those ages 25 and older also had an increase in the suicide rate across the time period, but this upward trend was notably less sharp as compared with the youth age group.

#### Table 1. Age-specific rates of suicide deaths occurring in Colorado among Colorado residents by year of death, 2013-2017

	Age group											
Year of Death	Ages 10-18				Ages 19-2	24	Ages 25+					
	N	Age-specific rate*	95% Confidence Interval	N	Age-specific rate*	95% Confidence Interval	N	Age-specific rate*	95% Confidence Interval			
Total	320	10.0	8.9-11.1	521	22.7	20.7-24.6	4,645	25.4	24.7-26.2			
2013	48	7.7	5.5-9.9	95	21.5	17.2-25.8	861	24.5	22.9-26.1			
2014	50	7.9	5.7-10.1	94	20.8	16.6-25.0	914	25.5	23.9-27.2			
2015	72	11.2	8.6-13.8	111	24.0	19.6-28.5	910	24.9	23.3-26.5			
2016	69	10.6	8.1-13.1	110	23.5	19.1-27.8	977	26.2	24.6-27.8			
2017	81	12.3	9.6-15.0	111	23.4	19.0-27.7	983	25.9	24.3-27.5			
Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment. *Per 100,000 population in Colorado, 2013-2017.												

## SUICIDE RATES - REGION OF RESIDENCE

Figure 1 is a geographic representation of the youth (ages 10-18) age-specific suicide rate, by health statistics region (HSR). These regions are combinations of similar counties, and are based on the individual's county of residence. The age-specific rates are grouped by quartile, with the darker region representing those regions with higher rates of youth suicide. The regions with hash marks represent those that were statistically higher than the state rate. Only HSR 4 (El Paso County) had a youth suicide rate that was statistically higher than the state rate, 15.4 per 100,000 population compared to 10.0 per 100,000 population. Figure 2 contains the same data in a graph, rated from highest HSR rate to lowest rate.

# Figure 1. Map of age-specific rates\* of youth suicide deaths occurring in Colorado among Colorado residents ages 10-18 by Health Statistics Region, 2013-2017 (N=320)



\*Per 100,000 population in Colorado, 2013-2017.

#### Figure 2. Age-specific rates of youth suicide deaths occurring in Colorado among Colorado residents ages 10-18 by Health Statistics Region, 2013-2017 (N=320)



Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment. Error bars represent 95% confidence limits for rates.

### DEMOGRAPHICS

#### Sex

Between 2013 and 2017, 31.6% (n=101) of youth who died by suicide were female and 68.4% (n=219) were male as reported on the death certificate. Figure 3 displays the youth suicide rate by sex. Both males and females experienced rate increases between 2013 and 2017, but these changes were not statistically significant. Rates of male youth suicide were statistically significantly higher than females in all years except for 2013.

Figure 3. Age-specific rates of youth suicide deaths occurring in Colorado among Colorado residents ages 10-18 by sex, 2013-2017 (N=320)



Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment.

## Race/Ethnicity

Of youth suicides, 67.5% were non-Hispanic white (n=216), 22.5% were Hispanic (n=72), 5.0% were non-Hispanic black (n=16), and 5% were Asian/Pacific Islander (n=9) and American Indian (n=3). When taking into account the population size of each racial and ethnic group, non-Hispanic white youth had the highest rate of suicide followed closely by black youth (Figure 4). Between 2013 and 2017 all racial and ethnic groups experienced an increase in the youth suicide rate. Asian/Pacific Islander and black youth saw the sharpest rise in rates, with rates as high as 17.1 deaths per 100,000 population per race group, in 2017 and 2015 respectively.



Figure 4. Age-specific rates of youth suicide deaths occurring in Colorado among Colorado residents ages 10-18 by race and ethnicity, 2013-2017 (N=320)

Race/Ethnicity

Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment. Error bars represent 95% confidence limits for rates.

## Residence County Type

Youth suicide rates vary by rural-urban residence, with national research showing higher rates in rural compared to urban areas.<sup>28,29</sup> Figure 5 contains the rates and counts of youth suicide broken out by the county of residence type. Urban, rural, and frontier are descriptors of a county's population density as designated by the Colorado Office of Rural Health. Frontier counties have the lowest population density of the three county types and observed the highest youth suicide rate over this time period. The majority of youth suicides occurred in urban counties, (n=287, rate=10.1 per 100,000 population). None of the rates by county type were significantly different from each other. The urban counties experienced the highest increase in rate from 8.0 per 100,000 in 2013 to 13.2 per 100,000 in 2017.

# Figure 5. Counts and age-specific rates of youth suicide deaths occurring in Colorado among Colorado residents ages 10-18 by county type, 2013-2017 (N=320)



Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment. Error bars represent 95% confidence limits for rates.

### Area-based Poverty

Several studies have found poverty to be a key contributor to suicide rates.<sup>30,31</sup> Figure 6 contains rates based on the community poverty level within the decedent's area of residence. This area-based poverty approach explains which proportion of individuals within a census tract were living at or below the U.S. federal poverty line (FPL). The rates are calculated for youth suicide decedents (age 10-18) and categorized based on the percentage of the population living at our below the FPL. The figure reveals that the rate was higher in communities with lower percentages of the population living in poverty. None of these rate differences were statistically significant.





Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment. Error bars represent 95% confidence limits for rates.

### INJURY AND DEATH

#### **Injury Location**

Table 2 contains the description of the location where the fatal injury was inflicted in youth suicide deaths, based on the information provided in the coroner and law enforcement records. The majority of youth suicides occurred in the home (80.4%, n=255). From 2013 to 2017 the percentage of youth who were injured in a home increased from 71.4% to 84.0% [Data not shown]. A street, highway, sidewalk, motor vehicle, or natural area (e.g., field, river, beaches, woods) were the second most common injury locations.

#### Table 2. Youth suicide deaths occurring in Colorado among Colorado residents ages 10-18 by injury location, 2013-2017 (N=320)

Injury Location	N	%				
House, apartment, rooming house, including driveway, porch, yard, garage	255	80.4				
Street, highway, sidewalk, or motor vehicle	16	5.1				
Natural area (e.g., field, river, beaches, woods)	16	5.1				
Park, playground, public use area	11	3.5				
School (elementary, middle, high school, or university)	7	2.2				
Other	15	3.8				
Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment.						

#### Temporality

Research has found that trends in youth suicide vary by season, often increasing at the beginning of the school year or after a long break from school.<sup>32,33</sup> Figure 7 presents the average number of youth suicides by the month in which they died, from 2013-2017. November and December had the highest average number of deaths, with 6.8 and 6.4 respectively. Conversely, July had the lowest average number of deaths at 3.2. Notably the date of death and the date of injury may be different, but the date of death is better known and has less missing data than the exact date of injury.



# Figure 7. Average number of youth suicide deaths occurring in Colorado among Colorado residents ages 10-18 by month of death, 2013-2017 (N=320)

Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment. \*Calendar month of death may be different than month of injury, but is generally more complete.

### Method of Injury

Between 2013 and 2017 the leading method of injury for youth suicide was hanging (n=146, 45.6%), followed by firearm (n=129, 40.7%), and poisoning, (n=23, 7.3%). Hanging also saw the greatest increase (Figure 8) in the prevalence of use, from 44.9% to 55.6% across the time period. The percentage of firearm deaths decreased from 38.8% to 30.9%.

Figure 8. Percentage of youth suicide deaths occurring in Colorado among Colorado residents ages 10-18 by means and year, 2013-2017 (N=320)



Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment.

Males were more likely to use a firearm compared to females (51.6% compared with 17.0%) (Figure 9). The leading method of injury in females was hanging (64.0%).





Source: Colorado Vital Statistics System, Colorado Department of Public Health and Environment.

## **Contributing Circumstances**

Table 3 contains the preceding and contributing circumstances noted in the coroner and law enforcement reports. These are circumstances uncovered as part of the death investigation as being contributing factors to the suicide death, either as a historical risk factor, or a noted life stressor that contributed to the suicidal despair. The counts and percentages for this table come from cases that have at least one circumstance noted in the source documents. Youth suicide decedents are in the first column, followed by young adult and older populations for comparison. Yellow highlighted cells represent the top five contributing factors for each age group.

Suicide is not the result of any one cause. Many cases of youth suicide deaths show multiple contributing circumstances that precipitated the young person's death by suicide. The most frequent circumstances in the youth age group were current, diagnosed mental health problems (55.9%), current depressed mood (53.5%) and family relationship problems (52.1%). Notably, the current depressed mood represents an acute change in the young person's behavior or mood rather than a formal diagnosis of depression. The youth population had notably higher occurrences of contributing family relationship problems (52.1% compared with 25.8% in young adults), contributing school problems (41.7% compared to 5.3% in young adults), and bullying victimization (16.2% compared to 0.9% in young adults). School problems includes things such as poor grades, difficulty with a teacher, social exclusion at school, bullying, school detention/suspension, or performance pressures, and may include some overlap with the bullying variable.

# Table 3. Selected circumstances for suicide deaths occurring in Colorado among Colorado residents, 2013-2017

	Ages 10-18			Ages 19-24	Ages 25+	
Circumstances	N	% of suicides with known circumstance	Ν	% of suicides with known circumstance	N	% of suicides with known circumstance
Suicides with 1+ known circumstance	290	91.5	473	93.3	4,342	94.7
Current mental health problem	162	55.9	253	53.5	2,293	52.8
Current depressed mood	155	53.5	277	58.6	2,496	57.5
Family relationship problem	151	52.1	122	25.8	897	20.7
Ever treated for mental health problem	145	50.0	218	46.1	1,927	44.4
History of suicidal thoughts or plans	138	47.6	243	51.4	1,947	44.8
School problem	121	41.7	25	5.3	21	0.5
Left a suicide note	115	39.7	156	33.0	1,652	38.1
Crisis in last two weeks	107	36.9	189	40.0	1,721	39.6
Current mental health treatment	101	34.8	127	26.9	1,307	30.1
Intimate partner problem	95	32.8	200	42.3	1,680	38.7
Disclosed suicidal intent	90	31.0	143	30.2	1,259	29.0
Death preceded by argument	88	30.3	141	29.8	931	21.4
History of previous suicide attempts	81	27.9	169	35.7	1,173	27.0
Victim of bullying*	47	16.2	4	0.9	9	0.2
Problem with substance (other than alcohol)	44	15.2	147	31.1	922	21.2
Recent suicide of friend or family	37	12.8	34	7.2	225	5.2
Physical health problem	32	11.0	51	10.8	1,870	43.1
Recent non-sucide death of friend or family	31	10.7	33	7.0	438	10.1
Contributing criminal legal problem	29	10.0	99	20.9	740	17.0
Problem with alcohol	19	6.6	129	27.3	1,415	32.6
History of abuse as a child	19	6.6	21	4.4	80	1.8
Perpetrator of violence in the past 30 days	8	2.8	17	3.6	189	4.4
Financial problem	6	2.1	57	12.1	751	17.3
Anniversary of traumatic event	6	2.1	9	1.9	47	1.1
Victim of violence in the past 30 days	4	1.4	12	2.5	53	1.2

Percentages calculated from cases where at lease one circumstance was known.

\*Bullying variable derived from a scan of case narratives and free text fields for bullying key words.

Top 5 circumstances for each group are highlighted.

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

#### Mental Health Diagnoses

Table 4 contains more detailed information about the 55.9% of youth suicide decedents who had a diagnosed mental health condition. This table includes those specific diagnoses, noting that some individuals have multiple diagnosed conditions, and thus each category is not mutually exclusive. A history of self-injury, while not a formal mental health diagnosis, often accompanies reports around mental health conditions, and is captured in a similar way in the CoVDRS web-based data system. This variable is notably higher in the youth suicide group when compared with older age groups.

# Table 4. Selected mental health circumstances for suicide deaths occurring in Colorado among Colorado residents, 2013-2017

Mental health circusmstances		Ages 10-18		Ages 19-24		Ages 25+	
		% of suicides with known circumstance	N	% of suicides with known circumstance	N	% of suicides with known circumstance	
Suicides with 1+ known circumstance	290	91.5	473	93.3	4,342	94.7	
Diagnosis of depression	100	31.6	174	34.3	1,733	37.8	
History of Self Injury**	42	13.3	24	4.7	35	0.8	
Diagnosis of Attention-Deficit/Hyperactivity Disorder (ADHD)	23	7.3	14	2.8	36	0.8	
Diagnosis of Anxiety	22	6.9	50	9.9	417	9.1	
Other Mental Health diagnosis	14	4.4	17	3.4	96	2.1	
Diagnosis of Bipolar Disorder	11	3.5	40	7.9	347	7.6	
Diagnosis of Post Traumatic Stress Disorder (PTSD)	7	2.2	13	2.6	148	3.2	
Diagnosis of Obsessive Compulsive Disorder	3	1.0	3	0.6	15	0.3	
Diagnosis of Schizophrenia	*	*	15	3.0	75	1.6	
Diagnosis of eating disorder	*	*	*	*	8	0.2	

\*Counts of less than three are suppressed.

\*\*Self injury behavior (i.e. cutting, burning, other forms of self mutiliation) is a created variable captured in the mental health field.

Percentages calculated from cases where at lease one circumstance was known.

Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.

### Toxicology

There is a clear, yet complicated, relationship between mental health and substance use. Prior research suggests that poor mental health can exacerbate substance use, and vice versa, and that both poor mental health and substance use behaviors may share a common manner of causation.

The substances present in youth suicide deaths as noted in the toxicology reports are noted in Table 5. As with the circumstance table, these substances are not mutually exclusive, and multiple substances can be noted as present in the same individual at the time of death. Additionally, these data do not speak specifically to substances that caused death, but would include some of those substances in the aggregate table. CoVDRS received toxicology information for 80.1% of youth suicides, the highest proportion of all age groups. The most common substances were marijuana (20.1%) followed by alcohol (6.3%) and antidepressants (6.3%). In general, the youth suicide decedents had a lower prevalence of substances present in their system when compared to older age groups. This data on marijuana prevalence mirrors the 2017 Healthy Kids Colorado Survey (HKCS), in that 19.4% of youth reported using marijuana in the past month.<sup>34</sup>

	Ages 10-18		Ages 19-24		Ages 25+			
Toxicology	N	% of suicides with known toxicology	N	% of suicides with known toxicology	N	% of suicides with known toxicology		
Toxicology available	254	80.1	393	77.5	3,499	76.3		
Marijuana present	51	20.1	123	31.3	599	17.1		
Alcohol present	16	6.3	150	38.2	1,363	39.0		
Antidepressant present	16	6.3	23	5.9	581	16.6		
Opioid present	15	5.9	36	9.2	762	21.8		
Amphetamine present	14	5.5	40	10.2	288	8.2		
Benzodiazepine present	14	5.5	40	10.2	680	19.4		
Anticonvulsant present	7	2.8	10	2.5	166	4.7		
Cocaine present	6	2.4	24	6.1	109	3.1		
Antipsychotic present	5	2.0	10	2.5	109	3.1		
Source: Colorado Violent Death Reporting System, Colorado Department of Public Health and Environment.								

#### Table 5. Toxicology of suicide deaths occurring in Colorado among Colorado residents, 2013-2017

Percentages calculated out of cases where toxicological information was received by the CoVDRS.

# IV. DISCUSSION

### **OVERVIEW**

Between 2013 and 2017, the youth suicide rate among Colorado residents remained high and trended upwards across the period, although this increase is not statistically significant. Colorado maintains an average suicide rate two times greater than the national rate for youth (12.5 Colorado crude suicide death rate, 2017; 6.2 US rate, 2017).<sup>35</sup> When comparing state-level youth suicide rates, Colorado is consistently among the top ten, although Colorado's rate is not significantly different from any other state in the top ten.<sup>36</sup>

As discussed in the previous section, this analysis reveals significant differences in youth suicide rates in Colorado by geographic region, sex, and race and ethnicity. The data presented in this report also uncovers important differences between youth ages 10-18 and the remaining population when it comes to lethal means and precipitating circumstances. Youth suicide in Colorado is largely driven by the means of hanging and firearm, and is most often precipitated by depressed feelings, family discord, and school problems.

Before discussing a data-informed framework for prevention and specific recommendations, there are two significant data limitations to note.

#### DATA LIMITATIONS

Although CoVDRS is able to collect information regarding a decedent's history of abuse or neglect as a child, this data is difficult for the system to collect. This may result in poor data quality about child maltreatment. However, experiences of child maltreatment have a large impact on health throughout the lifespan<sup>37</sup> and are associated with youth suicide.<sup>38</sup> Child maltreatment includes physical, sexual, and emotional abuse, and neglect that can occur at any point in the life of an infant, child, or young person up to age 21. Child maltreatment perpetrators can be anyone (e.g., parent, caregiver, other relative, non-related adult or child); however, national data show that the vast majority of perpetrators are biological parents.<sup>39</sup>

The Child Fatality Prevention System (CFPS) is a data system that can help understand the influence of child maltreatment history on youth suicide in Colorado. CFPS is a statewide, multidisciplinary, multi-agency effort to prevent child deaths. Local child fatality prevention review teams are statutorily mandated to review deaths occurring among those younger than 18 years of age in Colorado.<sup>40</sup> The multidisciplinary child death review teams include rep-

resentatives from the department of human services, allowing improved access to applicable child welfare information on the youth who died.

CFPS collects data about the history of child maltreatment at any age prior to the death. This data includes a referral or substantiation from child protective services or documentation on the autopsy report, law enforcement report, or medical records. Between 2013 and 2017, CFPS data shows that nearly 32.0% of youth ages 10-17 who died by suicide experienced child maltreatment as a victim.<sup>41</sup> Information on history of child maltreatment was missing or unknown for 30.7% of deaths by suicide among Colorado youth. Among those with a known child maltreatment history, 20.4% experienced emotional abuse, 18.2% experienced physical abuse and 16.6% experienced neglect.<sup>42</sup> Additional CFPS data is available in a state-level overview, cause-specific data briefs, and an interactive data dashboard at: www. cochildfatalityprevention.com/p/reports.html.

The second limitation is poor data quality and ascertainment of sexual orientation and gender identity information.

#### Defining Sexual Orientation and Gender Identity/Expression

<u>Sexual Orientation:</u> A person's physical or emotional attraction to people of the same, neither, both, and/or opposite gender. "Heterosexual," "bisexual" and "homosexual" are all sexual orientations. A person's sexual orientation is distinct from a person's gender identity and expression.

<u>Gender Identity:</u> A person's innate, deeply felt sense of identifying as male, female, or non-binary, regardless of the sex assigned at birth. Gender identity is distinct from sexual orientation. The term "cisgender" means someone's gender identity is the same as their sex assigned at birth. "Transgender" refers to a gender identity that is different from the sex assigned at birth.

<u>Gender Expression:</u> A person's characteristics and behaviors that are socially defined as either masculine or feminine, such as dress, grooming, and mannerisms. Social or cultural norms can vary widely and some characteristics accepted as masculine, feminine or neutral in one culture may be different in another.

It is well-researched that lesbian, gay, bisexual, transgender, gueer, and guestioning (LGBTQ+) youth experience increased suicidal ideation and suicide attempts, when compared to their heterosexual and cisgender peers.<sup>43,44</sup> The '+' in LGBTQ+ stands for other sexualities, sexes, and genders that aren't included in these few letters, which can include intersex, asexual, pansexual, agender, bigender, and gender queer. The inequities in suicidality by sexual orientation and gender identity exist because heterosexual and cisgender norms dominate our culture and systems. This social context results in LGBTQ+ people experiencing discrimination, stigma, and bias, including rejection from family, friends, and community, as well as limited access to LGBTQ+ informed health care. In order to better understand these inequities and address the unique needs of LGBTQ+ people, it is critical to gather complete and standardized data about sexual orientation and gender identity.

Despite considerable evidence that LGBTQ+ people attempt suicide at significantly higher rates than the general population, we do not know whether LGBTQ+ people are more likely than others to die by suicide. This has long hindered efforts to understand and prevent these deaths. There are multiple factors that directly affect the ability to collect these data at the time of death. First, data collected about sexual orientation and gender identity occurs after each decedent has died, and therefore is not collected first-hand. Rather, the ability of death investigators to collect this information is reliant on the knowledge of friends or family of the decedent, who are the key reporting sources for the coroner and law enforcement investigators. In many cases, the youth who died may have identified as LGBTQ+ but were not open about their identity. Plus, reporting of this information by friends, family, and other community members is subject to bias. Additionally, mortality data systems such as CoVDRS aim to categorize sexual orientation and gender identity in a prescriptive manner, which is not comprehensive of all identities. It often includes inappropriate assumptions based on recent behavior of the youth who died.

These limitations represent notable challenges for CoVDRS to accurately capture sexual orientation and gender identity information. Due to these circumstances affecting data quality, this report does not include youth suicide death data by sexual orientation and gender identity.

# YOUTH SUICIDE PREVENTION

#### Racial and Ethnic Inequities: Prevention Considerations

There are racial and ethnic inequities related to suicidal despair and deaths. When comparing youth suicide rates by race and ethnicity, the suicide death rate for non-Hispanic white youth is significantly higher than for Hispanic youth. In contrast, Hispanic youth have consistently higher rates of suicidal ideation, plans, and attempts when compared to their non-Hispanic counterparts.<sup>45</sup> When reviewing the data by race, ethnicity, and sex, Hispanic female youth represent the highest rate of suicide attempts, compared to male and female youth across other racial and ethnic groups.<sup>46</sup> Current empirical research does not explain the differences in these trends with certainty. Future research prioritizing Hispanic youth will identify why these differences exist. However, research has shown that Hispanic youth often have positive cultural factors in their lives which can protect them from suicide death. This includes familialism, described as strong feelings of commitment, connection, loyalty, and obligation to family members.<sup>47</sup>

Data in this report also show that Asian/Pacific Islander and non-Hispanic black youth saw the sharpest rise in suicide rates from 2013 to 2017 when compared to

other racial and ethnic groups. Part of this inequity might be due to lack of certain protective factors for suicide among different groups. For instance, data from the Health Kids Colorado Survey (HKCS) show notable racial and ethnic disparities in the measure that asks students if they have someone to talk to when they are feeling sad, empty, hopeless, angry, or anxious. In response to this question, 86.3% of non-Hispanic white students answered in the affirmative, whereas 79.8% of Hispanic youth; 76.8% of American Indian/Alaska Native youth; 80.8% of Black / African American youth; and 71.2% of Native Hawaiian/Pacific Islander youth answered in the affirmative.<sup>48</sup>

There are fewer prevention strategies that specifically address these racial and ethnic inequities in suicidal despair. In order to bolster equity-driven prevention work that addresses this gap, it is important to prioritize community-driven strategies, commit to funding and expanding the evidence base of such strategies, identify intersecting identities and communities, support intersectional approaches to prevention work, and directly fund people and communities of color.

#### Prevention Strategies & Recommendations

CDPHE uses a shared protective factor approach for prevention, which identifies factors that decrease the likelihood of negative outcomes across multiple forms of violence. Protective factors are things that make it less likely that people will experience violence or that increase their resilience when faced with risk factors.<sup>49</sup> An example of a shared protective factor is having connection and commitment to school. That shared protective factor is shown to lower the likelihood of experiencing dating violence<sup>50</sup>, sexual violence<sup>51</sup>, bullying<sup>52</sup>, and suicidal despair.<sup>53</sup> Protective factors have the ability to affect a whole community. They can take the form of interactions with family and friends, or occur within systems like schools, faith institutions, and workplaces. Individuals can also have characteristics that can be protective, such as having good coping and problem-solving skills.

CDPHE uses the shared protective factor approach to implement strategies that prevent multiple forms of violence at the same time. It is important to note that no single risk factor or combination of factors can accurately predict violence, and the presence of protective factors does not guarantee that a young person will not act violently or experience suicidal despair.<sup>54</sup> Additionally, the data in this report show the majority of youth suicide deaths occur in the home and have a contributing family relationship problem. Youth suicide prevention must involve families and communities and move beyond focusing solely on prevention strategies in schools.

### Preventing Sexual Violence & Child Maltreatment May Prevent Suicidal Despair

Using the shared risk and protective factors approach for suicide prevention means taking into account other interconnected forms of trauma, such as sexual violence and child maltreatment. Given the connection of these outcomes, strategies to prevent sexual violence and child maltreatment may also be effective in preventing suicidal despair. Therefore, it is important to work collaboratively on suicide prevention with partners and community organizations working on sexual violence and child maltreatment.

#### <u>Sexual Violence</u>

Sexual violence is a serious public health problem that affects thousands of Coloradans every year. The lifetime prevalence of sexual violence by any perpetrator for women in Colorado is 20.5%, compared to 19.1% nationally.<sup>55</sup> Healthy Kids Colorado Survey (HKCS) results from 2017 show that 6.3% of high school students reported being physically forced to have sexual intercourse.<sup>56</sup> HKCS results also indicate that sexual violence connects with several other critical health outcomes, including suicidal despair. Students who reported considering suicide are almost 6 times more likely to also have reported experiencing rape in their lifetime. Therefore, strategies that prevent sexual violence may also prevent suicide.

CDPHE prioritizes strategies that prevent someone from carrying out sexually violent behavior. This is a critical lens that shifts the environment to increase protective factors that reduce perpetration, rather than putting the onus on victims to change their behavior. Strategies include policies, systems, and programs that create protective environments and strengthen economic supports, such as hot spot mapping; family friendly policies; and quality, affordable childcare.<sup>57</sup> Hot spot mapping is a data-driven strategy which can use youth voice and experience to identify community, school, and organization spaces that are safe and unsafe and identify systems-level recommendations to promote or change these spaces.<sup>58</sup>

#### Child Maltreatment

Child abuse and neglect is a significant public health problem in Colorado that has long-term effects on physical and mental health. Children who experience adverse events, such as abuse or neglect, are at increased risk for health problems later in life, such as depression, substance use, and suicidal despair. Therefore, strategies that prevent child maltreatment can also prevent suicide.

Safe, stable, and nurturing relationships and environments for children and their caregivers support healthy child development and protect against stressors that may result in child maltreatment. Community well-being is also important to support caregivers, encourage help-seeking behavior, and promote a culture of collective prosperity. Strategies include policies and systems that support children and families and reduce stress, such as family-friendly workplaces; quality, affordable child care; and food security.<sup>59</sup>

#### **Connectedness & Trusted Adults**

According to the CDC, "connectedness is the degree to which an individual or group of individuals are socially close, interrelated, or share resources with others."<sup>60</sup> This includes connections to another individual, family, school, neighborhood, workplace, community organizations, and society as a whole.<sup>61</sup> Connectedness, specifically with trusted adults, schools, and communities are protective for suicide among youth.<sup>62</sup> The following are evidence-based prevention strategies centered around connectedness, which may prevent suicide among LGBTQ+ youth, as well as youth of all identities.

#### Positive Youth Development

Positive youth development (PYD) is an approach which works to build positive youth and adult relationships.<sup>63</sup> PYD guides communities and organizations in how they organize services, opportunities, and support to engage youth in reaching their full potential. PYD incorporates the development of skills, opportunities, and authentic relationships with caring adults into programs, practices, and policies.

Having a caring adult, inclusive of parents, teachers, coaches, and mentors, is protective against suicide. The Trevor Project found that LGBTQ+ youth who report having at least one accepting adult in their lives were 40% less likely to report a suicide attempt in the past year.<sup>64</sup> Adopting a PYD approach has additional impacts such as "positive outcomes in mental health, reduced substance use and anti-social behaviors, academic achievement, skill building, problem solving, communication, family relationships, and healthy diet."<sup>65</sup>

One of the strategies which can embody a positive youth development approach is hot spot mapping. Hot spot mapping is a data-driven strategy which can use youth voice and experience to identify community, school, and organization spaces that are safe and unsafe and identify systems-level recommendations to promote or change these spaces.<sup>66</sup> Through authentic community and youth engagement, this strategy aims to increase community and school connectedness, as well as connections to caring adults for young people. This strategy may also be a mechanism for LGBTQ+ youth and youth of color to create anti-oppressive policies, environments, and systems.

#### **Gay Straight Alliances**

Gay Straight Alliances (GSAs) "are student-run organizations that unite LGBTQ+ and allied students to build community and organize around issues impacting them in their schools and communities."<sup>67</sup> In addition to historically being a safe place for LGBTQ+ youth, GSAs have become clubs that advocate for broader social change, including racial, gender, and educational justice. Research has shown that GSAs create a positive climate for all students and have positive effects on student health, wellness, and academic performance. They also protect students from harassment based on sexual orientation and gender identity.<sup>68</sup>

#### LGBTQ+ Inclusive Curricula and Comprehensive Sex Education

Research has shown that schools with LGBTQ+ inclusive education, including receiving information about sexual orientation, learning about LGBTQ+ history, and discussions of LGBTQ+ current events, increases the likelihood of students thinking their school was a safer place.<sup>69</sup> LGBTQ+ inclusive sex education is specifically associated with reduced suicidal ideation, increased mental health, and lower experiences of bullying among LGBTQ+ youth.<sup>70</sup> Additionally, research has shown that LGBTQ+ inclusive sex education is protective for youth of all identities related to suicidal thoughts, depression, and suicide plans.<sup>71</sup>

#### Inclusive Anti-Harassment & Anti-Bullying Policies

Although all students are at risk of experiencing bullying and harassment, young people who identify as or are perceived to be LGBTQ+ are at particular risk.<sup>72</sup> Policies that explicitly prohibit bullying and harassment based upon a student's sexual orientation, gender identity, and/or gender expression may improve school safety and mental health for LGBTQ+ students.

Research indicates that LGBTQ+ students in school districts with sexual orientation and gender identity protections in their anti-harassment and anti-bullying policies reported greater school safety and less peer victimization based on their sexual orientation and gender expression, when compared to students without such protections.<sup>73</sup> Additionally, inclusive anti-harassment and anti-bullying policies are protective against suicidal despair among LGBTQ+ youth. Even when controlling for other established risk factors at the individual level (i.e. sex, race/ethnicity, peer victimization), inclusive anti-bullying policies remained significantly associated with lower rates of suicide attempts among LGBTQ+ young people.<sup>74</sup> Generic policies do not sufficiently protect LGBTQ+ students from bullying and harassment, and inclusive language makes policies stronger. A report from the Gay, Lesbian & Straight Education Network (GLSEN) suggests including three key elements in school district policies, state laws, regulations, and policy guidance: 1) Enumerated protections for students, including explicit prohibitions against bullying based upon students' actual or perceived sexual orientation and gender identity/expression; 2) Professional development requirements for staff on bullying and harassment; and 3) Accountability for incident reporting to the district and/or state levels.<sup>75</sup>

#### Name, Pronoun, & Bathroom Affirmation

Support and acceptance of youth by their family, peers, and communities is an essential foundation to ensure all youth thrive.<sup>76</sup> Gender affirmation policies ensuring the use of one's chosen name, chosen pronouns, and access to one's preferred restroom and locker room, can help to create a supportive and safe environment.<sup>77,78</sup> Among transgender youth, 58.9% had seriously considered suicide in the past 12 months, compared to 16.3% of cisgender youth. Compared

with 6.3% of cisgender youth, 32.5% of transgender youth reported attempting suicide in the past year.<sup>79</sup> Ensuring that others refer to transgender youth with their identified gender and with their chosen name can significantly reduce the risk of suicide.<sup>80,81</sup> According to a recent study, the risk of suicidal behavior by transgender youth goes down by more than half for every additional context (e.g., at home, school, work, or with friends) in which their chosen name is used.<sup>82</sup>

#### Additional Prevention Programming

Youth serving organizations and schools can implement programs that increase protective factors for youth. Evidence-based programs can help build and promote prosocial behavior, academic success, emotional well-being, physical health, and positive relationships. Blueprints for Healthy Youth Development (www.blueprintsprograms.org/) is a registry which includes evidence-based prevention practices, programs, and policies.<sup>83</sup> Through the online registry there is a function to search programs based on protective factor. Additional evidence-based programs are on the Suicide Prevention Resource Center website (www.sprc.org/resources-programs).<sup>84</sup>

#### Good Sleep Hygiene

Sleep is an important protective factor against suicidal thoughts and behaviors. Ample sleep can protect young people from numerous negative health consequences, which can include "obesity, diabetes, cardiovascular disease, metabolic dysregulation, a variety of psychological and behavioral problems such as depression and substance use, and even increased all-cause mortality."<sup>85</sup> Sleep deprivation, which, for youth ages 10-18 means getting less than 8 hours of sleep on a school night<sup>86</sup>, is prevalent among youth in Colorado and nationally.<sup>87</sup> The relationship between sleep deprivation and negative health outcomes is complex and the relationship between sleep and mental health can be bi-directional (i.e., the lack of sleep can contribute to or exacerbate mental health challenges, and mental health challenges can negatively impact an individual's sleep.)

#### Sleep Hygiene & Good Habits

Good sleep habits, also referred to as "sleep hygiene," can help someone get a good night's sleep. According to the CDC<sup>88</sup>, some good sleep hygiene habits include:

- Being consistent with sleeping and waking time, including on the weekends.
- Ensuring a bedroom or sleeping area is quiet, dark, relaxing, and at a comfortable temperature.
- Removing electronic devices, such as TVs, computers, and smartphones, from the sleeping area.
- Avoiding large meals, caffeine, and alcohol before bedtime.
- Getting some exercise during the day.

According to the Healthy Kids Colorado Survey (HKCS), only 30.8% of middle and high school youth surveyed in Colorado reported sleeping 8 or more hours per night on average school nights.<sup>89</sup> Nationally, based on results from the Youth Risk Behavior Survey, 73% of youth are sleep deprived and there are racial and ethnic differences in sleep duration.<sup>90</sup> Specifically, a significantly greater percentage of black students reported getting only 5 or fewer hours of sleep per school night, when compared to white students.

The risk of suicide attempts is nearly three times greater among young people who sleep less than 8 hours per night, and lack of sleep and/or irregular sleeping patterns can be a risk factor for suicide.<sup>91</sup> Research suggests that the rate of adolescents reporting insufficient sleep is increasing.<sup>92</sup> Research also shows that there are consistent and strong associations between sleep disturbances and suicidality reported in adolescents.<sup>93</sup> Electronic devices, such as smartphones, also contribute to interfering with sleep hygiene and healthy sleeping habits. Screen time that includes electronic device use, social media, and reading news online is increasing, and increases the odds of short sleep duration.<sup>94</sup>

Although CoVDRS does not specifically ask about sleep hygiene, disturbances, insomnia, sleep deprivation, etc., a qualitative scan of data from 2013-2017 report three youth (out of a total 317) who died by suicide were struggling with a history of insomnia and/or sleep problems. This figure is likely significantly underreported, because questions related to sleep are not included in death investigation forms.

# Recommendations on Supporting Healthy Sleep & Sleep Hygiene

Circadian rhythms change for adolescents during puberty, which tends to make them more prone to going to bed later and waking later.<sup>95</sup> Supporting a consistent sleep schedule with an understanding that adolescents have a biological shift in their waking/ sleeping times can be protective against negative consequences of sleep deprivation.

In alignment with the American Academy of Pediatrics, the Colorado Child Fatality Prevention System has recommended that middle and high school start at 8:30am or later to give students the opportunity to get the amount of sleep they need.<sup>96,97</sup>

Portable media devices can disrupt or delay sleep due to the arousal they can cause and also the light they emit that can impact waking/sleeping rhythms.<sup>98</sup> Limiting portable media device screen time before bed, and/or using a blue-light blocking filter can protect against this potential negative impact.

In order to more fully understand the connection between sleep deprivation, sleep disturbances, nightmares, insomnia, etc., increasing data quality around sleep and suicide can support future prevention recommendations specific to Colorado youth ages 10-18.

#### Lethal Means Safety

Many suicide attempts occur during a short-term crisis with little planning. Ensuring that an environment is as safe as possible is essential in preventing potential suicide attempts and deaths. As depicted in Figure 8 of the results section, the leading method of fatal suicide injury between 2013 and 2017 for youth ages 10-18 was hanging (45.6%), followed by firearm (40.7%), and poisoning (7.3%). Males were more likely to use a firearm, compared to females.

Most acute suicidal crises are temporary. Putting time and space between an individual and a method of death can be life-saving. If an individual has shared that they are thinking about suicide, learning more about this despair and whether they have a plan and access to means (which might include asphyxiation, self-injury, falling from a height, etc.) can also provide important information on how to keep an environment as safe as possible. And, because lethal means safety does not address the root causes of despair, temporarily securing environments is an important way to ensure that an individual can survive a crisis situation until they are able to receive support.

A collaborative approach to reducing access to means through safety planning or crisis response planning is an integral part of an evidence-based prevention comprehensive approach that is appropriate for individuals across the lifespan.<sup>99</sup> The Stanley and Brown Safety Plan intervention may be a useful tool for providers to support an individual in suicidal despair from attempting or dying by suicide.<sup>100</sup> The book Gizmo's Pawesome Guide to Mental Health, based off of the Stanley and Brown Safety plan, is a resource for younger children and adults to work together to support a child's mental health.<sup>101</sup>

#### Means Safety Recommendations for Youth Ages 10-18

Asphyxiation: There is still a need for identification of strategies to reduce asphyxiation suicides.<sup>102</sup> One of the challenges is the variety of common objects used for suicide death by asphyxiation. A possible strategy is to change the design of objects that are commonly used as anchor points. The Mental Health Environment of Care Checklist identifies multiple anchor points, such as mounted fixtures, mirrors, and platform beds, in their safety checklist.<sup>103</sup> One study showed that using such a checklist reduced suicide deaths at Veterans Affairs inpatient mental health units.<sup>104</sup> Collaborative safety planning can help a suicidal individual problem-solve how to limit their access to certain means, whether that means removing a possible ligature or avoiding an anchor point. Additionally, break-away closet rods and tension shower rods can be easily installed in homes as a way to limit weight-bearing anchor points. Finally, any intervention designed to reduce asphyxiation suicides should tailor to demographic subgroups and by gender, which could include considering the presence of bunk beds for younger children, or identifying trends in local data regarding means and locations specific to suicide death by asphyxia.<sup>105</sup>

*Firearms & Substances/Poisons:* Safe storage for firearms and substances can limit access to these means for youth. The majority of firearms used in youth suicides belong to a parent.<sup>106</sup> Securing firearms or temporarily storing them away from the home greatly reduces the risk of a young person dying by suicide using a firearm. Safely and securely storing medications and substances also reduces risk. In order to better understand the connection between firearms and youth suicides, the Colorado's Child Fatality Prevention System 2019 Legislative Report recommends funding firearms research to understand contributing factors for firearm injury and violence. This research would include risk and protective factors, social determinants of observed racial inequities, and effective prevention strategies to prevent future firearm deaths.<sup>107</sup>

Of note in this report is that the percentage of firearms deaths for this age range decreased from 38.8% to 30.9% between 2013 and 2017. This promising trend may indicate that current efforts and messaging may be having a positive impact across Colorado. These messages have included helping communities and families to limit a young person's access to firearms during a crisis.

In addition to safely and securely storing firearms, medications, and substances, it is important to address other potential means of suicide death. Prevention strategies to address other means can include implementing bridge barriers, emergency brakes and barriers along train tracks, guardrails at elevated overlooks, etc.

Regardless of a specific means, it is important to be aware if an individual is experiencing suicidal despair and if there is anything in their environment that is impacting those thoughts. If an individual has shared that they are thinking about suicide, learning more about their despair and about their plan (if they have one) can provide important information on how to keep an environment as safe as possible for that individual and others. Means restriction should also consider cultural differences and approaches.

#### After a Suicidal Crisis and/or Suicide Attempt

Youth who have experienced a suicidal crisis, which can include suicidal ideation and/or surviving a suicide attempt, may still be at increased risk for suicide in the weeks and months following this crisis. Supporting youth after such a difficult experience is an important component of suicide prevention. In Colorado, the Follow-Up Project (www.rmcrisispartners.org/home/services/followup/), provided by Rocky Mountain Crisis Partners, has received national attention for modeling how telephonic follow-up for patients leaving the emergency department can be implemented with a relatively low-cost, replicable model.<sup>108</sup> The Colorado Suicide Prevention Commission recommends that each emergency department system and inpatient setting serving suicidal patients has a standardized protocol for follow-up care. In addition to health systems prioritizing a continuity of care for youth after a suicidal experience, it is also important for families, schools, and other community organizations to work together to support a young person after they have experienced a suicidal crisis. Including people with lived experience as leaders in this work can help promote equity in the creation and completion of these follow-up services.

#### Lived Experience

Lived experience refers to the invaluable real world wisdom that comes from individuals who have had thoughts of suicide, attempted suicide, lost a loved one to suicide, or support a loved one who has struggled with suicidal desperation.

#### Postvention: After a Suicide Loss

A suicide loss is often devastating, confusing, and traumatic for loved ones and community members. Postvention following a suicide death can include short-term and long-term support for individuals, families, organizations, and communities. A young person who has experienced a suicide loss, whether it is the loss of a family member, peer, community member, or a public figure, may benefit from additional support from trusted adults and their school communities. Toolkits like, "After a Suicide: A Toolkit for Schools, 2nd ed" (www.sprc.org/resources-programs/after-suicide-toolkit-schools) can provide schools with important postvention guidelines and recommendations.<sup>109</sup> The American Foundation for Suicide Prevention -- Colorado Chapter provides suicide loss support through its website (www.afsp.org/chapter/afsp-colorado/), and the Suicide Prevention Coalition of Colorado provides grieving families with bereavement packages at no charge to the family. As with all suicide prevention, postvention is a community issue. Planning and prioritization of postvention must happen through the lens of equity, culture, and community-driven responses.

#### Conclusion

Suicide rates for Colorado youth are high and continue to increase, though they represent the lowest suicide rate compared to all other age groups. Each of us has a role and must work together to prevent suicide through evidence-based programming, connection, and being trusted adults. The steps you take to support a young person can be lifesaving. Need help now? Call 1-844-493-TALK (8255), text TALK to 38255, or access chat via www.coloradocrisisservices.org. Help and hope are available 24 hours a day, 365 days of the year.

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It is with deepest sympathy and respect that we dedicate this report to the memory of those youth and families represented within these pages.

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