

# Suicide in Lane County

2000 - 2020

*Updated Trends, Risk  
Factors, and  
Recommendations*



**PUBLIC HEALTH**

PREVENT. PROMOTE. PROTECT.

## Acknowledgements

Lane County Health and Human Services deeply appreciates the work of state and local law enforcement professionals and the staff of the Lane County Medical Examiner's Office who investigate suicide deaths and gather the information for the Oregon Violent Death Reporting System and Oregon Vital Statistics. Additionally, we thank the Oregon Health Authority for creating and maintaining these two data sources and providing technical support in the development of this report. We also wish to recognize those who have lost a friend or loved one to suicide. This report is a record of that loss; however, it is our hope that it also serves as a source of information and guidance to prevent future deaths by suicide.

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# Table of Contents

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<a href="#">Executive Summary</a> .....	1
<a href="#">Key Findings</a>	
<a href="#">Key Recommendations</a>	
<a href="#">Introduction</a> .....	4
<a href="#">Suicide in the U.S. and Oregon</a>	
<a href="#">Suicidal Thoughts and Behaviors</a>	
<a href="#">Suicide and Society</a>	
<a href="#">The Current Study</a>	
<a href="#">A Note to the Reader</a>	
<a href="#">Methods</a> .....	8
<a href="#">Results</a> .....	11
<a href="#">Suicide Trends in Lane County 2000-2020</a>	
<a href="#">Prevalence</a>	
<a href="#">Incidence</a>	
<a href="#">Circumstances and Characteristics of Suicides in Lane County (2003-2020)</a>	
<a href="#">Demographic Characteristics</a>	
<a href="#">Behavioral Health and Substance Use</a>	
<a href="#">Interpersonal Problems and Life Stressors</a>	
<a href="#">Mechanism of Death</a>	
<a href="#">Toxicology</a>	
<a href="#">Occupation and Industry</a>	
<a href="#">Place of Death</a>	
<a href="#">Discussion and Recommendations</a> .....	26
<a href="#">Individuals, Families, and Communities</a>	
<a href="#">Healthcare and Social Service Organizations</a>	
<a href="#">Schools and Youth</a>	
<a href="#">Conclusions</a> .....	32
<a href="#">Works Cited</a> .....	33

# Executive Summary

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Suicide is a significant Public Health issue that has devastating and lasting impacts on individuals, families, and communities. The prevention of suicide requires the involvement of everyone to develop and maintain communities that foster individual and collective meaning and purpose, prioritize relationships, and work together to build resilience.

In 2018, Lane County Health and Human Services (LCHHS) published the first comprehensive report on the trends, risk factors and circumstances associated with suicide in Lane County and provided recommendations for the general public, community leaders, healthcare organizations, social service agencies, and schools. The following report presents the second analysis and set of recommendations published by LCHHS on these topics. This report uses updated data and provides expanded analyses of seasonal trends, mental illness diagnoses, interpersonal issues, toxicological findings, and mechanisms of death with particular emphasis on firearms and lethality.

Readers may find some of the following information disturbing. This is a natural response to the realities of suicide and the pain it makes visible in our communities. Readers are encouraged to take care of themselves while they read this document and to connect with others that make them feel cared for and loved.

## Key Findings

### Trends and Demographic Characteristics

Between 2000 and 2020, 1,458 people died by suicide in Lane County. The rate of suicide increased by 80% during this time. In 2020, the suicide rate in Lane County was 65% greater than the U.S. average and 21% greater than the state of Oregon average. Ninety percent of suicide deaths in Lane County occurred among people 25 years and older. Overall, males\* were about four times as likely to die by suicide compared to females. The risk of suicide increased for males across the lifespan, reaching a maximal rate among people 65 years and older. The communities of Junction City, Florence, and Cottage Grove all experienced roughly double the suicide rate of Lane County as a whole.

### Behavioral Health and Substance Use

Half of suicide decedents were diagnosed with or demonstrated evidence of a mental illness at some time in their life. The most common mental illnesses were depression, anxiety disorders, and bipolar disorder. Over 36% of decedents had a problem with a substance, with alcohol being the most frequent. Males were less likely to have engaged in mental health treatment compared to females. Roughly one quarter of people had a history of at least one suicide attempt and one third told someone else they intended to kill themselves before their death.

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\* Decedents are stratified according to biological sex only in this report's findings. Currently, the data systems analyzed for this report do not collect or do not have sufficient data on gender identity among decedents to publish that information.

## Interpersonal Problems and Life Stressors

One in three decedents experienced some type of crisis shortly before their death. Over one quarter experienced a problem with an intimate partner and one in ten was mourning the death of a friend or family member. Over 35% were experiencing financial hardship and one in four was suffering from a physical health problem at the time of their death. One in twenty decedents was homeless, recently evicted or lost their housing shortly before their death.

## Mechanism of Death

The majority of decedents died through the use of a firearm (55%). Three quarters of firearm decedents used a handgun. Decedents without a previous history of a suicide attempt were three times as likely to die by firearm compared to people who died by other means, demonstrating the unique lethality of firearms as a suicide method. Hanging/suffocation (21%) and poisoning (16%) were the second and third most common means of death, respectively. Males were over twice as likely to die by firearm compared to females, while females were nearly four times as likely to die by poisoning compared to males.

## Disparities and Inequities

Nearly one in four deaths by suicide occurred among veterans (N = 335). The Construction, Extraction and Production industries were the most common occupational categories among decedents. Although not analyzed in the current study due to data limitations, lesbian, gay, bisexual, transgender, and queer (LGBTQ+) populations and Indigenous populations experience elevated rates of suicide and unique risk factors in the U.S.

# Key Recommendations

## Individuals, Families, and Communities

The Social Determinants of Health (the underlying community conditions that affect health behaviors and outcomes) strongly influence who thinks about, attempts, and dies by suicide. People with thoughts of suicide, their friends and loved ones, the media, community leaders and others can prevent suicide by working together to reduce risks, promote safety, and create a culture of inclusion and purpose for everyone. Lane County Health and Human Services encourages all people in the region to care for their mental and physical health and to reach out for support when they need it.

Talking about suicide is safe before and during times of crisis. Talking about suicide with people who are thinking about suicide provides them with a sense of relief, demonstrates respect, and acknowledges their pain. All community members are encouraged to get involved and support people experiencing a suicidal crisis, or connect them with someone else if they are unable to help.

Safe physical environments include barriers and restrictions that slow people down during a suicidal crisis and create additional time for their intention to change and for others to get involved. People can create safer environments by limiting or delaying access to lethal means, such as firearms and medications in their homes through the use of gun safes, rifle cases, trigger locks, and lockboxes. There are many options for lethal means intervention and priority should always be given to those strategies that respect the person at-risk and their rights, are the least intrusive, and the safest for everyone involved.

## Healthcare and Social Service Organizations

Within healthcare systems and social service organizations, suicide prevention begins with comprehensive and integrated organizational development that addresses all policies and practices related to suicide. Screening, assessment, and safety planning using evidence-based tools optimizes care and promotes a culture of safety and comfort for clients and staff to talk about suicide. Most healthcare providers receive little, if any, suicide prevention training during their clinical education; however, resources are available in Lane County and statewide to improve provider education and strengthen organizational policy.

Providers play an important role in promoting safe environments for their clients and patients by directly discussing firearms and other lethal means and the need for times of restriction or delay. In some instances, when people start, stop, or change certain medications, they may experience akathisia – an intense inner restlessness that may lead to suicide. For some, this experience may feel so overwhelming that suicide feels like the only escape. Providers should talk to their patients and their loved ones about the potential dangers in these situations so that they can be aware of the symptoms and the risks.

Healthcare systems play a significant role in addressing disparities and inequities among their service populations. People who identify as Indigenous, LGBTQ+, boys and men, veterans, people with select disabilities, and people living in rural communities experience elevated rates of suicide and have unique risk factors and circumstances. Healthcare providers should ensure that they are aware of these issues to provide effective, individualized treatment for these populations.

## Schools and Youth

Schools play a particularly influential role in suicide prevention across the lifespan by promoting connection, trust, and inclusion during developmentally critical times in a young person's life. Holistic policies and programs that foster healthy social environments for students and staff create safer schools across multiple forms of violence, including suicide. Lane County Public Health in cooperation with state and community partners, offers numerous funding and support opportunities for schools to develop and improve prevention strategies in their settings.

School-based mental health and allied staff should follow clinical guidelines for the care of people at-risk of suicide as appropriate to their setting. School administrators and communities are encouraged to improve access to healthcare services by developing agreements with local healthcare organizations and/or developing school-based health centers.

In rare events, suicide deaths may occur in regional or population specific clusters. Acute increased mortality like this may occur because of shared environmental risk factors or because of behavioral influence i.e., contagion. The clustering and contagion of suicide are more likely to occur in youth populations than among adults. Schools play a significant and unique role in preventing and responding to increased suicide behaviors among youth and supporting safety. School districts are strongly encouraged to prepare and plan for student re-entry following suicide attempts and to prepare for the impact of suicide deaths in their communities using postvention best practices to identify people at risk, support the bereaved, and safely memorialize people who die by suicide.

# Introduction

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*The decedent's acts which at first seem to express only their personal temperament, are really the supplement and prolongation of a social condition which they express externally.*

- Emile Durkheim

*Le Suicide: Étude de Sociologie* (1897)

## Suicide in the U.S. and Oregon

Suicide is a significant Public Health problem that has devastating and lasting impacts on individuals, families, and communities. In 2020, 45,900 people died by suicide in the U.S. (13.5 deaths per 100,000 people).<sup>1</sup> More than 1.2 million adults reported they attempted suicide and 5% of the population (~12.2 million people) seriously considered suicide i.e., suicidal ideation.<sup>2</sup>

Suicide rates in the U.S. declined for the first time in over two decades in 2019, continuing through 2020.<sup>3</sup> However, provisional data for 2021 indicate this decrease may not last, with a predicted 4% increase in the U.S. suicide rate.<sup>4</sup> Provisional data in Oregon and Lane County demonstrate a similar increase in 2021 as of the writing of this report.<sup>5</sup>

Oregon's suicide rate has been consistently higher than the national rate for over three decades.<sup>1</sup> In 2020, Oregon had the 13<sup>th</sup> highest rate in the country with 18.3 deaths/100,000 people.<sup>6</sup> In that year, 835 people died by suicide in the state.<sup>7</sup> A greater percentage of Oregon adults seriously considered suicide (7%) compared to the national average (5%).<sup>8</sup> Of these people, 20,000 reported making a suicide attempt.

Suicide rates and the impact of suicide are experienced disparately and inequitably among different groups. Males die by suicide more frequently than females at every life stage.<sup>1</sup> The majority of suicide deaths occur among middle-aged adults while older adult males experience the greatest risk. In contrast to mortality trends, frequencies of ideation and attempts are much greater among youth compared to adults. One in ten Oregon 6<sup>th</sup> graders and nearly one in five 11<sup>th</sup> graders, seriously considered suicide in 2020.<sup>9</sup> Over 3% of sixth graders and over 5% of eleventh graders attempted suicide.

Non-Hispanic White populations experience the greatest number of deaths by suicide annually in the U.S.<sup>10</sup> However, non-Hispanic Indigenous populations see the highest rates of suicide compared to all other racial/ethnic groups. This disparity among Indigenous populations is particularly pronounced among people twenty-five years and younger, which stands in stark contrast to all other racial and ethnic populations for whom risk increases with age.<sup>11</sup> Despite their severity, the rates of suicide in White and Indigenous populations have been relatively stable or in decline since 2016.<sup>12</sup> Meanwhile, the rate of suicide has been accelerating more rapidly among Black and Asian/Pacific Islanders since 2014.

Rates of suicide attempts among youth who identify as lesbian, gay or bisexual are nearly four times that of their heterosexual peers.<sup>13</sup> Youth who identify as transgender, non-binary, or two-spirit experience similarly elevated rates of suicidal ideation and attempts compared to their cisgender peers.<sup>14</sup> Veterans and military service members die by suicide at rates over twice that of the general population, often regardless of combat status.<sup>15</sup>

## Suicidal Thoughts and Behaviors

Suicide is an act of self-directed violence that is influenced by many factors throughout a person's life that affect who seriously considers, attempts, and dies by suicide. Suicide often

overwhelms our abilities for comprehension, blurring the lines between personal choice and social responsibility. Clear answers as to why any individual dies by suicide are rarely available, requiring an understanding not only of their life history, but their state of mind at the moment of action. However, several prominent themes within the psychological literature can help us generalize the motivations, emotions, and cognition commonly associated with suicide.

The experience of pain and pain response have been central to the psychological study of suicide historically.<sup>16</sup> Although aspects of this pain may be experienced physically, unlike physical pain, there is rarely a single cause or diagnosis that can pinpoint the source. The pain of suicide is existential, meaning that the pain of living itself totalizes experience and feels inescapable. The sources of this pain are myriad; however, they frequently relate to traumatic or otherwise more common, but still negative, human experiences that are perceived severely by the person at-risk. Serious thoughts of suicide may emerge when, despite efforts to relate to others, a person feels extremely and irrevocably isolated and that the sum total of their existence is negative for those around them.<sup>17</sup>

However, as the data reviewed previously demonstrate, serious thoughts of suicide frequently are not equivalent with attempts or deaths. Humans, like all animals, maintain an instinctual desire to live and this hardwiring is psychologically and physically difficult to overcome. Suicidal behaviors (i.e., attempts and deaths) can emerge when the pain of existence and the absence of hope for change overwhelms the fear of death. As people are exposed to greater and greater levels of pain over time, their fear of death may erode as death becomes an “escape from self.”<sup>18</sup>

Beyond the concepts reviewed above, there are numerous other psychological theories of suicide that are beyond the scope of this report.<sup>19</sup> No single theory can recreate the history and moment in time during which an individual thinks about suicide or acts on those thoughts. However, these concepts may give members in the community some insight and perhaps even empathy into the experience of feeling suicidal that may help them support someone else during a crisis.

It is important to provide a final explicit statement that suicide is not caused by mental illness, nor is it a stand-alone mental illness diagnosis. Suicide cannot be explained away as an irrational act, nor can the responsibility be placed solely on the individual and their perceptions. Suicide is a multi-causal phenomenon - an individual response to a society that excludes, hurts, and values some human lives over others. Understanding the structure of a society and its influence on suicide can help us understand how suicide occurs in populations, not just as the result of an individual or internal experience.

## Suicide and Society

At the population level, suicide is influenced by forces that either increase the risk for or buffer people from suicide - risk and protective factors respectively. Suicide shares many of the same risk and protective factors as other forms of violence and adverse health outcomes in populations.<sup>20</sup> Many of these factors go beyond the control of any individual and are considered to be Social Determinants of Health - the underlying community conditions that affect health behaviors and outcomes. The Social Ecological Model (SEM) (Figure 1) expands on the psychological models discussed previously, making room for the social determinants of suicide in populations.<sup>21</sup>

The individual level of the SEM considers the biological and personal factors such as a person’s age, sex, health status, knowledge, beliefs, or traumatic history. The relational level describes the interactions between people; e.g., friendship, love, family cohesion. The community level examines factors such as the physical environment, policies, and social issues associated with



suicide. Finally, the societal level identifies cultural, political, economic and social norms such as stigma, oppression, and marginalization connected with suicide.

The SEM provides a basis for both the understanding of the emergence of suicide and the prevention of suicide. In light of the SEM, suicide prevention is anything done in a community that reinforces an individual's value as a community member, improves social connections, modifies and shapes the safety of the environment, and includes and considers the needs of all people. The SEM demonstrates both the challenge of addressing suicide at the population level and the opportunity for the involvement of the entire community to work towards a common goal. Suicide prevention requires investment beyond any one sector and must include all members in a community such as individuals with lived experience of suicide, their friends, family members and colleagues, educators, healthcare and social service workers, private businesses, public officials, and many others to reduce risk and increase protective factors at all levels.

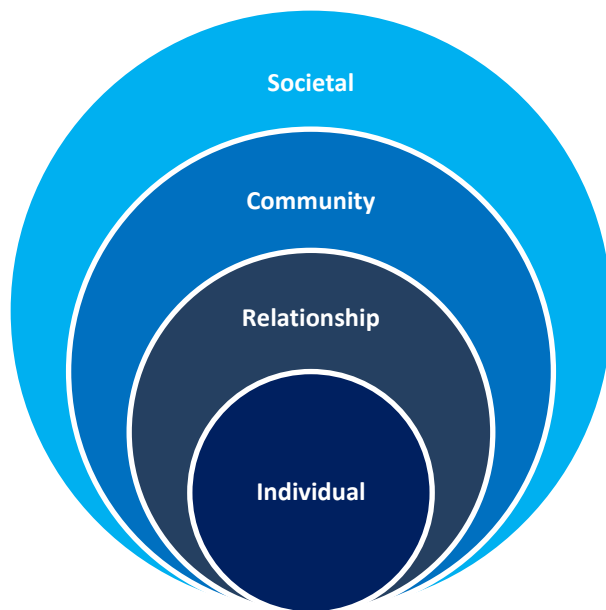


Figure 1: The Social Ecological Model

## The Current Study

This report builds on the findings of the previous study published by Lane County Health and Human Services, *Suicide in Lane County 2000-2016: Trends Risk Factors and Recommendations*.<sup>22</sup> Related reports such as the Centers for Disease Control and Prevention's (CDC) [Suicide Prevention Resource for Action](#) and the Oregon Health Authority's (OHA) [Youth Suicide Intervention and Prevention Plan](#) provide helpful information and frameworks for people to learn about suicide and suicide prevention. However, state and national data may not always be representative of smaller populations in areas such as Lane County and the recommendations or frameworks in these documents may not apply or be actionable at the county level.

The purpose of this updated report is to describe the trends, risk factors, and circumstances associated with suicide mortality in Lane County, Oregon from 2000-2020 and to provide updated recommendations based on this information and other new resources for community leaders, healthcare and social service professionals, educators, and the general public. Novel additions to the current report include an analysis of seasonal trends, greater detail on decedents' mental illness diagnoses and interpersonal issues, expanded descriptions of lethal

means with particular emphasis on firearms and decedents' past suicidal behaviors, as well as expanded toxicological information.

Although robust, the data analyzed in the Results do not capture all aspects of decedents' identity or experience. Relatedly, some demographic data is not reportable due to concerns of decedent identification, data quality or statistical reliability – notably sexual orientation, gender identity and race/ethnicity. Where this is the case, state or national data has been used as the basis of recommendations.

## **A Note to the Reader**

Beyond the perspectives detailed above, suicide is also nothing less than a horrifying and traumatic experience that demands we consider the very purpose and meaning of life itself, the choices we make, and the outcomes we are driven towards. In some ways, the academic concepts detailed above are just cold abstractions. that cannot truly capture the burden of suicide in our society and the existential questions it begs of us individually and collectively. People considering suicide ask these questions in life or death circumstances. People who have lost friends and relatives to suicide are left wondering how their loved ones could not find those answers and now they may find their own worldview changed forever as a result. The curious reader of this report may find themselves distressed and troubled that there are so many people in their community experiencing so much pain.

With these thoughts in mind, Lane County Health and Human Services intends this report to serve a variety of purposes for different groups – as a source of visibility for those who have died in our communities, hope for those impacted, guidance for people working to prevent suicide, and awareness of this issue for people who want to learn more and get involved in prevention efforts.

# Methods

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The methods described below are presented to the general reader of this report to explain the nature of the data analyzed and the methods of analysis. These methods are also described to inform subject matter experts and support the adaptation of these analyses by other county health officials in Oregon. Additional detail is available upon request from the Suicide Prevention Program at Lane County Public Health.

## Inclusion/Exclusion Criteria

Death by suicide for all analyses was defined as a death caused by the intentional injury of oneself. Suicide deaths were identified according to the International Classification of Diseases, Ninth and Tenth Revision (ICD-9/10) codes for the underlying cause of death recorded on death certificates. The specific codes used to identify decedents include E950-E959 (ICD-9) and X60-84 and Y87.0 (ICD-10) respectively. People who die by physician-assisted suicide (the Oregon Death with Dignity Act) are not classified as suicides in the state of Oregon, and are therefore excluded from this analysis.

Depending on the data source analyzed, decedents were identified using differing criteria. Vital statistics data includes only those people who maintained residency in Lane County at the time of their death; however, they may have died elsewhere. Oregon Violent Death Reporting System Data (OVDRS) includes Lane County residents and anyone who died in Lane County. The authors of the current study chose to use these two data sets without consideration of residency for three reasons: 1) decedents may have resided in Lane County for a significant period of time, but not officially established residency 2) their death inevitably affects the Lane County population and must be considered in terms of the public health impact and 3) the difference between the two data sets was found to represent less than a 5% difference during exploratory analysis. The reader may assume that each data set is generalizable with the other.

## Prevalence and Incidence

Data on the prevalence and incidence of suicide at the national level in the U.S. were downloaded from the Web-based Injury Statistics Query and Reporting System (WISQARS) administered by the CDC. Data on the prevalence and incidence of suicide in Oregon and Lane County were downloaded from the Oregon Public Health Assessment Tool (OPHAT) administered by OHA. In both systems these data are provided in aggregated form (not case-based) originating from vital statistics data sources. EXCEL PivotTables and PivotCharts were used to tabulate these data and develop the associated graphs.

Direct age-adjustment was calculated for rates using the population weights from the 2000 U.S. Decennial Census to allow for comparability between national, state, and county rates. 95% confidence intervals (95% CI) associated with point estimates were calculated and are reported as a measure of variability. The point estimates associated with 95% CI's that do not overlap between populations are considered significantly different when  $\alpha = 0.05$ .

Suicide is a rare event in an area with a small population like Lane County (2000: 323,492 people; 2020: 382,986 people). This fact frequently results in extreme variability in rate estimates in sub-populations. In cases where point estimates differ by sex and age-specific rates within Lane County, but 95% CI's indicate no statistical difference, the authors chose to report meaningful, but not statistically significant differences. The authors chose to do this when trends were consistent with statistically reliable state and/or national findings.

Findings on monthly suicide trends come from the 2003-2020 subset of the OVDRS. These data were chosen because of the availability of case-based month of death data that are unavailable in OPHAT. Monthly total counts were tallied and the monthly total mean count was calculated for the entire study period to describe these trends.

Similarly, regional findings come from the 2010-2020 subset of the OVDRS. These data were chosen because of the availability of decedent residence data that are unavailable in OPHAT. Communities with less than 5,000 residents at any time during the study period were excluded due to concerns about estimate stability and the risk of decedent identification.<sup>23</sup> Standardized Mortality Ratios (SMR) were calculated using indirect age-adjustment rather than direct age-adjustment to account for the heterogeneity of age distributions in the cities analyzed and the even greater rarity of deaths occurring in some age strata in those communities. 95% CI's were calculated and reported as an estimate of variability. The SMRs associated with 95% CI's that do not overlap between populations are considered significantly different when  $\alpha = 0.05$ . The R statistical program and the "epitools" package were used for these analyses.

### **Circumstances and Characteristics**

Findings related to decedent characteristics and the circumstances of their death come from the OVDRS 2003-2020 data file. The OVDRS is part of the National Violent Death Reporting System administered by the CDC. The OVDRS collects incident-based information on all violent deaths that occur in the state including homicides, suicides, deaths of undetermined intent, deaths resulting from legal intervention, and deaths related to unintentional firearm injuries.<sup>24</sup> Data is abstracted and coded from Medical Examiner and law enforcement reports, death certificates, and Oregon Child Fatality Review reports to build this information system.

The authors of the current study conducted exploratory analysis of all available variables in the OVDRS to determine data quality, relevance to the prevention of suicide, and statistical reliability. Data with poor quality, no relevance or with few events were excluded from the analysis. Descriptive data are presented in tabular format displaying counts and percentages indicated for each variable. Cells with counts of less than 10 were suppressed or combined with higher order variables in accordance with public health reporting practices.<sup>25</sup> This was done to limit the possible identification of decedents and is noted in each table when applied. Findings were stratified between males and females due to the strong correlation of sex with suicide mortality and the differing risk factors and circumstances associated with these groups. The R statistical program and the "epitools" package were used for these analyses.

Although these analyses are primarily descriptive, in the Mechanism of Death section of this report, the authors conducted one inferential analysis upon reviewing the cross-tabulation results of firearm deaths and suicide attempt history (Table 8). The authors completed this test because of its relevance to the lethality of firearm use compared to other suicide mechanisms and the opportunity within these data to demonstrate that to readers. The crude odds ratio was calculated as an estimate of comparison between populations. No adjustment using other variables was deemed necessary or available within the data system for this analysis.

As a final note of caution in the interpretation of these results, although the OVDRS and OPHAT collect a robust amount of information from multiple sources, that information may be biased or contain omissions. There are numerous points of influence that may cause this lack of standardization. Research demonstrates that due to the frequent equivocal manner of many poisoning deaths, data systems may undercount the number of suicide deaths by as much as 20%.<sup>26</sup> Medical Examiners and law enforcement officials do not use a standard set of questionnaires or investigation protocols as unique circumstances may determine the course of any investigation. Witnesses, family members, loved ones, and friends may not know relevant

information, omit, or provide inaccurate statements regarding the circumstances and characteristics of the decedent. Therefore, this report likely underestimates the total number of suicide deaths and may misrepresent some information related to these death; although this report is as accurate as possible given the outlined data limitations. In an effort to mitigate this issue, the authors compared local findings with state and national findings from the NVDRS, OVDRS and other data sources to determine consistency with expected outcomes whenever possible.

# Results

## Suicide Trends in Lane County 2000-2020

### Prevalence

Between 2000 and 2020 1,458 people died by suicide in Lane County (Figure 2). Three hundred and forty-eight decedents were female and 1110 were male. Deaths by males exceeded deaths by females during every year of the study period, accounting for 76% of all suicides. Suicides reached their historical maximum in 2019 with 106 deaths – representing a near tripling of the annual number of suicides since 2000. On average, close to two people died by suicide each week since 2018.

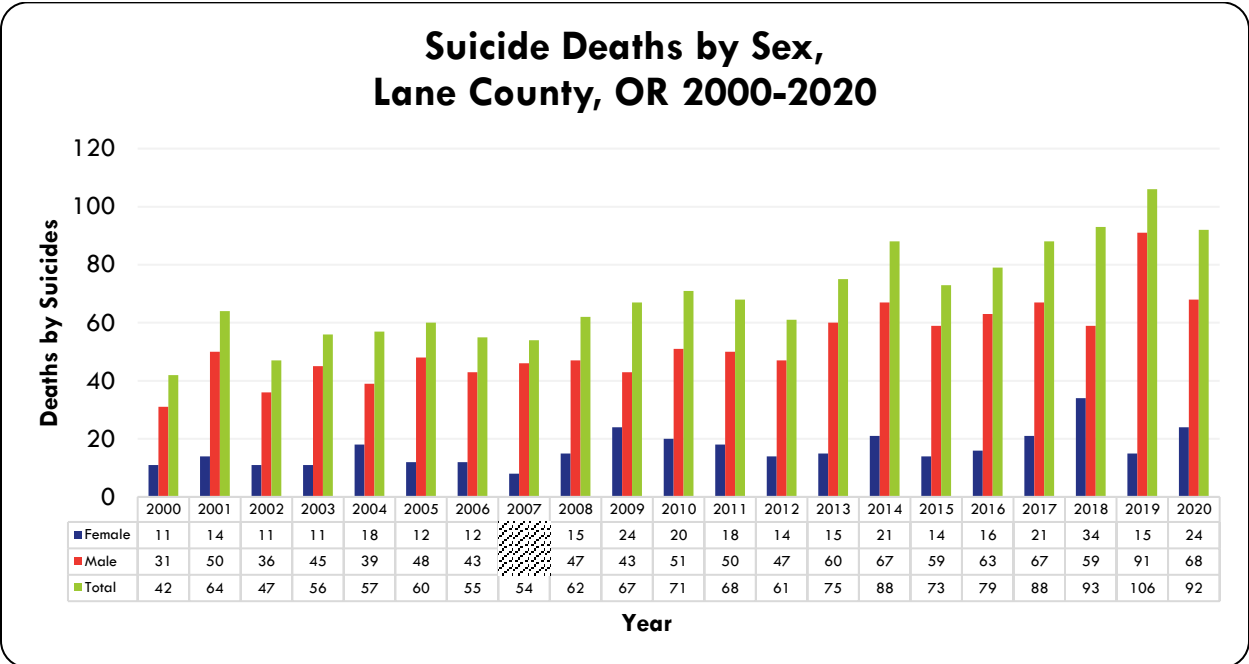


Figure 2. Data Source: Oregon Center for Health Statistics  
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Among youth 17 years of age and younger, 31 people died by suicide (Figure 3). One hundred and twenty-seven young adults (18-24 yrs) died during this time period. The greatest number of deaths occurred among middle-aged men aged 45-64 (N = 531; 36.4%). Over two thirds of suicides (67.6%) occurred among adults ages 25-64 (N = 986). Deaths among males exceeded deaths by females across all age categories, ranging from 2:1 among youth to 5:1 among older adults (≥65 yrs). The relative frequencies and disparities observed between sexes in Figure 2 & 3 are consistent with state and national data.<sup>6</sup>

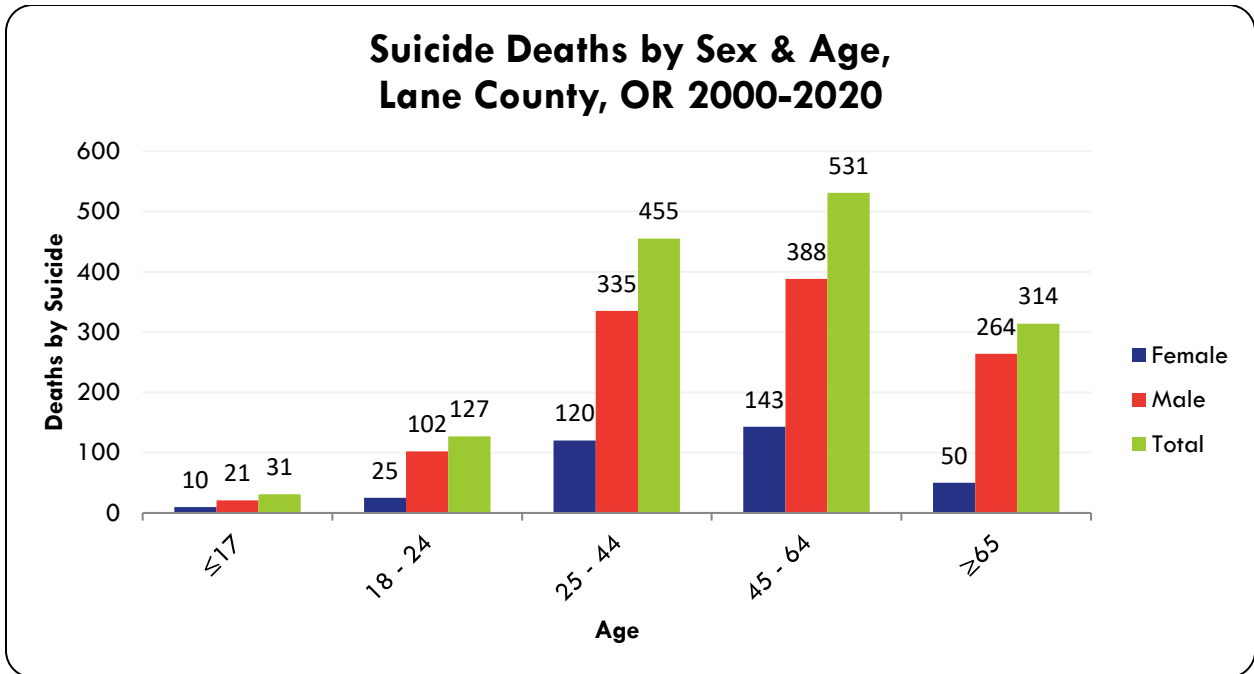


Figure 3. Data Source: Oregon Center for Health Statistics

Suicide counts fluctuate seasonally, often in ways that run counter to popular misconceptions of suicide trends.<sup>27</sup> Between 2003 and 2020, the least number of deaths occurred in December (N = 93;  $\bar{x}$  = 5.2), while the greatest number of suicides occurred during March (N = 141;  $\bar{x}$  = 7.8) (Figure 4). This seasonal fluctuation is consistent with state, regional, national, and worldwide trends; however the causes of this pattern are not clearly understood.<sup>1,28</sup>

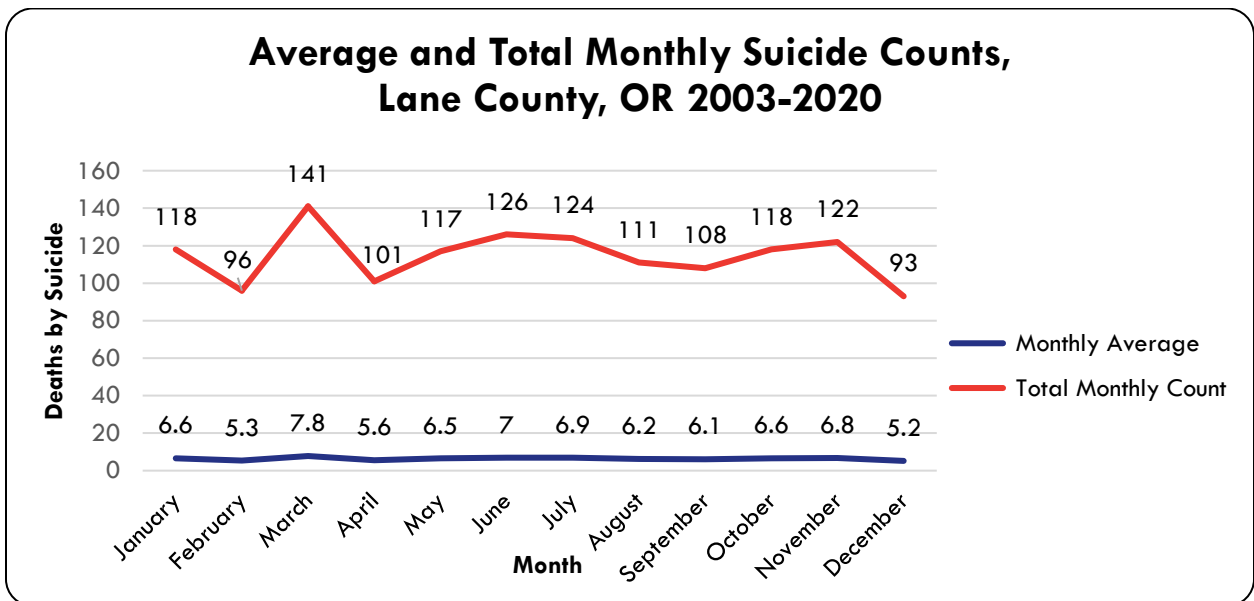


Figure 4. Data Source: Oregon Violent Death Reporting System

## Incidence

From 2000 to 2020 the age-adjusted suicide rate increased significantly from 12.4 deaths/100,000 people (95% CI = 9.0,16.8) to 22.3 deaths/100,000 people (95% CI = 17.6,27.4) (Figure 5). This represents nearly an 80% increase over the study period. The suicide rate in Lane County was regularly greater than both the Oregon and national averages. In 2020, the rate in Lane County was 65% greater than the U.S. average and 21% greater than the state average.

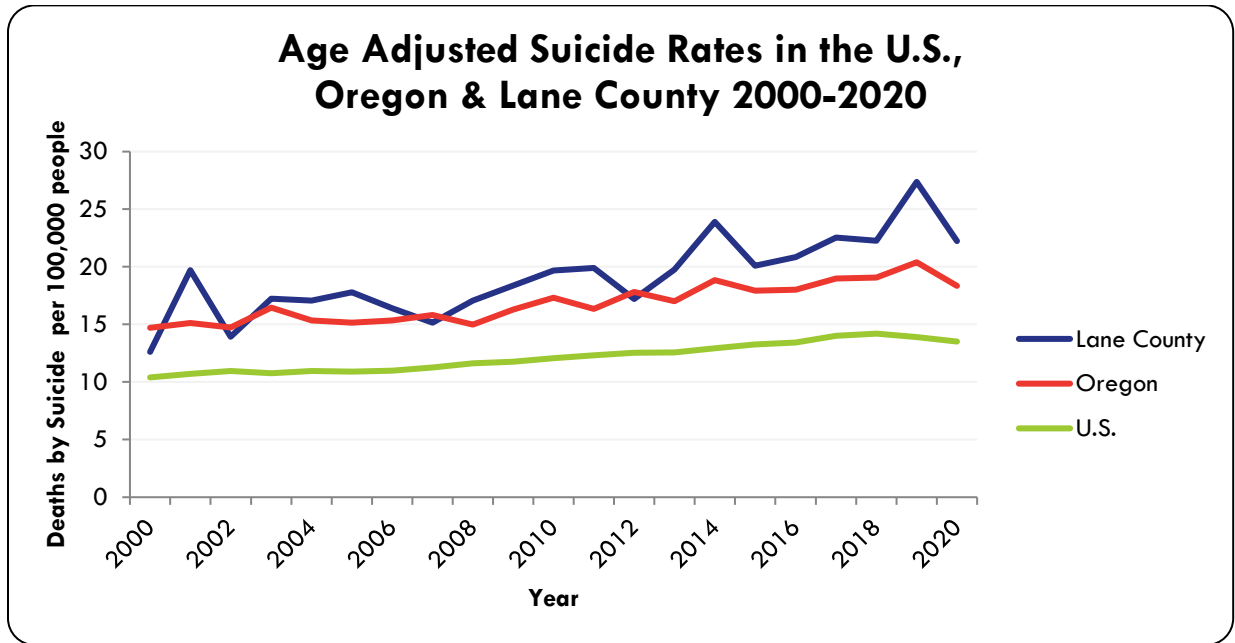


Figure 5. Data Sources: Oregon Center for Health Statistics (Oregon and Lane County), Centers for Disease Control WISQUARS (U.S.)

In 2000, males had an age-adjusted suicide rate of 18.8 deaths/100,000 people (95% CI = 12.7,26.9) (Figure 6). The rate among females in 2000 was 6.6 deaths/100,000 people/year (95% CI = 3.3, 11.8). By 2020 the rate for males increased by 73% to 32.6 deaths/100,000 people (95% CI = 25.0,41.7). The rate among females nearly doubled, reaching 12.1 deaths/100,000 people (95% CI = 7.5,18.5). Overall, the annual risk of suicide for males was roughly 3-4 times the risk for females during the study period.



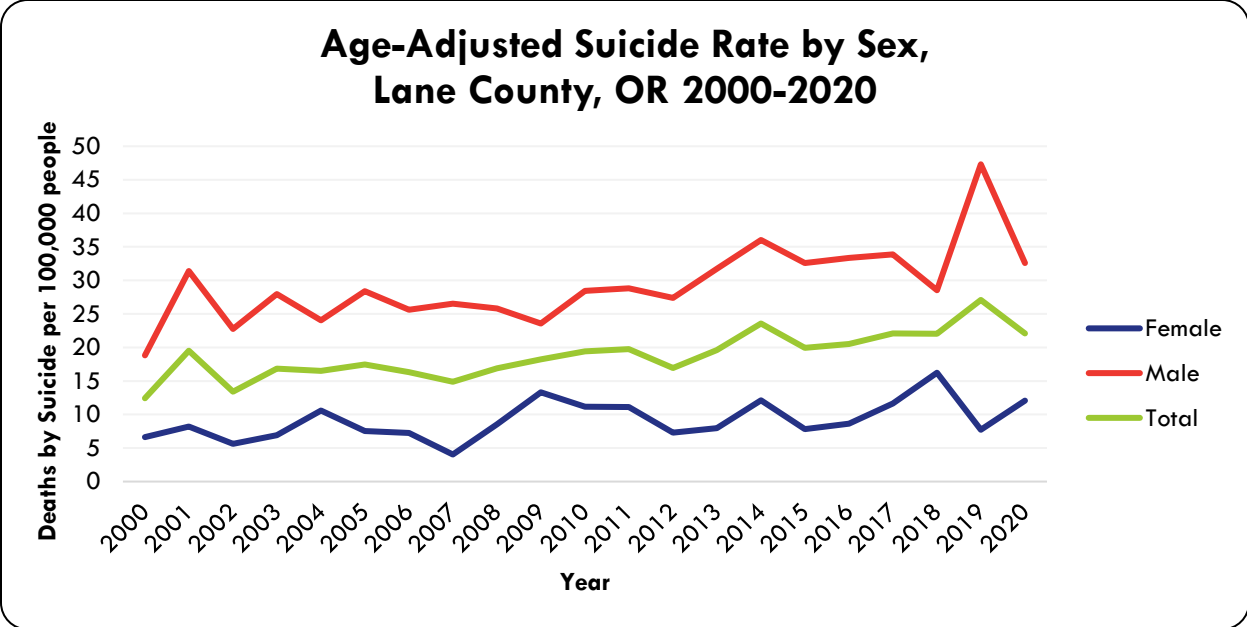


Figure 6. Data Source: Oregon Center for Health Statistics

The risk of death by suicide increased for both males and females across the lifespan; however, the rate of increase and trajectory differed considerably (Figure 7). Based on five-year average age-specific suicide rates, people who were 17 years of age and younger had 1.92 deaths/100,000 people/year (95% CI = 0.6,48.1). Among females, the maximal risk occurred for people 45-64 years of age (18.1 deaths/100,000 people/year; 95% CI = 4.0,61.8) and afterwards decreased. For males, the risk of suicide continually increased throughout the lifespan, reaching a maximal value among those 65 years and older (66.2 deaths/100,000 people/year; 95% CI = 18.6,180.0) representing a nearly 7 fold difference compared to females in this age group. The rate disparities and point estimates observed among and between sexes in Figure 6 & 7 are associated with extremely high variances; however, they are consistent with state and national data.<sup>6</sup>

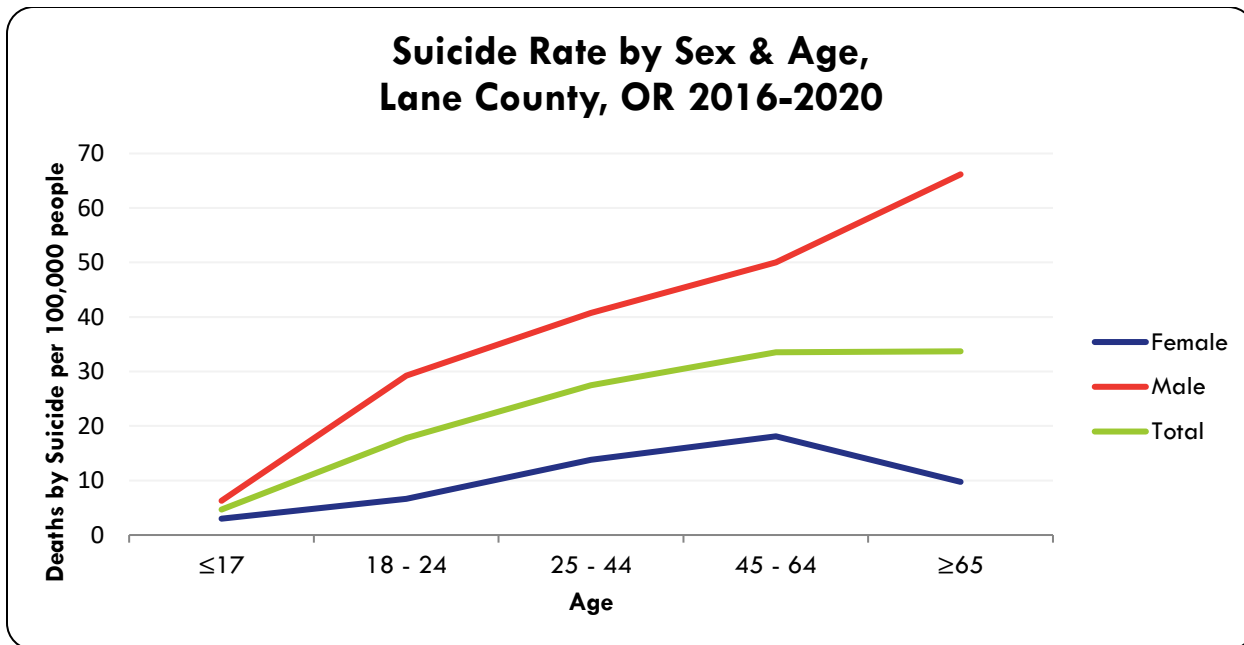


Figure 7. Data Source: Oregon Center for Health Statistics

From 2010 to 2020, the suicide rate varied significantly by region in Lane County (Table 1). Due to the relative rarity of suicide and the even greater rarity in all ages in small communities, the authors of this study chose to share estimates and comparison metrics for a limited number of cities to limit decedent identification and ensure statistical reliability of the results.<sup>†</sup> Communities that are excluded from these analyses had too few deaths by suicide and too few residents for the reporting of stable estimates.

Nine hundred and thirty-five people died by suicide between 2010 and 2020 in Lane County. Over half of deaths during the study period occurred in the Eugene/Springfield metropolitan area (N=623). The rate of suicide in Eugene was statistically equivalent to the county average as a whole. Springfield had a slightly elevated rate of suicide compared to the Lane County average rate (SMR: 1.3; 95% CI = 1.2,1.5).

There were 312 deaths by suicide in the nonmetropolitan area, where the suicide rate was lower than the Lane County average rate. However, the aggregate nonmetropolitan rate does not reflect the rate in select communities. Florence saw over 2 times the rate of suicide mortality compared to the county average (SMR: 2.5; 95% CI = 2.0,3.2). Cottage Grove and Junction City also experienced roughly twice as many deaths by suicide than would be expected based on the county average rate. Research by the CDC has demonstrated that rates of death by suicide are greater in nonmetropolitan areas throughout the U.S. compared to metropolitan areas.<sup>29</sup>

<sup>†</sup> Please note that the analytical method (indirect age-adjustment) used to calculate SMR's are different from those used to calculate previously discussed rates of suicide using direct age-adjustment. As a result, they should not be compared to those rates and reflect different estimates.

*Suicide Rates and Standardized Mortality Ratios for Select Regions, Lane County, OR 2010 - 2020*

Region	Observed Deaths	Crude Suicide Rate	Age-Adjusted Suicide Rate	Standardized Mortality Ratio	95% Confidence Interval
<b>Lane County</b>	935	22.2	21.2	<i>Referent</i>	
<b>Metropolitan Area</b>	623	25.6	26.1	1.2	1.1 - 1.3
Eugene	433	24.5	24.9	1.1	1.0 - 1.2
Springfield	190	35.8	30.1	1.3	1.2 - 1.5
<b>Nonmetropolitan Area</b>	312	18.2	16.8	0.7	0.7 – 0.8
Florence	66	69.3	57.2	2.5	2.0 – 3.2
Cottage Grove	58	53.0	54.3	2.4	1.9 – 3.1
Junction City	26	41.1	42.9	1.9	1.3 – 2.8

*Table 1. Data Source: Oregon Violent Death Reporting System*

# Circumstances and Characteristics of Suicide in Lane County

## Demographics Characteristics

Between 2003 and 2020, 1,376 people died by suicide in Lane County (Table 2). Most decedents (88.1%) had a high school degree or greater. Roughly, one third of people were married, one third never married during their lifetime, one quarter were divorced, and the remaining were either widowed or had unknown marital status at the time of their death. Nearly 25% of decedents were veterans (N = 335). During the study period, 60 deaths occurred among people who were unhoused or people with undetermined residences.‡

*Demographic Characteristics of Suicide Decedents, Lane County, OR 2003-2020*

	Males (N = 1049)		Females (N = 327)		Total (N = 1376)	
	Count	%	Count	%	Count	%
<b>Age</b>						
≤ 17	*	*	*	*	30	2.2
18 - 24	94	9.0	21	6.4	115	8.4
25 - 44	323	30.8	117	35.8	440	32.0
45 - 64	368	35.1	136	41.6	504	36.6
≥ 65	243	23.2	44	13.5	287	20.9
<b>Education</b>						
Less than High School	125	11.9	43	13.2	168	12.2
High School or GED	359	34.2	87	26.7	446	32.4
Some College or Associate's Degree	281	26.8	95	29.1	376	27.3
Bachelor's Degree or Greater	132	12.6	56	17.1	188	13.7
Unknown	152	14.5	46	14.1	198	14.4
<b>Marital Status</b>						
Married	335	32.0	92	27.6	427	31.0
Never Married	367	35.0	102	31.2	469	34.1
Widowed	65	6.2	19	5.8	84	6.1
Divorced	263	25.1	109	33.3	372	27.0
Other/Unknown	*	*	*	*	24	1.7
<b>Military/Veteran</b>						
	317	30.2	18	5.5	335	24.3
<b>Homeless/Undetermined</b>						
	46	4.4	14	4.3	60	4.4

Table 2. Data Source: Oregon Violent Death Reporting System

\* Suppressed

## Behavioral Health and Substance Use

Over 50% of decedents had a mental health problem, meaning they were diagnosed with or demonstrated evidence of a mental illness preceding their death (Table 3). The lifetime

‡ To maintain fidelity with the OVDRS source data, the authors of this report retained certain terminology and variable names in this section to allow for comparability between this document and related OHA and CDC resources. In previous and subsequent sections, alternative terminology is used whenever possible to describe behavioral health issues related to suicide that do not infer bias or judgement.

prevalence of any mental illness for the general population in the U.S. (46.4%) is relatively equivalent with this finding.<sup>30</sup> The frequency of female decedents with a mental health problem was nearly twice that of males (77.4% vs. 44.1%). However, the reader should interpret this statistic with caution due to the underdiagnosis and differential expression of mental health problems in males.<sup>31,32</sup> About half of decedents demonstrated evidence of a depressed mood prior to their death.

Nearly half of all decedents had accessed mental health treatment at some point in their life and slightly less than half were engaged in mental health treatment at the time of their death. Females were more likely to have ever accessed or be currently accessing mental health treatment at the time of their death compared to men. These disparities across diagnosis and treatment are similar with trends among males generally and among male suicide decedents specifically in the U.S.<sup>2,31</sup>

Over one third of decedents had a substance use problem. Twenty-five percent of decedents demonstrated a problem with alcohol and over 20% of decedents had problems with another substance. These findings are roughly consistent with national data.<sup>33</sup>

One in two females was known to have attempted suicide previously while one in five males had a previous attempt. The sex disparity in the attempt to fatality ratio observed here is consistent with the epidemiology of suicide broadly throughout the U.S.<sup>34</sup> Males (32.9%) were less likely to disclose their intent to die by suicide in the month preceding their death compared to females (40.4%).

*Behavioral Health and Substance Use Characteristics among Suicide Decedents, Lane County, OR 2003 - 2020*

	Males (N = 1049)		Females (N = 327)		Total (N = 1376)	
	Count	%	Count	%	Count	%
<b>Mental Health</b>						
Mental Health Problem	463	44.1	253	77.4	716	52.0
Depressed Mood	486	46.3	166	50.8	652	47.4
<b>Mental Health Care</b>						
Current Treatment	348	33.2	212	64.8	560	40.7
History of Treatment (including current treatment)	435	41.5	241	73.7	676	49.1
<b>Substance Use</b>						
Problem with any Substance	370	35.3	130	39.8	500	36.3
Problem with Alcohol	266	25.4	79	24.2	345	25.1
Problem with Another Substance	201	19.2	91	27.8	292	21.2
<b>Suicide Behaviors</b>						
History of Suicide Attempt(s)	222	21.2	160	48.9	382	27.8
Disclosed Intent to Die by Suicide	345	32.9	132	40.4	477	34.7

Table 3. Data Source: Oregon Violent Death Reporting System

*Behavioral Health among Decedents with a Known Mental Health Problem*

Among decedents with a known mental health problem (N = 716), depression, anxiety, and bipolar disorder were the most common diagnoses (Table 4). Three out of four people were diagnosed with either major depression or dysthymia at some time in their life. One in five were diagnosed with bipolar disorder and one in ten decedents were diagnosed with post-traumatic stress disorder. Females saw greater frequencies of anxiety disorders compared to males.

Substance use patterns and previous suicide attempts and disclosures were elevated for all decedents with a mental health problem compared to decedents without. Health records are used to identify decedents with a mental health problem; therefore, the prevalence of current and historic treatment are high for both populations as a result of this information bias. The distribution of diagnoses and substance use among people with a behavioral health problems are consistent with national findings.<sup>3</sup>

*Behavioral Health and Substance Use Characteristics among Suicide Decedents with a Known Behavioral Health Problem, Lane County, OR 2003 - 2020*

	Males (N = 463)		Females (N = 253)		Total (N = 716)	
	Count	%	Count	%	Count	%
<b>Mental Health Diagnosis</b>						
Depression/Dysthymia	357	77.7	199	78.7	556	77.7
Anxiety Disorder	123	26.6	99	39.1	222	31.0
Bipolar Disorder	86	18.6	65	25.7	151	21.1
Post-Traumatic Stress Disorder	44	9.5	34	13.4	78	10.9
Schizophrenia	38	7.9	20	8.2	58	8.1
Attention Deficit Disorder	25	5.4	13	5.1	38	5.3
Borderline Personality Disorder	*	*	*	*	13	1.8
Obsessive Compulsive Disorder	*	*	*	*	12	1.7
Schizoaffective Disorder	*	*	*	*	16	2.2
Other	44	9.5	18	7.1	62	8.7
<b>Substance Use</b>						
Problem with Any Substance	189	40.8	106	41.9	295	41.2
Problem with Alcohol	137	29.6	64	25.3	201	28.1
Problem with Another Substance	115	24.8	79	31.2	194	27.1
<b>Suicide Behaviors</b>						
History of Suicide Attempt(s)	159	34.3	143	56.5	302	42.2
Disclosed Intent to Die by Suicide	177	38.2	112	44.3	289	40.3
<b>Mental Health Care</b>						
Current Treatment	346	74.7	212	83.8	558	77.9
History of Treatment (including current treatment)	421	90.9	239	94.5	660	92.2

Table 4. Data Source: Oregon Violent Death Reporting System

\* Suppressed

(Note: Total percentages exceed 100% as some decedents had multiple diagnoses)

### Interpersonal Problems and Life Stressors

Over one quarter of people experienced some kind of problem with an intimate partner preceding their death (Table 5). About one in ten experienced a problem with a family member

or some other relationship problem. Deaths of others (8.4%) and deaths by suicide of others (1.8%) in the past five years, were known to have preceded the deaths of 115 and 25 people respectively.

Nearly one third of decedents experienced some type of crisis in the month before their death. Over one third of people were experiencing a financial problem such as bankruptcy, overwhelming debt, or foreclosure that appeared to contribute to their death by suicide. About one quarter of decedents were suffering from a chronic, physical health problem. One in ten people experienced a problem related to their job and/or a criminal or legal problem preceding their death.

*Interpersonal Problems and Life Stressors among Suicide Decedents,  
Lane County, OR 2003 - 2020*

	Males (N=1049)		Females (N= 327)		Total (N = 1376)	
	Count	%	Count	%	Count	%
<b>Interpersonal Relationship Problems</b>						
Intimate Partner Problem	296	28.2	86	26.3	382	27.8
Recent Argument	103	9.8	31	9.5	134	9.7
Family Relationship Problem	84	8.0	47	14.4	131	9.5
Other Relationship Problem	84	8.0	29	8.9	113	8.2
Death of a Friend or Family Member	88	8.4	27	8.3	115	8.4
Recent Suicide of Friend or Family Member	15	1.4	10	3.1	25	1.8
Interpersonal Violence Perpetrator	*	*	*	*	48	3.5
<b>Life Stressors</b>						
Financial Problem	351	33.5	132	40.4	483	35.1
Physical Health Problem	289	27.6	71	21.7	360	26.2
Any Crisis	322	30.7	88	26.9	410	29.8
Job Problem/Lost Job	124	11.8	25	7.7	149	10.8
Criminal/Legal Problem	102	9.7	10	3.1	112	8.1
Other Legal Problem	52	5.0	23	7.0	75	5.5
Eviction or Loss of Home	61	5.8	15	4.6	76	5.5
Recent Release from an Institutional Setting (hospital, psychiatric facility, detention facility, group home )	*	*	*	*	67	4.9

Table 5. Data Source: Oregon Violent Death Reporting System

\* Suppressed

**Mechanism of Death**

Seven hundred sixty-two (55.4%) people died by firearm (Table 6). Males were nearly twice as likely to die by firearms compared to females. After firearms, poisoning (including drug

toxicity and chemical asphyxiation) and hanging/suffocation were the most prevalent mechanisms of death. Female decedents were nearly four times as likely to die by poisoning compared to males (36.7% vs. 9.8%). Other means such as cutting with a sharp instrument, motor vehicle injury (being struck by a vehicle or operating a vehicle), falling, drowning or dying by another method occurred, but were infrequent.

*Mechanism of Death among Suicide Decedents, Lane County, OR 2003 - 2020*

<b>Mechanism of Death</b>	Males (N=1049)		Females (N= 327)		Total (N = 1376)	
	Count	%	Count	%	Count	%
Firearm	662	63.1	100	30.6	762	55.4
Hanging/Suffocation	220	21.0	74	22.6	294	21.4
Poisoning (Including Overdose)	103	9.8	120	36.7	223	16.2
Sharp Instrument	*	*	*	*	25	1.8
Any Vehicle (including buses, motorcycles, cars and trains)	*	*	*	*	25	1.8
Fall	*	*	*	*	20	1.5
Drowning	*	*	*	*	14	1.0
Other	*	*	*	*	13	<1.0

*Table 6. Data Source: Oregon Violent Death Reporting System*

\* Suppressed

Three quarters of people who died by firearm used a handgun (Table 7). The remaining quarter used a long gun such as a rifle, shotgun, or machine gun. Other types of firearms were used infrequently. Ownership data are mostly unknown for those die through the use of a firearm (69.4%). However, nearly one quarter of decedents were known to have been the owner of the firearm used in their death. High quality, national data find greater frequencies of firearm ownership among suicide decedents with 88% of males and 52% of females using their own firearm.<sup>35</sup>

### *Firearms and Lethality*

*Characteristics of Firearms among Firearm Suicide Decedents, Lane County, OR 2003-2020*

	Count (N = 762)	%
<b>Firearm Type</b>		
Handgun	571	75.0
Long gun	178	23.4
Other/Unknown	13	1.7
<b>Firearm Owner</b>		
Self	175	23.0
Other	58	7.6
Unknown/Unrecorded	529	69.4

*Table 7. Data Source: Oregon Violent Death Reporting System*



The prevalence of household firearm ownership is unknown in Lane County; however, research suggests that one out every two households in Oregon contains a firearm.<sup>36</sup> Data in Lane County demonstrates that decedents who had no previous suicide attempt history, were 3 times as likely to die by a firearm compared to people who died by other means (Table 8). This means that the overwhelming majority of these people died on their first attempt, highlighting the particularly lethal nature of firearms and their impact on suicide mortality.

*The Association of Suicide Attempt History with Mechanism of Death, Lane County, OR 2003 – 2020 (N=1376)*

	Non-Firearm Deaths	Firearm Deaths	Crude Odds Ratio	95% CI
Previous Suicide Attempt	245	137	1.00 (referent)	(referent)
No Suicide Attempt History	369	625	3.02	2.37 – 3.87

Table 8. Data Source: Oregon Violent Death Reporting System

### Substances Causing Poisoning Deaths

Among the 223 decedents who died by poisoning, prescription drugs were identified as a cause of death or otherwise implicated in nearly two-thirds of cases (Table 9). Females were over 20% more likely to have used prescription drugs compared to males (75.8% vs. 52.4%). Over-the-counter medications represented more than one out of ten deaths. Street/recreational drugs, alcohol, carbon monoxide, and other poisons were identified as the cause of death infrequently.

*Substance Causing Poisoning Death by Sex, Lane County, OR 2003 - 2020*

Substance	Males (N = 103)		Females (N = 120)		Total (N = 223)	
	Count	%	Count	%	Count	%
Prescription Drug	54	52.4	91	75.8	145	65.0
Over-the-Counter	11	10.7	19	15.8	30	13.5
Carbon Monoxide	*	*	*	*	13	5.7
Alcohol	*	*	*	*	16	7.2
Street/Recreational	*	*	*	*	7	3.1
Other Poison	*	*	*	*	10	4.5

Table 9. Data Source: Oregon Violent Death Reporting System

\* Suppressed

(Note: Total percentage exceeds 100% as multiple substances may have contributed to death)

### Toxicology

Toxicological data is gathered only when relevant to death investigations – primarily among people who die by poisoning or if the information is useful to distinguish between intentional and accidental deaths. As a result, tests are not conducted for most decedents and not on all possible substances in every case. However, based on available data, about one third of decedents (for whom toxicology results were available) tested positive for metabolites of anti-depressants, alcohol, and/or opiates (Table 10). Nearly one quarter of decedents tested positive

for cannabis metabolites. Polysubstance use was common, with nearly 60% of decedents testing positive for two or more substances.

*Toxicology Results among Suicide Decedents\*\* , Lane County, OR 2003-2020*

<b>Substance</b>	Males (N = variable dependent)		Females (N = variable dependent)		Total (N = variable dependent)	
	Count	%	Count	%	Count	%
Alcohol Use Suspected (N = 1376)	259	25.1	71	21.9	330	24.3
Alcohol Tested (N = 245)	52	39.4	35	31.0	87	35.5
Anti-Depressant Tested (N = 225)	31	26.1	50	47.2	81	36.0
Opiate Tested (N = 231)	27	22.0	48	44.4	75	32.5
Cannabis Tested (N = 230)	31	25.4	23	21.3	54	23.5
Amphetamine Tested (N = 231)	18	14.5	16	15.0	34	14.7
Muscle Relaxant Tested (N = 105)	*	*	*	*	14	13.3
Anticonvulsant Tested (N = 105)	*	*	*	*	17	16.2
Benzodiazepine Tested (N = 106)	*	*	*	*	20	18.9
Antipsychotic Tested (N = 104)	*	*	*	*	15	14.4
<b>Number of Substances</b>	(N = 120)		(N = 130)		(N = 250)	
1	59	49.2	45	34.6	104	41.6
2	28	23.3	31	23.9	59	23.6
3	13	10.8	22	16.9	35	14.0
4	*	*	*	*	18	7.2
5 or more	12	10.0	22	16.9	34	13.6

Table 10. Data Source: Oregon Violent Death Reporting System

\* Suppressed

\*\*Toxicology findings are representative of only those decedents for whom results are available and should not be interpreted as representative of all decedents.

## Occupation and Industry

Roughly four out of five deaths occurred among people participating in the workforce (Table 11). Distribution of deaths among workers did not fit a clear pattern; however, the Construction and Extraction and Production trades had the greatest numbers of suicides compared to other industries. Healthcare Practitioners, Technical and Support staff, Transportation and Material Moving, Sales and Management industries followed with roughly equal frequency. Although comparison is difficult, these data are relatively consistent with occupational data at the national level among suicide decedents.<sup>37</sup>

*Standard Occupations among Suicide Decedents, Lane County, OR 2003 - 2020*

Industry	Total (N = 1376)	
	Count	%
Architecture and Engineering	25	1.8
Arts, Design, Entertainment, Sports and Media	39	2.8
Building and Grounds Cleaning and Maintenance	46	3.3
Business and Financial Operations	24	1.7
Community and Social Services	20	1.5
Computers and Mathematics	21	1.5
Construction and Extraction	149	9.3
Libraries	34	2.5
Farming, Fishing, and Forestry	23	1.7
Food Preparation and Serving	45	3.3
Healthcare Practitioners, Technical and Support Staff	60	4.4
Installation, Maintenance, and Repair	70	5.1
Management	82	6.0
Military	23	1.7
Office and Administrative Support	58	4.2
Personal Care and Service	37	2.7
Production	110	8.0
Protective Service	31	2.3
Sales and Related	82	6.0
Transportation and Material Moving	94	6.8
Not in Workforce (student, homemaker, unable to work, inmate etc.)	218	15.8
Other/Unknown	85	6.2

*Table 11. Data Source: Oregon Violent Death Reporting System*

## Place of Death

Nearly two-thirds of all decedents died in their home (Table 12). The remaining third of decedents died in a variety of public and private spaces such as streets and highways, parks and natural areas, a family or friend's residence, or a motel or hotel. These data are consistent with data at the national level.<sup>38</sup>

*Place of Death among Suicide Decedents, Lane County, OR 2003 – 2020*

Location	Males (N=1049)		Females (N= 327)		Total (N = 1376)	
	Count	%	Count	%	Count	%
Decedent's Home	656	62.5	216	66.1	872	63.4
Medical Setting	77	7.3	30	9.2	107	7.8
(Injured Elsewhere)						
Street/Road/Highway	*	*	*	*	78	5.4
Natural Area	36	3.4	15	4.6	51	3.7
Family or Friend's House	31	3.0	10	3.1	41	3.0
Park/Recreation Area	*	*	*	*	41	3.0
Motel/Hotel	23	2.2	12	3.7	35	2.5
Parking Lot/ Parking Garage	*	*	*	*	25	1.8
Body of Water	*	*	*	*	18	1.3
Railroad Tracks	*	*	*	*	14	1.0
Other/Unknown	74	7.1	20	6.1	94	6.8

Table 12. Data Source: Oregon Violent Death Reporting System

\* Suppressed

# Discussion and Recommendations

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## Individuals, Families and Communities

### Public Officials and Community Leaders

In Lane County, the Social Determinants of Health and their associated health outcomes, including suicide, are distributed inequitably and unjustly. Public officials and community leaders are encouraged to develop and support policies and programs that increase available and affordable housing and directly improve the employment, economic opportunities, and material circumstances of all people in Lane County. Additionally, they are encouraged to adopt policies and practices that make Lane County a more inclusive place for marginalized people from diverse racial and ethnic, gender, and sexual identity groups. These recommendations are in alignment with the Lane County [Community Health Assessment](#) the [Community Health Improvement Plan](#) and the [Health Equity Report](#).

Natural disasters, like the COVID-19 pandemic, are sometimes associated with an increased burden of mental health needs and suicide in the aftermath and recovery periods.<sup>39</sup> As of the writing of this report, it is unwise to predict what the long-term impact of the COVID-19 pandemic will be on suicide rates; however, early signs of a growing and unprecedented mental health crisis among youth in the U.S. indicate significant cause for concern.<sup>40</sup> Additionally, a recent report from the Oregon Health Authority, [Climate Change and Youth Mental Health](#), demonstrates that the effects of climate change are negatively impacting youth mental health right now and that this trend will likely continue in step with climate change. Equitable strategies that mitigate the consequences of past disasters and prevent future disasters will buffer our community from the physical and social harms caused by these events.

Lastly, Oregon and Lane County have made significant investments in their suicide prevention infrastructure over the past decade. However, at the national level, compared to other leading causes of death, suicide prevention has been historically underfunded.<sup>41</sup> Public officials and community leaders are urged to advocate for sustained funding for suicide prevention research and program implementation at the national level (which often funds local work) to address this disparity and to continue support for the progress made statewide and in Lane County.

### General Public

People with thoughts of suicide, their friends and loved ones, and the communities they live in can work together to prevent suicide. Lane County Health and Human Services encourages all people in the region to care for their mental and physical health and to reach out for support when they need it. People who develop effective coping, problem solving, and help-seeking skills, and foster strong relationships with others are often protected from suicide. During times of crisis, people should consult the in-person, over the phone, and virtual crisis resources available on the [Suicide Prevention Coalition of Lane County's](#) website.

Talking about suicide is safe before and during times of crisis. Talking about suicide with people who are thinking about suicide provides them with a sense of relief and demonstrates respect and acknowledgement of the pain they feel. All community members are encouraged to intervene with people who are experiencing a suicidal crisis, or connect them with someone else if they are unable to help. Trainings such as *Question, Persuade, Refer* (QPR) and *Mental Health First*

Aid (MHFA) provide any community member with the basic knowledge and skills to help someone during a crisis. *Applied Suicide Intervention Skills Training* (ASIST) provides advanced skills for people who regularly support someone at risk of suicide. These trainings are regularly offered through the [Suicide Prevention Program](#) at Lane County Public Health. Additionally, members of the community can learn more about suicide by reviewing the stories of people who have survived suicide attempts in Lane County through the [Why We Build](#) project.

Although difficult to measure, moments of acute suicide risk are often quite brief.<sup>42</sup> Creating safe environments in both the long and short-term requires different strategies and provides opportunities for numerous options. Most people who die by suicide, die through the use of a firearm that is their own, or owned by someone in their household. People can create safe environments where they live by removing, locking up, or disabling dangerous items. Firearms should be stored locked and unloaded when not in use with the ammunition stored separately. These recommendations exceed the Oregon state standard outlined in [Oregon Senate Bill 554](#). During times of crisis, people can disassemble a firearm and give non-registered components to a trusted friend or loved one or temporarily entrust the entire firearm to another person or entity per [ORS 166.435](#). Many local firearms dealers and ranges will temporarily store people's firearms in Lane County. In extraordinary cases, family members and law enforcement officials can seek an [Extreme Risk Protection Order](#) to forcibly remove lethal means from someone's possession for up to one year. However this is a rare decision and one that should be selected as a last resort.

Unused and unnecessary prescription medications should be disposed of or secured out of reach of others. [Take Meds Seriously Oregon](#) maintains a list in Lane County of disposal sites. People concerned about potential opioid overdose deaths should learn about the use and administration of naloxone to reverse overdoses and keep a supply in their home if they feel they or someone else may be at risk of intentional or unintentional overdose. In cases where means restrictions or barriers are insufficient or ineffective, family members and loved ones are strongly encouraged to increase monitoring of individuals at-risk of suicide.

Lastly, all community members are welcome to join the [Suicide Prevention Coalition of Lane County](#) (SPCLC). In cooperation with Lane County Public Health, the SPCLC raises awareness of suicide and prepares people to respond to crises in their communities. SPCLC members are health professionals, community leaders, and people with lived experience of suicide dedicated to creating a community that is safer from suicide and supportive of those impacted.

## Businesses

Business leaders are urged to include mental health promotion and suicide prevention activities in their occupational health and safety programs and practices. In Oregon, the [Construction Suicide Prevention Partnership](#) has numerous resources for business owners and workers to implement in their workplace. Other industries are encouraged to adapt and develop occupational mental health promotion and suicide prevention practices relevant to their settings such as those outlined by the American Foundation for Suicide Prevention and United Suicide Survivors International in [Mental Health Promotion and Suicide Prevention in the Workplace: A White Paper for HR Professionals and Employment Lawyers](#).<sup>43</sup> Policies and activities such as these not only prevent suicide, but provide positive returns on investment for participating businesses.<sup>44,45</sup>

## Media Organizations

The way media report on the topic of suicide influences the suicidal thoughts and behaviors of people at-risk and influences the public's perceptions and understanding of suicide.<sup>46</sup> Local media personnel are encouraged to use [safe-messaging](#) best practices when reporting on suicide and to refer to the results of this report when looking for local data on suicide. Local media organizations are encouraged to adopt reporting policies to standardize the way they report on suicide to ensure consistency. This recommendation is in alignment with the ethical standards of the Society of Professional Journalists to minimize harm.<sup>47</sup>

## Healthcare and Social Service Organizations

### Health Systems

The [Zero Suicide](#) model provides organizations with an evidence-based framework for comprehensive and integrated systems-wide suicide prevention efforts. As the Lane County data show, the majority of people with a mental health need were engaged in mental health treatment preceding their death, demonstrating both the challenge of preventing suicide in a healthcare setting and the opportunity for aiding people in crisis. *Zero Suicide* addresses all aspects of healthcare system structure including leadership development, staff training, patient screening and assessment, safety planning, treatment, program evaluation, and quality improvement.<sup>48</sup>

### Screening, Assessment & Safety Planning

Identification of individuals at risk of suicide begins with screening. While clinicians should be chiefly responsible for the treatment and management of people at risk of suicide, screening can and should occur in all health care settings and many social service agencies. Multiple suicide screening tools exist; however, the [Columbia Suicide Severity Risk Scale](#) (C-SSRS) has quickly become the most commonly used, evidence-based tool in the U.S. and is supported by the Substance Abuse and Mental Health Services Administration. The C-SSRS screening and assessment tools create a common language between systems allowing for greater accuracy in identification of people at-risk, characterization of that risk, and improved communication. Lastly, providers are encouraged to use the Stanley and Brown [Safety Planning Intervention](#) to create collaborative, strength-based safety plans for people at risk of suicide.

### Treatment, Follow-up and Lethal Means

Clinical training in suicide intervention and treatment is often limited or lacking in academic programs for physical and behavioral healthcare providers.<sup>49</sup> The National Action Alliance's [Recommended Standard Care for People with Suicide Risk: Marking Health Care Suicide Safe](#), provides a comprehensive set of clinical guidelines to support providers and healthcare systems. In Oregon, [HB 2315](#) requires most providers to receive suicide prevention training to maintain clinical licensure. Training programs such as [Recognizing and Responding to Suicide Risk](#) and [Assessing and Managing Suicide Risk](#) provide clinicians with the core competencies to identify people with thoughts of suicide, characterize their risk, and support their near-term safety needs. Trainings and frameworks such as [Suicide to Hope](#), Dialectical Behavioral Therapy, Cognitive Behavioral Therapy for Suicide Prevention, and [Collaborative Assessment and Management of Suicide](#) provide clinicians with information on evidence-based treatment

practices. The [Association of Oregon Community Mental Health Providers](#) offers on-going training throughout the state to support many of the options listed above.

Suicidal crises are often temporary. Maintaining safe environments at all times, but especially during times of crisis, protects people by creating more time between impulse and action. All healthcare providers should be trained in [Counseling on Access to Lethal Means](#) to develop the comfort and skills to discuss firearms and other lethal means with their patients and clients. Additionally, providers can directly distribute or encourage people in their care to purchase equipment such as gun safes and lockboxes, cable/trigger locks, medication lockboxes, and naloxone.

In some instances, when people start, stop, or change certain medications, they can experience [akathisia](#) – an intense inner restlessness. For some, this experience may feel so overwhelmingly painful that death feels like the only escape. Providers should talk to their patients and their loved ones about the potential dangers in these situations so that they can be aware of the symptoms and the risks and monitor themselves and their loved ones for changes in behavior.

## Disparities and Inequities

Research demonstrates that a positive, warm relationship between a provider and their patient/client is a significant predictor of successful treatment outcomes.<sup>50</sup> To develop a strong and trusting therapeutic alliance, providers must understand the unique cultural identities of the populations they work with and/or identify as members of those populations themselves. Providers are encouraged to review the resources below to learn more about populations with increased suicide risk in Lane County and to understand when they may need to refer to other resources or providers if they are not able to serve their client's needs.

### *Indigenous Populations*

Within the cultural context of Indigenous communities, some, if not many, of the medical and behavioral healthcare practices described above are not relevant or may not address the specific needs of these populations. Providers working with Indigenous communities should be knowledgeable about the generational trauma, risk factors, and elevated suicide rates among Indigenous populations.<sup>51</sup> Providers are encouraged to review the resource [To Live to See the Great Day that Dawns](#) to learn more about the cultural context of suicide in Indigenous communities and tribal best practices. Additionally the [Mental Health and Addiction Technology Transfer Center Networks](#) provide ongoing training and information on various topics on decolonizing behavioral healthcare among Indigenous populations.

### *LGBTQ+ Populations*

Providers should be aware of the discrimination, rejection, fear, and harassment LGBTQ+ populations face and the resources available to them. The [Trevor Project](#) provides numerous resources for providers to learn more about these experiences, their own biases, and how they impact the therapeutic relationship. The child-family relationship is central to the development of any child. For LGBTQ+ youth, the acceptance and/or rejection of their family is of vital importance. The [Family Acceptance Project](#) provides resources for providers, youth, and their families to develop and improve relationships between children and their families. Likewise, the provision of gender-affirming care is of equally vital importance and is associated with lower frequencies of suicidality among gender diverse populations.<sup>52</sup>



## Boys and Men

While there is no single reason for the sex/gender disparities found in suicide outcomes, many of the risk factors for suicide such as substance use, access to firearms, and limited mental health treatment are more common among men in the U.S than among women.<sup>53,54</sup> Additionally, dominant forms of masculinity (hegemonic masculinity) in the U.S. promote a culture of manhood that encourages exposure to these risk factors, the stigmatization of help-seeking behavior, and even heightened lethality.<sup>55, 56</sup> The American Psychological Association's [Guidelines for Psychological Practice with Boys and Men](#) provides information on evidence-based and best practices for providers working with these populations.

## Veterans

U.S. military service members and veterans develop and maintain distinct cultural identities compared to the civilian population. Regardless of combat status, veterans and service members experience dramatically greater rates of suicide mortality than the general population and most other sub-populations.<sup>57</sup> Providers are strongly encouraged to learn about the experiences of trauma, moral injury, separation, and transition experienced by service members and veterans to gain greater competence when working with these populations. The Department of Veterans Affairs' [Community Provider Toolkit](#) serves as a good resource for people looking for further information.

## Disability

Among people with cognitive and/or developmental disabilities, people on the autism spectrum have elevated rates of suicide compared to the general population.<sup>58</sup> [The American Association of Suicidology](#) provides clinical recommendations and other resources for providers and community members working with these populations during a suicidal crisis.

## Rural Communities

Throughout the U.S. rates of suicide are elevated in many rural communities, including some locations in Lane County.<sup>59</sup> Rural populations frequently experience unique circumstances, barriers, and cultural attitudes to care compared to metropolitan populations. The CDC's policy brief, [Preventing Suicide in Rural America](#), provides an overview of some of the challenges and opportunities for preventing suicide in these populations.

## Schools and Youth

Oregon [Senate Bill 52](#) (Adi's Act) requires each school district in the state to develop and adopt a suicide prevention, intervention, and postvention plan. Adi's Act requires schools to develop local plans that address suicide prevention policies, protocols, programs, student curricula, and staff training. School districts can assess their current plans using the [Step By Step](#) guide created by Lines for Life and the Willamette Education Service District. Additionally, staff with the [Suicide Prevention Program](#) at Lane County Public Health can provide technical assistance, training and support for districts.

## Prevention

Schools prevent suicide by promoting connection, trust, and inclusion. Schools that approach suicide using a lens of trauma-informed care ensure that the needs of students, staff, and families are all considered. [Trauma Informed Oregon](#) provides information on frameworks schools can use to develop holistic policies and programs that foster a healthy social environment for everyone. Specifically related to suicide prevention, [The Adi's Act Toolkit](#), produced by the High Desert Education Service District and the Oregon Department of Education provides a comprehensive set of concepts and tools that schools can use to support school health. This resource is notable as it is the only resource of its kind that makes explicit the shared risk and protective factors between suicide and other forms of violence and their prevention.

In Lane County, it is particularly important to highlight one school-based program that is becoming widely implemented and is sustained through funding from Lane County Public Health and the Oregon Health Authority. [Sources of Strength](#), a best practice youth suicide prevention program uses peer social networks to promote healthy norms and culture and prevent suicide, bullying, and substance use problems. Sources of Strength supports students to develop help-seeking behaviors and promotes connections between peers and trusted adults.

## Intervention

School-based health and counseling staff should consult the “Healthcare and Social Service” recommendations above for clinical guidance on working with youth at risk of suicide. Schools can provide timely access and care for student mental health needs by establishing an on-site School-Based Health Center (SBHC). The Oregon Health Authority provides information for schools looking to develop and operate an SBHC on their [Oregon School-Based Health Centers](#) page.

As noted in the introduction to this report, youth in Oregon experience considerably elevated rates of suicide attempts compared to adults. Youth are at greater risk for repeated attempts, injury, and death following hospitalization for a suicide attempt or a mental health crisis.<sup>60</sup> Schools play a significant role during transitions following a crisis by buffering stressors, supporting mental health, and fostering connectedness. School staff should prepare for student re-entry following a crisis by establishing information-sharing agreements with providers, engaging students and families in communication, and developing protocols to support student mental and social health in these situations.

## Postvention – After a Suicide

The clustering and contagion of suicide are more likely to occur in youth populations than adults.<sup>44</sup> [Oregon Senate Bill 561](#) requires the Local Mental Health Authority in each county to coordinate communication, services, and resources after the death by suicide of a child or adolescent ( $\leq 24$ ). The Postvention Team at Lane County Health and Human Services works in communities in the aftermath of suicide deaths to support people’s behavioral health and other resource needs and the operational and planning functions of schools and youth serving organizations. School administrators, mental health staff, and other leaders are encouraged to be trained in *Connect Postvention* to learn about preparing for, planning, and implementing an organizational response after a death by suicide. Additionally, the resource [After a Suicide: A Toolkit for Schools](#) provides school staff with the information required to build a local protocol and plan for their district.

# Conclusions

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The preceding report has described who, when, how, and under what circumstances people die by suicide in Lane County. These descriptions are critical to conceptualizing suicide as a public health problem and providing a base of information upon which to build prevention strategies. But this information cannot explain *why* any of these people died. Many of those answers are permanently lost or defy explanation. However, the absence or complexity of these answers does not mean that these deaths are meaningless, or that there is no reason for hope, or that the communities of Lane County cannot create and strengthen reasons for living.

It is estimated that nearly 50% of the U.S. population will know someone who has died by suicide over the course of their lifetime.<sup>61</sup> That means that there are nearly 200,000 people in Lane County who have been, or will be, impacted by suicide at some point. These are people who can use their own lived experiences to inform and motivate collective efforts to prevent suicide that foster resilience, inclusion and safety for everyone.

The hope we sometimes struggle to see after a death by suicide remains within the people, relationships and communities of Lane County. However, hope is not just an optimistic disposition; it is an action. Lane County Health and Human Services strongly encourages every person in Lane County to get involved in suicide prevention efforts as they are able and to consider the recommendations in this report, their own experiences with suicide and what they will do to promote meaning, purpose and connection in their communities.

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