



Suicide in Deschutes County 2000 – 2017

Trends, Risk Factors, and Recommendations

The following data represent actual deaths by suicide within Deschutes County. These statistics have been portrayed with anonymity in order to protect the identities of the individuals and their families. One death by suicide is one death too many. Deaths by suicide are circumstantial to each individual, often leaving loved ones questioning ‘why?’ However, these questions may never be fully answered, as often the deceased take the answers with them. It is important to note that death by suicide is not un-causal. Rather, it can be influenced by the risk factors present and the protective factors not present. Because of this, we aim to mitigate the prevalence of suicide within Deschutes County by using comprehensive, evidence-based suicide prevention practices.

It is of the utmost importance to acknowledge those who have lost a loved one to suicide in Deschutes County. This report serves as one of the records of that loss. Deschutes County Health Services intends that this report can be used as a source of hope—because with data comes better-informed solutions for preventing suicide.

Acknowledgements

Deschutes County Health Services would like to express immense gratitude to the hard-working state and local professionals who respond to and investigate violent deaths, to the teachers, coaches and mentors who engage our young people and to the staff and volunteers who give expertise, passion and soul to saving lives. A large shout out to the leadership and technical assistance of Lane County Health and Human Services, which helped to make this report possible. Thank you to the Oregon Health Authority, who creates and maintains the data sources in regards to violent death and helps provide statewide support and leadership.

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EXECUTIVE SUMMARY

Suicide is a complex public health issue that has a ripple effect across communities. There is no single cause; therefore a comprehensive, data-driven approach is required to prevent suicide. The approach must be one that not only uses data, but also one that leans on community partnerships and the power of Collective Impact. This report presents the first analysis of suicide mortality in Deschutes County and provides recommendations to help prevent suicide.

Key Findings

Trends and Demographics

Between the years 2000 and 2017, 534 people died by suicide in Deschutes County. In 2017, on average, one person died by suicide every week in Deschutes County. The vast majority of suicide deaths occurred among men—about 76% (N=393). Deaths by men exceed deaths by women every year of the report period, which is consistent with state and national trends. As men aged, the rate of suicide increased, with the highest suicide rate occurring among men 65 years of age and older. For women, the suicide rate increased until the 45-64 age range. The majority of suicide decedents were married, in a civil union, or domestic partnership. Suicide decedents were more likely to have a Bachelor's Degree or greater. One-fifth of suicide decedents were Veterans.

Mental Health and Substance Abuse

Approximately 43% (N=228) of all decedents had a mental health problem, meaning they were diagnosed or demonstrated unambiguous evidence of a diagnosable mental illness and/or substance abuse disorder preceding their death. Nearly one-third of all suicide decedents were engaged in current mental illness treatment at the time of death (N=179, 34.1%) with 52.2% of these decedents being female and 28% male. One-third of all suicide decedents had a problem with any substance use at the time of death, (N=175, 33.3%); the proportion of females and males was similar, 34.1% (N=45) and 33.1% (N=130) respectively. Females were less likely to disclose intent to die by suicide when compared to males, 30.3% and 35.6% respectively.

Interpersonal Problems and Life Stressors

The interpersonal problem that affected the most Deschutes County suicide decedents was an intimate partner problem (N=161, 30.7%); meaning that problems with a current or former intimate partner appear to have contributed to the death. Male suicide decedents experienced an intimate partner problem that contributed to their death 20% more than female decedents (32.3% vs 25.8%). The life stressor that affected the most Deschutes County suicide decedents was a financial problem (N=193, 36.8%); meaning a financial hardship appears to be a contributing factor to the death. Female suicide decedents experienced a financial stressor 21% more than male decedents (42.4% vs 34.9%).

Mechanism of Death

Lethal means varied among suicide decedents in Deschutes County, however over half of all decedents used a firearm (N=298, 56.8%). Nearly one-fifth of suicide decedents died by poisoning. Among suicide decedents that died by poisoning, prescription drugs was the most-used substance (N=57, 56.4%), followed by carbon monoxide (N=24, 23.8%).

Occupation of Decedents

During the report period, occupations among decedents varied greatly. Nearly a quarter (24.5%, N=129) of all decedents were not actively participating in the workforce at the time of death (“Not Currently in Workforce”); this includes individuals that were retired, unemployed, or a homemaker. The occupation with the highest number of suicide decedents was “Construction” (12.4%, N=65).

Place of Death

A vast majority of suicide deaths during the report period occurred in a decedents home (68.1%, N=358), demonstrating the critical need for family, friends, and loved ones of those at risk for suicide to be aware of suicide warning signs and how to effectively intervene and refer the person at risk to appropriate resources.

Geographic Distribution

Deschutes County’s age-adjusted suicide rate is 25.3 deaths per 100,000 people. Nearly 61% of suicide deaths during the study period occurred in Bend (N=318). The age-adjusted rate of suicide in Bend was higher than the rate for Deschutes County as a whole with 32.1 deaths (SMR: 1.4; 95% CI=1.3-1.6) per 100,000 people. Redmond’s age-adjusted suicide rate was 26 deaths (SMR: 1.2; 95% CI=0.9-1.4) per 100,000 people. All other Deschutes County Areas Combined includes rural areas, which had a lower age-adjusted suicide rate than the suburban and urban areas in Deschutes County—15.9 deaths (SMR 0.7; 95% CI=0.6-0.9).

Special Populations

One in five deaths by suicide in Deschutes County occurred among veterans (19.7%, N=103). Although not analyzed in the current report, lesbian, gay, bisexual, transgender, and questioning (LGBTQ+) youth and Alaskan Natives/American Indians of all ages are known to experience increased risk of suicide in the United States.

Recommendations

The following recommendations are based on evidence-based constructs for developing a comprehensive approach to suicide prevention as well as key findings from this report. It is important to note that a successful suicide prevention approach requires consistent leadership and coordination. The Deschutes County Suicide Prevention Program includes a braided funding model, which shows strong collaboration across the Deschutes County Health Services agency. Moreover, the braided funding model leaves staff responding to multiple funder requirements and focused on resource development and maintenance at the expense of program implementation. Adequate financial support to maintain program staff is imperative for decreasing the rate of suicide attempts and deaths in Deschutes County.

General Public

The majority of suicide deaths in Deschutes County occur in the home, and over 50% of suicides are completed by firearm, all firearm owners and their loved ones are urged to practice collaborative firearm safety in order to create a protective environment for those at risk of suicide. The general public needs important knowledge, training, and skills on how to recognize suicide warning signs, how to ask someone about suicidal intent, and how to connect someone to appropriate, professional help. Therefore, it is recommended for continual maintenance of funding and capacity to offer evidence-based trainings in Deschutes County, such as Question. Persuade. Refer. (QPR), Mental Health First Aid, and Applied Suicide Intervention Skills Training (ASIST), and Counseling on Access to Lethal Means (CAMS). In addition to increasing knowledge and skills for suicide prevention in the general public, it is important to increase general awareness around suicide prevention resources in Deschutes County.

Businesses

The occupation with the highest number of suicide decedents in Deschutes County is the construction industry (12.4%, N=65). Efforts should be made to engage with local construction companies to implement suicide prevention policies and protocols as it relates to occupational health and safety. Given that nearly a quarter (24.5%, N=129) of decedents were not engaged in the workforce, efforts should be made to engage with unemployment agencies to implement suicide prevention policies and protocols. All businesses in Deschutes County are encouraged to follow the U.S. Surgeon General's National Strategy for Suicide Prevention, specifically, the goals and objectives outlined for workplaces as well as implementing appropriate suicide prevention protocols when employees are fired, laid-off, and when employees resign.

Primary Care

It is understood that nationally, a majority of suicide decedents have visited a primary care physician within one year, and one-fifth of decedents within one month, preceding death. During the report period every one in 5 Deschutes County suicide decedents had a physical health problem, showing a strong case that primary care settings have an important role in suicide prevention. Further, clinic settings are a critical component toward facilitating patient connection to behavioral health. It is recommended that primary care clinics adopt *Zero Suicide*, which is a model that guides health care organizations through systems-wide transformations change toward safer suicide care. The *Zero Suicide* model, coupled with the locally developed Primary Care Toolkit provides practices for addressing at-risk patients. Further, it is also recommended that collaboration between primary care and specialty behavioral health care continue to be strengthened in the Central Oregon region through the Advancing Integrated Care (AIC) project, which is a project of the Regional Health Improvement Plan and the Central Oregon Health Council.

Behavioral Health and Other Social Services

A majority decedents with a known mental health problem were engaged in mental illness treatment (78.1%); it is imperative to note however, that when an individual dies by suicide, it is no one's fault, including a behavioral health provider. Behavioral health providers and other social service providers, who have not already done so, should engage in training around screening and managing suicide care. Multiple suicide screening tools exist, and many entities in Deschutes County have already implemented the Columbia Suicide Severity Risk Scale (C-SSRS); a tool that is also supported by the Substance Abuse and Mental Health Services Administration. Training in using the C-SSRS is available at no cost online and personalized trainings can also be requested. Clinical behavioral health clinicians are encouraged to

engage in various suicide-care trainings, such as Collaborative Assessment and Management of Suicidality or Assessing and Managing Suicide Risk. Further, it is recommended that providers use effective, strengths-based safety planning with people at risk for suicide, such as the Stanley and Brown Safety Planning Intervention.

Schools

During the report period, the youth suicide rate in Deschutes County nearly doubled. Schools play an integral role in helping prevent youth suicide. Because suicide is a complex public health issue, it is not schools' responsibility alone to prevent youth suicide. It is recommended that Deschutes County School Districts continue to strengthen their comprehensive approach to youth suicide prevention that includes collaboration with, and connection to, community-wide suicide prevention efforts. A comprehensive approach should include suicide prevention, intervention, and postvention strategies that not only target students, but also parents, staff, and administrators. Further, a comprehensive approach should include strategies that span beyond knowledge attainment and awareness raising. In other words, suicide prevention curricula or mental health awareness days alone are not sufficient. Skill-building, care coordination, and policy, systems, and environmental change strategies should also be incorporated into a comprehensive approach to prevent youth suicide. Not only is a comprehensive approach to preventing youth suicide evidence-based, but it also mandated by Oregon law. It is recommended that Deschutes County school districts collaborate with one another as well as Deschutes County Health Services in order to comply with Senate Bill 485, Senate Bill 52, as well as the Student Success Act.

Substance Abuse

Given that increased substance use is a warning sign for suicide, it is imperative that behavioral health professionals that treat individuals experiencing substance use disorders be trained in screening and treating suicidality in clients. This is particularly important for people at risk of relapse or those who have relapsed after a period of sobriety. Multiple suicide screening tools exist, and many entities in Deschutes County have already implemented the Columbia Suicide Severity Risk Scale (C-SSRS); a tool that is also supported by the Substance Abuse and Mental Health Services Administration. Training in using the C-SSRS is available at no cost online and personalized trainings can also be requested.

Higher Risk Populations

Over three-quarters of all suicides in Deschutes County occurred among men; further, the occupation with the largest proportion of suicide decedents was the construction occupation, which is a male-dominated industry. It is recommended that behavioral health professionals find culturally relevant ways to engage men in services through targeted outreach and partnerships with industries that primarily employ men. Further, the report also shows that males are more likely to use firearms than females for dying by suicide, therefore it is recommended that mental health promotion and suicide prevention professionals in Deschutes County engage with local firearm retailers in order to promote and normalize mental health resources.

Veteran suicide decedents accounted for one-fifth of all suicides during the reporting period. Given that veterans are engaged in a wide variety of sectors in Deschutes County, it is recommended that all suicide prevention efforts include culturally responsive components to reach veterans. Further, because there is a wide variety of veteran-serving organizations in Deschutes County, it is also recommended that a unified veteran suicide prevention taskforce emerge in order to coordinate efforts and provide resource mapping in order to ensure equitable access to resources for all veterans in Deschutes County.

In the United States, people who identify as American Indian/Alaskan Native (AI/NA) have the highest suicide rate compared to the general population and other racial and ethnic subpopulations. Medical, behavioral health, and other social service providers are encouraged to develop and adopt culturally responsive, evidence-based and tribal practices to support people who identify as AI/NA at risk for suicide.

National research shows that young people who identify as LGBTQ+ have higher rates of suicide ideation and attempts than the general population. This disparity also exists in the state of Oregon; young people who identify as LGBTQ+ have reported significantly higher rates of contemplating suicide in the last 12 months than students who identified as straight. Medical, behavioral health, and other social services providers should be aware of these disparities and also integrate culturally responsive practices to meet the needs of LGBTQ+ youth at risk for suicide. Further, youth-serving organizations, including schools, should ensure that safe environments are being fostered for students of all identities, especially those that identify as LGBTQ+, to feel safe, welcomed and supported.

Lethal Means

It is recommended that safe storage efforts be implemented and expanded widely in Deschutes County. This should include a combination of evidence-based approaches, including community awareness campaigns around safe storage, engaging with firearm retailers on training, and increasing access to safe storage means. Safe storage efforts should include approaches for firearms as well as prescription medications, as these were the most-used means for suicide decedents in Deschutes County. Further, it is recommended that there be increased collaboration between suicide prevention and substance abuse prevention efforts to ensure continuity of efforts and cross-promotion.

Regional Disparities

Geospatial analysis in this report shows that the city of Bend's age-adjusted suicide rate higher than all other cities in Deschutes County as well as the total County rate. It is important to remember that each city in Deschutes County is unique and therefore a one-size-fits-all approach to suicide prevention in Deschutes County will be ineffective. In order to appropriately and effectively prevent suicide in Deschutes County, it is imperative to target specific suicide prevention approaches culturally relevant to the Bend area as well as additional culturally relevant approaches for Redmond and the other rural areas of Deschutes County. Authentic engagement in community organizations and residents from throughout Deschutes County is vital. It is recommended that Deschutes County staff work to engage more community partners and organizations in the Central Oregon Suicide Prevention Alliance.

INTRODUCTION

Suicide is a leading public health concern across the globe that affects people of all identities and backgrounds. Over 800,000 people die by suicide each year globally.¹ In the United States alone, suicide is rated as the tenth leading cause of death.² Research suggests that 1.4 million adults reported a past attempt of suicide nationwide, and 4% of U.S. adults, approximately 9.8 million people, seriously considered taking their own life.³ Over 160,000 Oregon adults above the age of 25 have reported having serious thoughts of suicide; and over the past three decades, Oregon has had a higher than average rate of suicide when compared with national data.^{3,4} The Centers for Disease Control and Prevention has found that the state of Oregon has the 15th highest suicide rate in the nation.⁵ Additionally, the rate of hospitalizations from suicide attempts among children and adolescents in Oregon was greater than adults, with 75.2 attempts/injuries per 100,000 people.⁶

Why do People Die by Suicide?

Interpersonal Psychological Theory of Suicide

Comprehensive suicide prevention is key to mitigating the increasingly high rates of suicide across the globe. Suicide can be premediated, giving health professionals a calculated window of time, to act and intervene, in order to prevent a loss of life. This becomes harder for cases that are of an impulsive

¹ World Health Organization. (2019, September). Suicide. Retrieved November 26, 2019, from <https://www.who.int/news-room/fact-sheets/detail/suicide>.

² National Institute of Mental Health. (2019). Suicide. Retrieved November 26, 2019, from https://www.nimh.nih.gov/health/statistics/suicide.shtml#part_154968.

³ Center for Behavioral Health Statistics and Quality. (2017). 2016 National Survey on Drug Use and Health: Detailed Tables. Substance Abuse and Mental Health Services Administration, Rockville, MD.

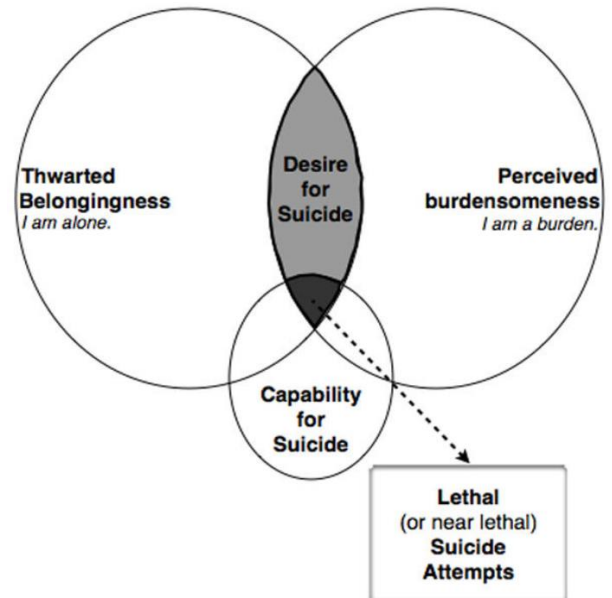
⁴ Drapeau, C. W., and McIntosh, J. L. (for the American Association of Suicidology). (2017). U.S.A. suicide 2016: Official final data. Washington, DC: American Association of Suicidology, dated December 24, 2017, downloaded from <http://www.suicidology.org>.

⁵ Center for Disease Control and Prevention. (2019, January 10). Stats of the State - Suicide Mortality. Retrieved December 10, 2019, from <https://www.cdc.gov/nchs/pressroom/sosmap/suicide-mortality/suicide.htm>.

⁶ Oregon Health Authority. (2015). Youth Suicide Annual Report. <http://www.oregon.gov/oha/PH/PREVENTIONWELLNESS/SAFELIVING/SUICIDEPREVENTION/Documents/youth-suicide-annual-report.pdf>. Accessed on Feb 21, 2018.

nature. Because of this, a comprehensive approach to suicide prevention is vital, which must include policy, education, and environmental systems change. According to the Interpersonal Theory of Suicide, suicidal desire relates to the interplay of two interpersonal constructs.⁷ The constructs of thwarted belongingness and perceived burdensomeness can drive an individual to contemplate suicide.⁷ When these constructs are paired with the capability/means to engage in suicidal behavior, there may be a stronger desire to do so.⁷ This Interpersonal Theory of Suicide explains that when the capability for suicidal behavior emerges, it is often derived from deeply rooted traumatic experiences, which impact daily thought processes and overall mental health.⁷

Interpersonal Psychological Theory of Suicide⁷



Risk and Protective Factors of Suicide

Risk and protective factors aid in understanding the likelihood of individuals' behaviors or health outcomes. It should be noted that risk and protective factors offer a way of understanding likelihood, however is not wholly predictive of an individual's behaviors or health outcomes. Risk and protective factors can be biological, psychological, familial, communal or cultural factors that the individual has present in their lives.⁸ Risk factors are the characteristics of an individual that are associated with a higher prevalence of poorer health outcomes; meaning in terms of suicide, could make it more likely for individuals to consider or attempt suicide.⁸ Alternatively, protective factors are the characteristics that are associated with a higher prevalence of positive health outcomes for the individual; meaning in terms of suicide prevention, make it less likely for individuals to consider or attempt suicide.⁸ Risk and protective factors can be both fixed and variable; the variable factors are subject to change, such as socioeconomic status, employment status, or social circles. Fixed factors do not change, such as genetic predisposition and family history.⁸

Some risk factors that are commonly associated with a higher risk for suicide include; a previous suicide attempt, violence victimization, violence perpetration, and substance abuse. Conversely, some protective factors that are associated with a lower risk for suicide include; perceived social connectedness, access to effective behavioral health care, and a sense of purpose in life.¹⁰ Suicide prevention efforts that target a combination of risk or protective factors are more likely to have positive outcomes than compared to addressing a single factor alone.⁸ When more protective factors are present than risk factors, the population is more likely to have a lower rate of deaths by suicide.

⁷ Van Orden, K. A., Witte, T. K., Cukrowicz, K. C., Braithwaite, S. R., Selby, E. A., & Joiner, T. E., Jr (2010). The interpersonal psychological theory of suicide. *Psychological review*, 117(2), 575–600. doi:10.1037/a0018697

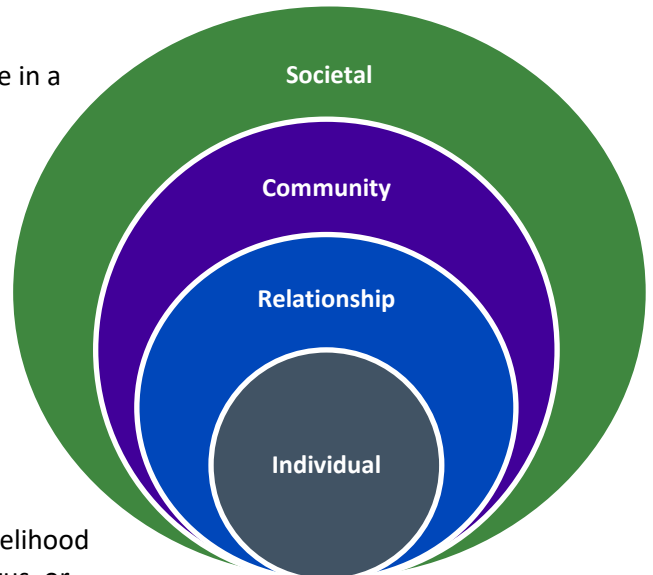
⁸ Substance Abuse and Mental Health Services Administration. (n.d.). Risk and Protective Factors, 1–4. Retrieved from <https://www.samhsa.gov/sites/default/files/20190718-samhsa-risk-protective-factors.pdf>

How Do We Prevent Suicide?

Preventing suicide in a community is no single entity’s responsibility; rather, an effective, comprehensive approach to preventing suicide requires targeting efforts at multiple levels of a community and also harnessing the collective impact of community stakeholders. The Social Ecological Model helps communities organize where to target efforts and the Collective Impact Framework provides a road map on achieving efforts. Preventing suicide requires multiple efforts beyond the behavioral health sector. Everyone in a community has a role in helping to prevent suicide.

The Social Ecological Model

Using a singular approach will not effectively prevent suicide in a community, therefore a framework is needed in order to organize and align multiple strategies. A central tenant of the Social Ecological Model (SEM) is that all levels of influence are important. Meaning multilevel interventions generally should be more effective than single-level interventions. The SEM is an appropriate and effective framework to use in preventing suicide by addressing associated individual, relationship, community, and societal factors.



The individual level of the SEM includes demographic, biological, and psychological factors which can affect the likelihood of a person dying by suicide, such as age, mental health status, or physical health status.⁹ The relational level of the SEM focuses on interactions between people—such as family, friends, or co-workers and how those interactions can either increase, or decrease, the risk of suicide.⁹ The community level considers factors such as physical environment, organizational policies, or school-based policies that can affect the risk of suicide for individuals.⁹ Lastly, the societal level of the SEM addresses large-scale factors that affect every individual in a society, such as stigma associated with talking about suicide, discouragement of help-seeking behavior, or laws and policies that affect the availability of health care services.⁹

The Collective Impact Framework

The Collective Impact Framework, according to the Stanford Innovation Review, is premised on the belief that no single entity alone can solve complex social problems.¹⁰ Suicide is a complex public health issue that requires stakeholders within a community to lean on each other’s strengths to carry forward a message of hope for the many resources and evidence-based practices that can exist within a community. The Collective Impact Framework provides a roadmap for communities to systematically work together to ensure that growing needs are met and that each entity involved owns a piece of the

⁹ J.F. Sallis, R.B. Cervero, W. Ascher, K.A. Henderson, M. K. Kraft, and J. Kerr (2006). An Ecological Approach to Creating Active Living Communities. *Annual Review of Public Health, 27*, 297-322.

¹⁰ Kania, J. and Kramer, M. (2011). Collective Impact. *Stanford Social Innovation Review*

work. The five pillars of the Collective Impact Framework include a common agenda, shared measurement, mutually reinforcing activities, continuous communication, and a backbone organization.

The 5 Conditions of Collective Impact

- 1** **Common Agenda**
 - **Common understanding** of the problem
 - **Shared vision** for change
- 2** **Shared Measurement**
 - **Collecting data** and **measuring results**
 - Focus on **performance management**
 - **Shared accountability**
- 3** **Mutually Reinforcing Activities**
 - **Differentiated approaches**
 - **Coordination** through joint plan of action
- 4** **Continuous Communication**
 - **Consistent** and **open communication**
 - Focus on **building trust**
- 5** **Backbone Support**
 - Separate organization(s) with **staff**
 - Resources and skills to **convene** and **coordinate** participating organizations

Kania, J. and Kramer, M. (2011). Collective Impact. *Stanford Social Innovation Review*

The Current Report

To date, there has been no comprehensive analysis of deaths by suicide and associated risk factors in Deschutes County. The purpose of this report is to describe the occurrence and risk factors related to suicide in Deschutes County, Oregon from 2000 to 2017. The work of this report has been done to inform the development of actionable recommendations for all members of our community including policy makers, healthcare professionals, social services, educators, and the general public.

Despite the focus of this report being on the public health issue of suicide, it is the aim of Deschutes County Health Services that it can serve as a source of hope for those affected by suicide in our community, guidance for those working with those at risk, and awareness of this public health issue for those who may not be familiar with the burden of suicide in our community. We all can help prevent suicide—the information shared in this report can help in this cause.

METHODS

This report is largely exploratory and therefore was not guided by any *a priori* hypotheses. All variables in the data sources were explored and included in the current study based on several criteria including data quality, relevance, and statistical reliability. Following exploratory analysis, hypotheses were generated and tested when relevant for the creation of actionable recommendations to prevent suicide in Deschutes County.

Data related to suicide prevalence and incidence in the U.S., Oregon, and Deschutes County from 2000 to 2017 come from national, state, and county-level vital statistics. Direct age-adjustment was used to calculate all rates using the population weights calculated from the 2000 U.S. Census. When comparing rates, the authors used 95% confidence intervals (95% CI) to estimate variability. The rates associated with 95% CI's that do not overlap between populations are considered significantly different at the $\alpha = 0.05$ level. Because suicide is statistically a rare event in an area with the size and population of Deschutes County, many findings reported in this report are meaningful, however may not be statistically significant. The authors chose to report these findings nonetheless when informative to prevention efforts and when they were consistent with statistically reliable state and national findings.

Findings related to the characteristics of the decedents and circumstances before the decedent's death come from the Oregon Violent Death Reporting System (OVDRS) 2000 to 2017 data file. The OVDRS is part of the National Violent Death Reporting System (NVDRS) administered by the Centers for Disease Control (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.¹¹ Data is abstracted and coded from a variety of sources including medical examiner and law enforcement reports, death certificates, and child fatality review reports to build this information system.

In this report, the OVDRS data are presented primarily in tabular format displaying counts and percentages indicated for each variable. Cells with counts of less than 5 are suppressed or combined with other more generalized variables when necessary in accordance with the "5 and 50" rule for reporting on small numbers in health information.¹² This was done in an effort to limit identifiability of the decedents and is noted in each table when applied. This section of analysis is primarily descriptive and therefore no specific statistical tests were used; however general comparisons between sexes and comparisons to state and national data were made. Further information on both the NVDRS and the OVDRS can be found at <https://www.cdc.gov/ViolencePrevention/NVDRS/>.

¹¹ Centers for Disease Control and Prevention. *National Violent Death Reporting System (NVDRS) Coding Manual Revised [Online] 2016*. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available from URL: www.cdc.gov/injury.

¹² Wasserman, C., and Ossiander, E. (2018). *Department of Health Agency Standards for Reporting Data with Small Numbers* (pp. 1-24)(United States, Washington State Department of health, Assessment Operations Group). WA.

Geo-spatial findings were calculated from the OVDRS 2003-2017 data file. Standardized Mortality Ratios (SMR) were estimated using direct age-adjustment to account for fewer deaths occurring in some age categories in regional communities compared to Deschutes County as a whole. As a result, the age-adjusted rates of death by suicide in this section are not comparable to rates published in the preceding sections using direct age-adjustment. 95% CI's were calculated and reported as an estimate of variability. The SMR's associated with 95% CI's that do not overlap between populations are considered statistically significantly different at the $\alpha = 0.05$ level. Communities outside of Bend and Redmond were combined due to concerns about estimate stability and the identifiability of decedents in smaller communities.

Aggregate totals of death by suicide differ in the OVDRS data compared to Vital Statistics Data between 2003 to 2017. This discrepancy is due primarily to the differing inclusion criteria used in both analyses. Vital statistics death counts are based on county of residence while the OVDRS death counts are based on a county in which the death occurred. The authors of the current report chose to use the same inclusion criteria for three reasons: 1) the decedent may have resided in Deschutes County for a significant period of time, but did not officially establish residency, 2) regardless of residency status their death inevitably affects the Deschutes County population and must be considered in terms of public health impact, and 3) the difference represents a total of 9 deaths over the entire report period.

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

Several variables were coded manually from the OVDRS data file including the decedent's normal occupation, select mental health diagnoses, and the substances that caused poisoning deaths. This strategy was chosen in favor of computer-guided word-matching due to the extreme variety of entry terms related to these variables in OVDRS. Occupational coding is based on the description of the decedents' normal occupation and field of industry on death certificates and was coded according to the Bureau of Labor Statistics Standard Occupational Categories.¹³ Mental health diagnoses coded as "other" with a corresponding text entry in the raw OVDRS data file were manually coded and placed into existing categories identified in the OVDRS data file where possible. Categories were created for additional mental health diagnoses that exceeded the reportable threshold identified by the "5 and 50" rule and were known to be associated with suicide i.e. borderline personality disorder. Substances that caused poisoning deaths were classified generally as prescription drugs, over-the-counter drugs, carbon monoxide, street/recreational drugs, or some other poison if they were identified as either the primary, secondary, tertiary, or quaternary cause of death. This categorization was chosen to maintain alignment

¹³ *Standard occupational classification manual*. (2018). Washington, DC: Executive Office of the President Office of Management and Budget.

with the Oregon Health Authority's published materials on suicide deaths caused by poisoning using OVDRS data.¹⁴

As a final note of caution, although the OVDRS collects a robust amount of information from multiple sources, that information may be inherently biased or contain omissions. There are numerous points of influence that may cause a lack of standardization. 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, omit, or provide inaccurate information in their reporting on circumstances related to the death or the characteristics of the decedent. Therefore, this report likely underestimates some circumstances related to each death or decedent characteristics. During the analysis conducted for this report, the authors of the current report compared the findings presented here with state and national findings from the NVDRS, OVDRS, and other data sources when appropriate for consistency with expected values.

¹⁴ Shen X, Millet L. *Suicides in Oregon: Trends and Associated Factors*. 2003-2012. Oregon Health Authority, Portland, Oregon.

ANALYTICAL FINDINGS

Prevalence and Incidence of Death by Suicide in Deschutes County

2000-2017, Oregon Public Health Assessment Tool

Between the years 2000 and 2017, 534 people died by suicide in Deschutes County (Table 1). In any given year, this represents approximately 0.02% of the Deschutes County population. The vast majority of suicide deaths occurred among men—about 76% (N=393). Deaths by men exceeded deaths by women every year of the report period, which is consistent with state and national trends.¹⁵ In 2017, on average, one person died by suicide every week in Deschutes County.

Table 1: Suicide Mortality by Sex, Deschutes County, OR 2000 - 2017

| <u>Year</u> | <u>Females</u> | <u>Males</u> | <u>Total</u> |
|-------------|----------------|--------------|--------------|
| 2000 | * | * | 13 |
| 2001 | * | * | 20 |
| 2002 | * | * | 24 |
| 2003 | 5 | 15 | 20 |
| 2004 | 7 | 17 | 24 |
| 2005 | * | * | 23 |
| 2006 | 8 | 19 | 27 |
| 2007 | 7 | 21 | 28 |
| 2008 | 11 | 24 | 35 |
| 2009 | 5 | 20 | 25 |
| 2010 | 8 | 32 | 40 |
| 2011 | 7 | 25 | 32 |
| 2012 | 9 | 25 | 34 |
| 2013 | 5 | 20 | 25 |
| 2014 | 8 | 32 | 40 |
| 2015 | 11 | 23 | 34 |
| 2016 | 9 | 24 | 33 |
| 2017 | 16 | 41 | 57 |
| | | Total | 534 |

Source: Oregon Public Health Assessment Tool

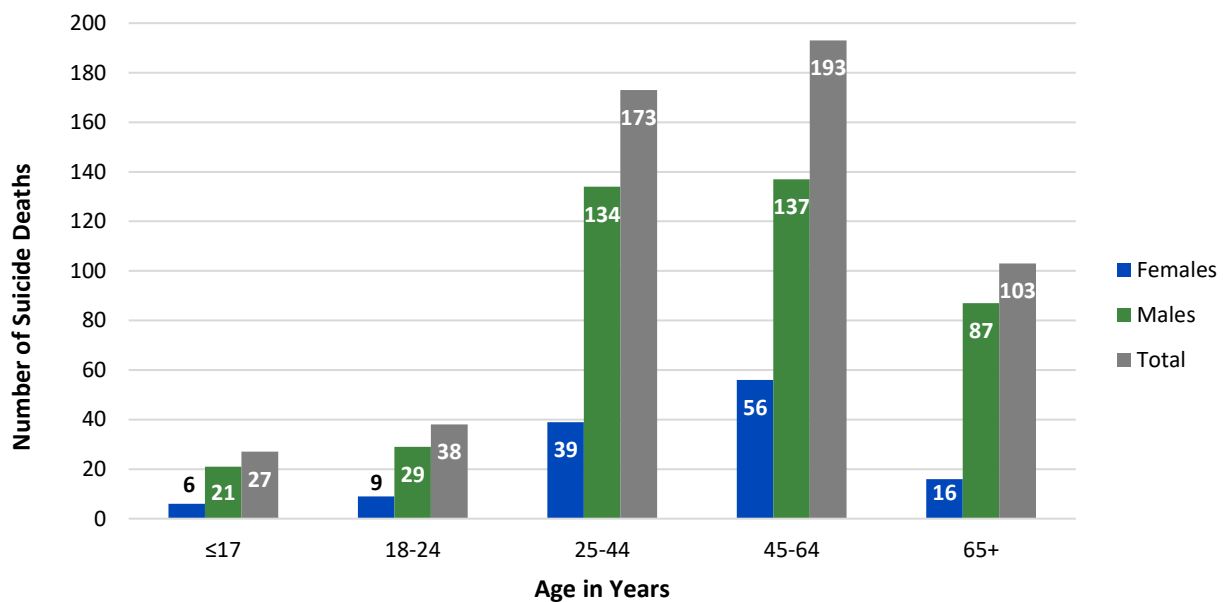
*Suppressed

¹⁵ Centers for Disease Control and Prevention. CDC Wonder. <http://wonder.cdc.gov/>. February 2020.

Graph 1 represents the number of suicides in Deschutes County, categorized by the sex of the individual. While age groups differed significantly, the proportions of deaths were consistent between the ages of 0-64. Proportions were calculated by the total number of deaths for each sex, divided by the number of total deaths per category. In each age category, females ranged between 21% to 29% of the total deaths, whereas males ranged between 71% to 79% of the total deaths.

Twenty-seven individuals 17 years of age and younger died by suicide during the reporting period (Graph 1). Thirty-eight young adults between the ages of 18 to 24 died by suicide during the study period. From 2000 to 2017 the majority of suicides (68.5%) occurred among adults ages 25-64 (N=366). The demographic with the highest number of suicide deaths occurred among men between the ages of 45-64, whom accounted for approximately 26% of all suicide deaths during the study period. These findings are consistent with the distribution of suicide among these ages and sex categories in Oregon and the United States.¹⁵

Graph 1: Suicide Deaths by Age and Sex, Deschutes County, OR, 2000-2017

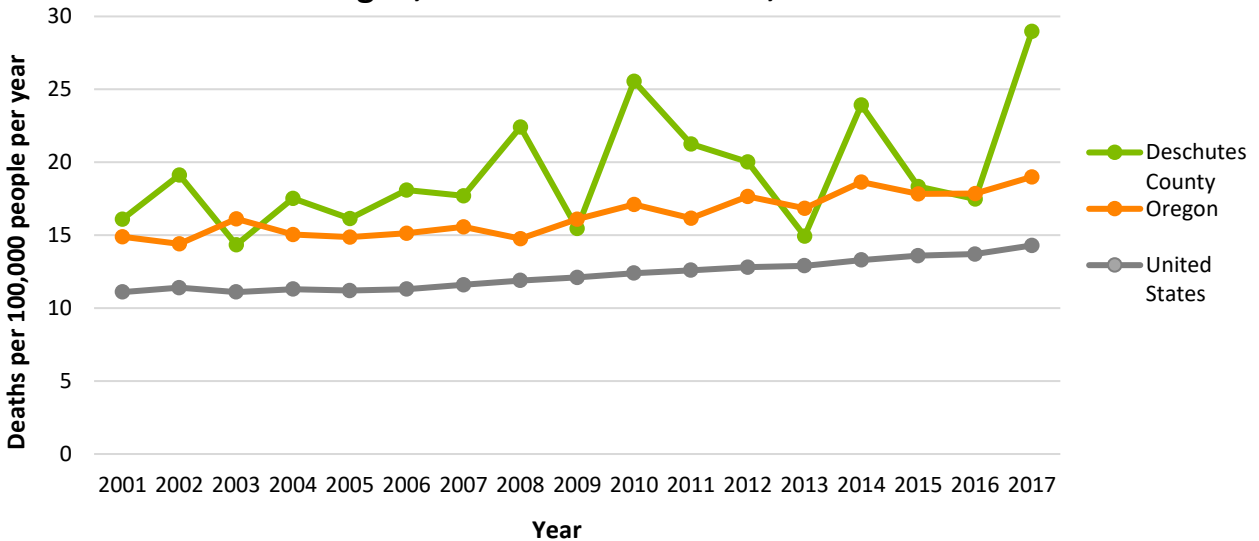


Data Source: Oregon Public Health Assessment Tool

Graph 2 compares the national, state and county rates of suicide by year. The United States had a significantly lower rate of suicide than both the state of Oregon and Deschutes County. The national trend increased from 2001 to 2017. Meanwhile, the rate of suicides in Oregon were higher than the national average for the entire report period. Overall, Deschutes County had higher suicide rates than the state of Oregon throughout the report period, with the exception of the years 2003, 2009 and 2013. Most notably, Deschutes County’s highest suicide rate occurred 11

in 2017; 29 deaths per 100,000 people.

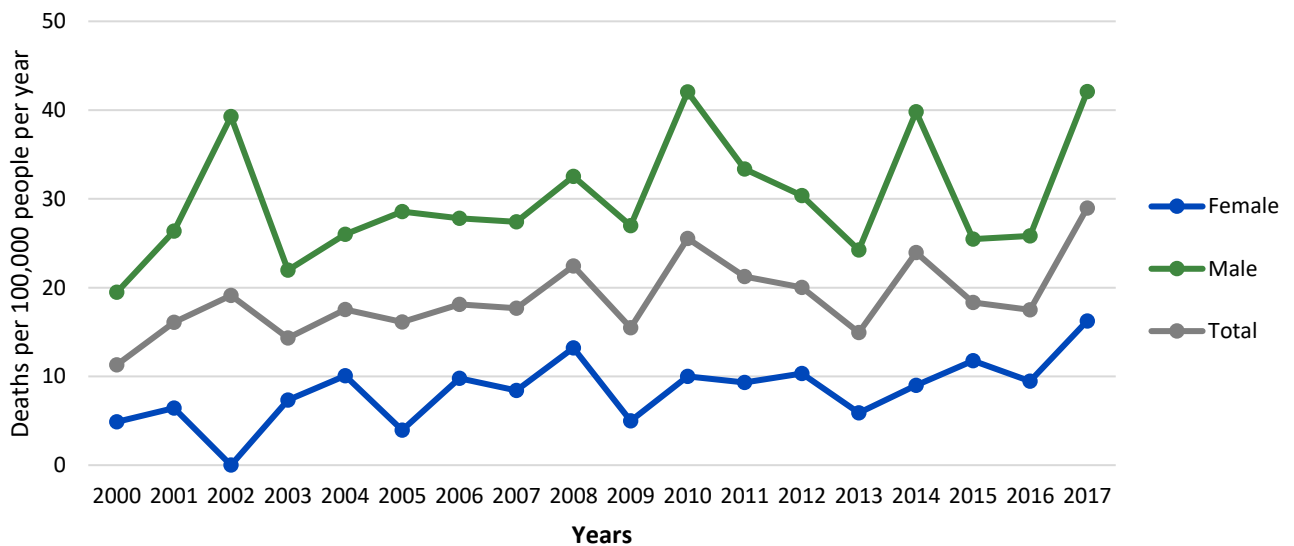
Graph 2: Age-Adjusted Suicide Rates in Deschutes County, Oregon, and the United States, 2001-2017



Data Source: Oregon Public Health Assessment Tool

Graph 3 compares Deschutes County’s age-adjusted suicide rates by sex and year. Deschutes County males had a significantly higher age-adjusted suicide rate than females during the entire report period. Rates for both sexes in Deschutes County increased from 2000 to 2017. The highest age-adjusted suicide rate for Deschutes County males was 42.1 deaths per 100,000 people in 2017. The highest age-adjusted suicide rate for Deschutes County females was 16.3 deaths per 100,000 people in 2017. The highest age-adjusted suicide rate overall in Deschutes County was 29.0 deaths per 100,000 people in 2017.

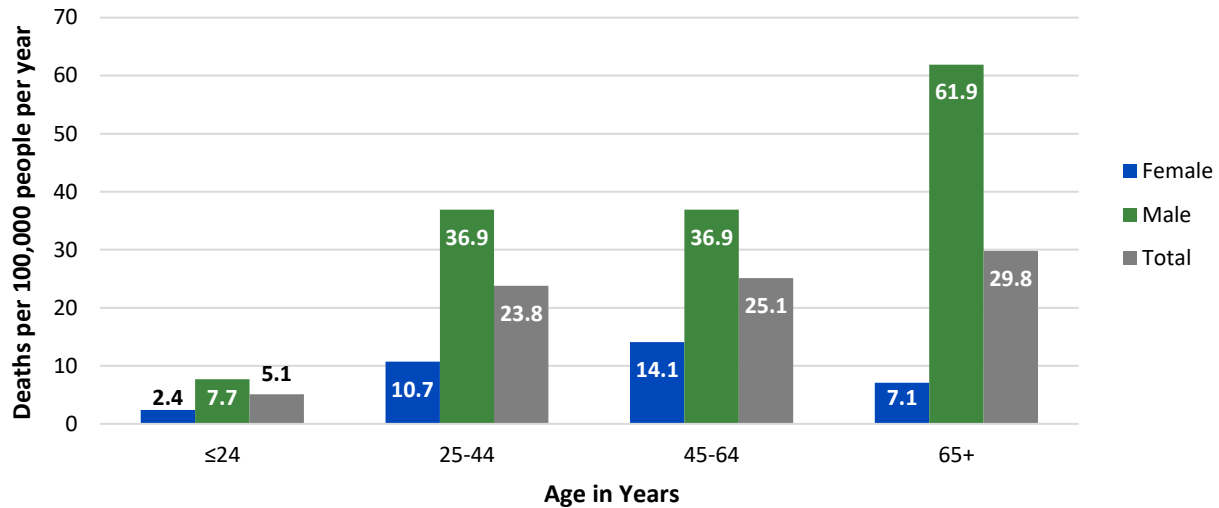
Graph 3: Age-Adjusted Suicide Rate by Sex, Deschutes County, OR, 2000-2017



Data Source: Oregon Public Health Assessment Tool

Graph 4 compares the suicide rate by sex and age in Deschutes County. The suicide rate amongst males increased as they aged. The lowest male suicide rate of 7.7 deaths per 100,000 people occurred in those aged 24 years and younger while the highest male suicide rate of 61.9 deaths per 100,000 people occurred in those aged 65 years and older. The suicide rate amongst females increased up to the 45-64 age range—14.1 deaths per 100,000 people. The lowest female suicide rate in Deschutes County occurred in those aged 24 years and younger with 2.4 deaths per 100,000 people.

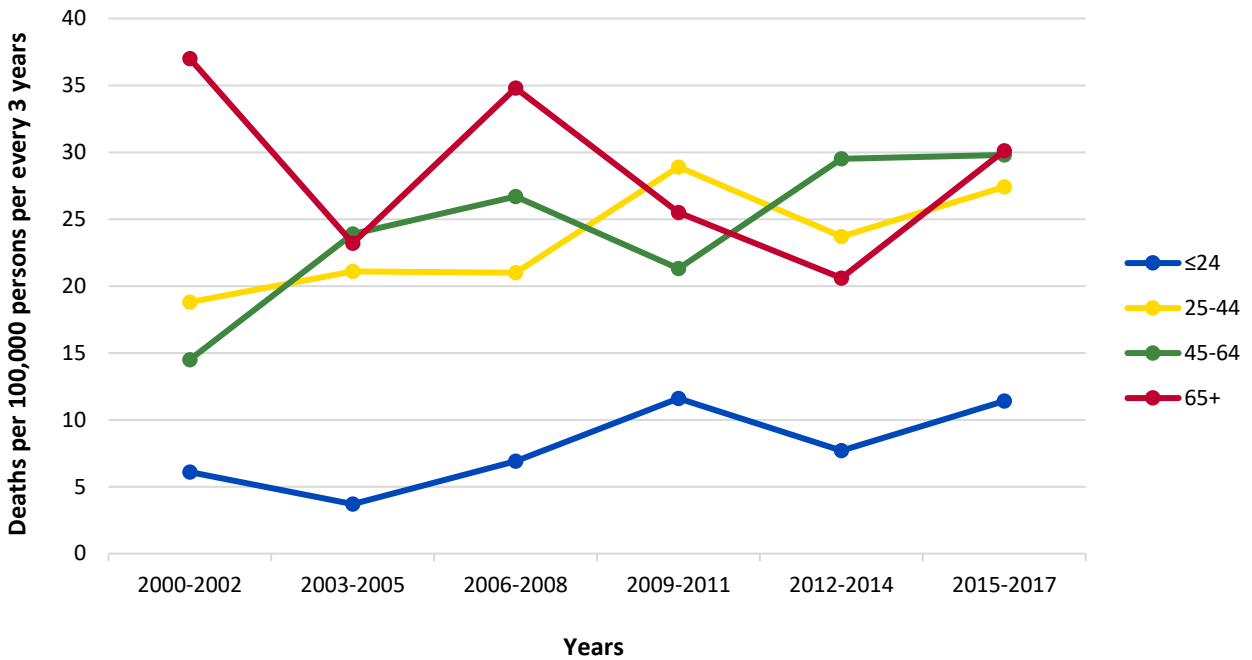
Graph 4: Suicide Rate by Sex and Age, Deschutes County, OR, 2000-2017



Data Source: Oregon Public Health Assessment Tool

Graph 5 compares the suicide rate by age in 3-year increments in Deschutes County. The suicide rate amongst decedents 24 years of age and younger nearly doubled in the report period; from 6.1 deaths per 100,000 people every three years during the 2000-2002 time period to 11.4 deaths per 100,000 people every three years during the 2015-2017 time period. The suicide rate amongst decedents 45-64 years of age also nearly doubled during the report period; from 14.5 deaths per 100,000 people every three years during the 2000-2002 time period to 29.8 deaths per 100,000 people every three years during the 2015-2017 time period. The suicide rate amongst individuals 25-44 years of age increased from 18.8 deaths per 100,000 people every three years during the 2000-2002 time period to 27.4 deaths per 100,000 people every three years during the 2015-2017 time period. Lastly, the suicide rate amongst decedents 65 years of age and older decreased in the report period; from 37.0 deaths per 100,000 people every three years during the 2000-2002 time period to 30.1 deaths per 100,000 people every three years during the 2015-2017 time period.

Graph 5: Suicide Death Rate by Age, Deschutes County, OR, 2000-2017



Data Source: Oregon Public Health Assessment Tool

Circumstances and Characteristics of Suicide in Deschutes County

2003-2017, Oregon Violent Death Reporting System

Demographic Characteristics

Table 2 displays the demographic characteristics of suicide decedents in Deschutes County. Age, level of education, marital status, veteran status and homelessness status were examined at the time of death. Most individuals that died by suicide were reported to be between the ages of 45-64 (N=190). Overall the characteristics associated with higher number of suicide deaths included those with a Bachelor's Degree or Greater (N=250) and those who were married, in a civil union, or in a domestic partnership (N=174). Decedents with a Veteran status accounted for 103 of the total suicide deaths. Decedents who experienced homelessness at the time of death accounted for 8 suicide deaths. Data for select

populations, including Veterans and specific age groups, can be found in the Appendix under *Tables for Select Populations*.

Table 2: Demographic Characteristics of Suicide Decedents, Deschutes County, OR 2003-2017

| | Females (N=132) | | Males (N=393) | | Total (N=525) | |
|--|--------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Age | | | | | | |
| ≤ 17 | * | * | * | * | 28 | 5.3 |
| 18 - 24 | 12 | 9.1 | 31 | 7.9 | 43 | 8.2 |
| 25 – 44 | 43 | 32.6 | 129 | 32.8 | 172 | 32.8 |
| 45 – 64 | 56 | 42.4 | 134 | 34.1 | 190 | 36.2 |
| ≥ 65 | 15 | 11.4 | 77 | 20.0 | 92 | 17.5 |
| Education | | | | | | |
| Less than High School | 6 | 4.5 | 52 | 13.2 | 58 | 11.0 |
| High School or GED | 0 | 0 | 122 | 31.4 | 122 | 23.2 |
| Some College or Associate’s Degree | 0 | 0 | 101 | 26.0 | 101 | 19.2 |
| Bachelor’s Degree or Greater | 126 | 95.5 | 118 | 30.0 | 244 | 46.5 |
| Marital Status | | | | | | |
| Married/Civil Union/Domestic Partnership | 47 | 35.6 | 127 | 32.3 | 174 | 33.1 |
| Never Married | 34 | 25.6 | 132 | 33.6 | 166 | 31.6 |
| Widowed | 11 | 8.3 | 27 | 6.9 | 38 | 7.2 |
| Divorced | 39 | 29.5 | 101 | 26.0 | 140 | 26.7 |
| Other/Unknown | * | * | * | * | 7 | 1.3 |
| Veteran Status | | | | | | |
| | * | * | * | * | 103 | 19.7 |
| Homeless | | | | | | |
| | * | * | * | * | 8 | 1.5 |

Data Source: Oregon Violent Death Reporting System

**Suppressed*

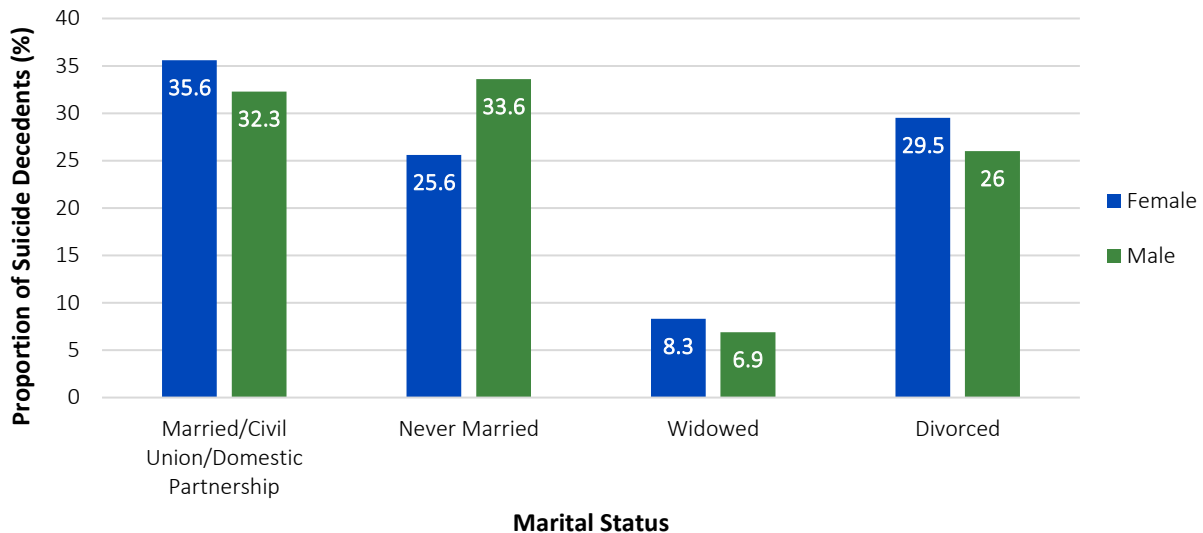
Education Status

The majority female decedents (N=126, 95.5%) had a Bachelor’s Degree or Greater during the report period. Among males, those with a high school diploma or GED had the highest proportion of suicide deaths (N=122, 31%), followed by a Bachelor’s Degree or Greater, (N=118, 30%), Some College or Associate’s Degree (N=101, 26%), and Less than High School (N=52, 13%).

Marital Status

Most females who died by suicide were married at the time of death (N=47). Married females accounted for approximately 36% of the total female deaths by suicide. This was followed by divorced (N=39, 30%), never married (N=34, 26%), and widowed (N=11, 8%). Most males in this category were never married, accounting for approximately 34% of the deaths (N=132). This was followed with males who were married (N=127, 32%), divorced (N=101, 26%), and widowed (N=27, 7%). Graph 6 displays marital status by sex for suicide decedents.

Graph 6: Marital Status of Suicide Decedents by Sex, Deschutes County, OR, 2003-2017



Data Source: Oregon Violent Death Reporting System

Mental Health and Substance Abuse

Table 3 describes circumstances related to mental health and substance abuse among suicide decedents in Deschutes County. Approximately 43% (N=228) of all decedents had a mental health problem, meaning they were diagnosed or demonstrated unambiguous evidence of a diagnosable mental illness and/or substance abuse disorder preceding their death, (“Mental Health Problem”, Table 3). Disparities between female and male decedents with a mental health problem exist—the proportion of female decedents with that had a mental health problem was 40% greater than male decedents with a mental health problem (62.1% vs 37.2%). It should be noted, however, that this observed disparity may not represent a full picture of reality, as there could certainly be an underdiagnoses and differential expression of mental illness in men.^{16,17}

Approximately 43% (N=228) of all decedents had a depressed mood at the time of death, meaning that the decedent was perceived by self or others to be depressed at the time of death. The proportion of female decedents who had a depressed mood at the time of death was 47.7% (N=63) and the

¹⁶ Martin, L. A., Neighbors, H. W., and Griffith, D. M. (2013). The Experience of Symptoms of Depression in Men vs Women. *JAMA Psychiatry*, 70(10), 1100.

¹⁷ Nadeau, M. M., Balsan, M. J., and Rochlen, A. B. (2016). Men’s depression: Endorsed experiences and expressions. *Psychology of Men and Masculinity*, 17(4), 328-335.

proportion of male decedents was 42% (N=165). As stated before, the proportions may be underreported as there could be underdiagnoses and a differential expression of a depressed mood in men.^{16,17}

Nearly one-third of all suicide decedents were engaged in current mental illness treatment at the time of death (N=179, 34.1%). The proportion of female decedents who were engaged in mental illness treatment at the time of death was 86% greater than males (52.2% vs 28.0%). Decedents with a history of mental illness treatment prior to death were similar to ‘Current Mental Illness Treatment’ proportions.

One-third of all suicide decedents had a problem with any substance at the time of death, (N=175, 33.3%); the proportion of females and males was similar, 34.1% (N=45) and 33.1% (N=130) respectively. Nearly one-quarter of all suicide decedents had a problem with alcohol, meaning the decedent had an alcohol dependence or alcohol problem (N=137, 26.1%); the proportion of females and males was similar, 24.2% (N=32) and 26.7% (N=105) respectively. 16.4% of decedents had a problem with a substance other than alcohol (“Problem with Another Substance”), (N=86).

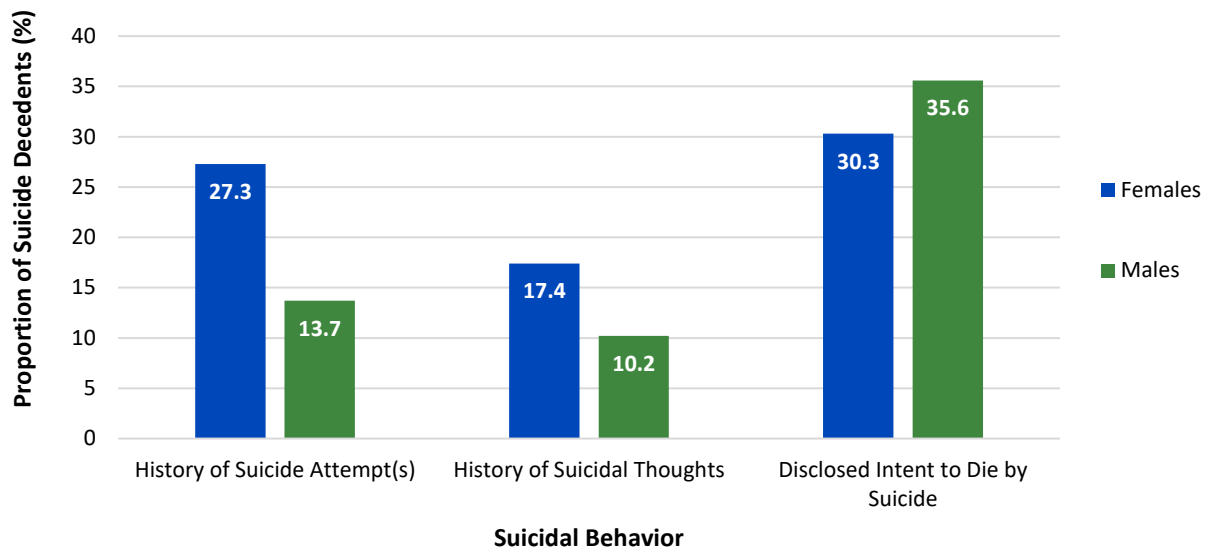
Disparities exist between females and males regarding suicide related behaviors prior to death. The proportion of females with a history of suicide attempt was 99% greater than the proportion of males with a history of suicide attempt (27.3% vs 13.7%). The proportion of females with a history of suicidal thoughts was 71% greater than the proportion of males with a history of suicidal thoughts (17.4% vs 10.2%). Graph 7 displays suicide behaviors of decedents by sex.

Table 3: Circumstances Related to Mental Health and Substance Abuse among Suicide Decedents, Deschutes County, OR 2003-2017

| | Females (N=132) | | Males (N=393) | | Total (N=525) | |
|--|--------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Mental Health Status | | | | | | |
| Mental Health Problem | 82 | 62.1 | 146 | 37.2 | 228 | 43.4 |
| Depressed Mood at Time of Death | 63 | 47.7 | 165 | 42.0 | 228 | 43.4 |
| Current Mental Illness Treatment | 69 | 52.2 | 110 | 28.0 | 179 | 34.1 |
| History of Mental Illness Treatment (including current treatment) | 78 | 59.1 | 123 | 31.3 | 201 | 38.3 |
| Substance Abuse | | | | | | |
| Problem with Any Substance | 45 | 34.1 | 130 | 33.1 | 175 | 33.3 |
| Problem with Alcohol | 32 | 24.2 | 105 | 26.7 | 137 | 26.1 |
| Problem with Another Substance | 20 | 15.2 | 66 | 16.8 | 86 | 16.4 |
| Suicidal Behaviors | | | | | | |
| History of Suicide Attempt(s) | 36 | 27.3 | 54 | 13.7 | 90 | 17.1 |
| History of Suicidal Thoughts | 23 | 17.4 | 40 | 10.2 | 63 | 12.0 |
| Disclosed Intent to Die by Suicide | 40 | 30.3 | 140 | 35.6 | 180 | 34.3 |

Data Source: Oregon Violent Death Reporting System

Graph 7: Suicidal Behaviors of Decedents by Sex, Deschutes County, OR, 2003-2017



Data Source: Oregon Violent Death Reporting System

Mental Health Diagnoses among Decedents with a Mental Health Problem

Table 4 shows mental health diagnoses among suicide decedents with a known mental health problem (N=228). Among the decedents with a known mental health problem, depression, anxiety, and bipolar disorder were the most common diagnoses. Approximately 4 out of 5 people with a mental health problem were diagnosed with major depression or dysthymia (persistent, mild depression for two years or more) at some time in their life. The proportion of females with a history of depression was 97% greater than the proportion of males with a history of depression (91.5% vs 76%). Both females and males experienced an anxiety disorder at similar proportions, 12.2% and 13.7% respectively. The proportion of females with a history of bipolar disorder was 131% greater than the proportion of males with a history of bipolar disorder (26.8% vs 11.6%). Graph 8 displays mental health diagnoses data among suicide decedents with a known mental health problem.

Approximately one-third of decedents with a known mental health problem also experienced a problem with a substance of any kind (N=83, 36.4%). Both females and males experienced a substance problem at similar proportions, 34.1% and 37.7% respectively. Nearly a quarter of all decedents with a known mental health problem had a problem with alcohol, meaning the decedent had an alcohol dependence or alcohol problem (N=61, 26.8%). The proportion of male decedents with a known mental health problem who also had a problem with alcohol was 22% greater than the proportion female decedents with a known mental health problem who also had a problem with alcohol (28.2% vs 23.2%). One out of five decedents with a known mental health problem also experienced a problem with a substance other than alcohol (N=47, 20.6%).

Nearly 3 out of 4 decedents with a known mental health problem were engaged in mental illness treatment at the time of death (N=178, 78.1%). A higher proportion of females with a known mental health problem were engaged in treatment when compared to the proportion of males, 84.1% and

74.7% respectively. A vast majority of decedents with a known mental health problem had a history of mental illness treatment, 86% (N=178).

Table 4: Mental Health Diagnoses Among Suicide Decedents with a Known Mental Health Problem, Deschutes County, OR 2003-2017**

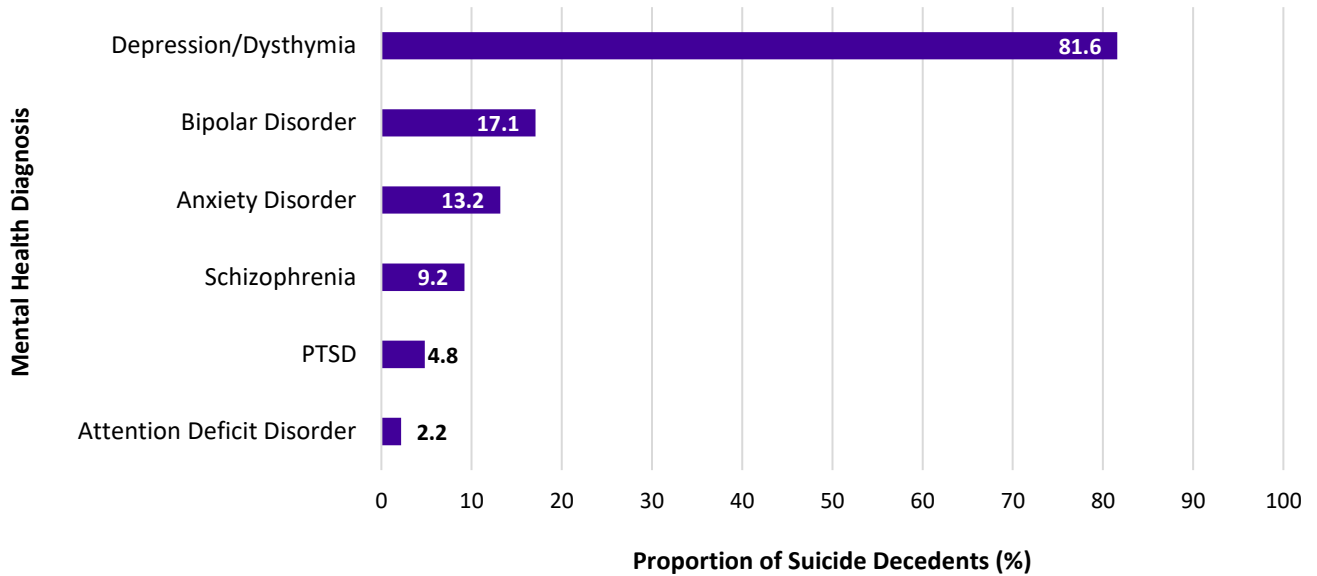
| | Females (N=82) | | Males (N=146) | | Total (N=228) | |
|--|-------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Mental Health Diagnosis | | | | | | |
| Depression/Dysthymia | 75 | 91.5 | 111 | 76.0 | 186 | 81.6 |
| Anxiety Disorder | 10 | 12.2 | 20 | 13.7 | 30 | 13.2 |
| Bipolar Disorder | 22 | 26.8 | 17 | 11.6 | 39 | 17.1 |
| Post-Traumatic Stress Disorder | * | * | * | * | 11 | 4.8 |
| Schizophrenia | * | * | * | * | 21 | 9.2 |
| Attention Deficit Disorder | * | * | * | * | 5 | 2.2 |
| Substance Abuse | | | | | | |
| Problem with Any Substance | 28 | 34.1 | 55 | 37.7 | 83 | 36.4 |
| Problem with Alcohol | 19 | 23.2 | 42 | 28.2 | 61 | 26.8 |
| Problem with Another Substance | 15 | 18.3 | 32 | 21.9 | 47 | 20.6 |
| Mental Health Treatment | | | | | | |
| Current Mental Illness Treatment | 69 | 84.1 | 109 | 74.7 | 178 | 78.1 |
| History of Mental Illness Treatment (including current treatment) | 75 | 91.5 | 121 | 82.9 | 196 | 86.0 |

Data Source: Oregon Violent Death Reporting System

**Suppressed*

*(**Note: Percentage may exceed 100% because some decedents may have multiple diagnoses)*

Graph 8: Mental Health Diagnosis among Suicide Decedents with a Known Mental Health Problem, Deschutes County, OR, 2003-2017



Data Source: Oregon Violent Death Reporting System

Interpersonal Problems and Life Stressors

As stated previously in this report—no single thing causes a person to take their life. There are various research-verified circumstances that can contribute to a person dying by suicide; some of which are displayed in Table 5.

The interpersonal relationship problem that affected the most Deschutes County suicide decedents was an intimate partner problem (N=161, 30.7%); meaning that problems with a current or former intimate partner appear to have contributed to the death. The proportion of male suicide decedents who experienced an intimate partner problem that contributed to the death is 20% more than the proportion of female decedents (32.3% vs 25.8%). “Other Relationship Problems” contributed to 12.2% of suicide deaths in Deschutes County (N=64); meaning that problems with a friend or associate, other than an intimate partner or family member, appear to have contributed to the death. According to the National Violent Death Reporting System, prior to 2013, this category included family members; therefore, a significant portion of this category should be noted to possibly include family members.

The life stressor that affected the most Deschutes County suicide decedents was a financial problem (N=193, 36.8%); meaning financial problems appear to have contributed to the death. The proportion of female suicide decedents who experienced a financial problem that contributed to the death is 21% more than proportion of male decedents (42.4% vs 34.9%). Nearly 1 in 5 decedents (N=102, 19.4%) experienced a physical health problem, meaning a physical health problem appears to have contributed

to the death. The proportion of female decedents who experienced a physical health problem that contributed to the death was 24% more than the proportion male decedents (22.7% vs 18.3%).

Graph 9 and Graph 10 display characteristics related to interpersonal relationship problems and life stressors respectively.

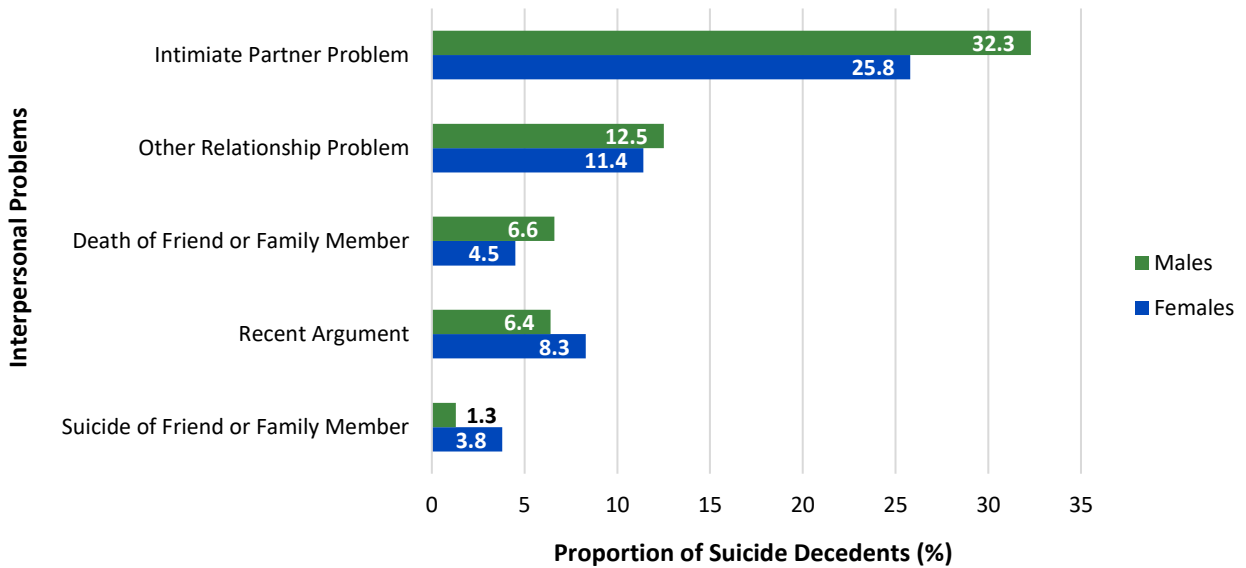
Table 5: Interpersonal Problems and Life Stressors among Suicide Decedents, Deschutes County, OR 2003-2017

| | Females (N=132) | | Males (N=393) | | Total (N=525) | |
|---|--------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Interpersonal Relationship Problem | | | | | | |
| Intimate Partner Problem | 34 | 25.8 | 127 | 32.3 | 161 | 30.7 |
| Other Relationship Problem | 15 | 11.4 | 49 | 12.5 | 64 | 12.2 |
| Death of Friend or Family Member (within the past 5 years) | 6 | 4.5 | 26 | 6.6 | 32 | 6.1 |
| Recent Argument | 11 | 8.3 | 25 | 6.4 | 36 | 6.9 |
| Interpersonal Violence Perpetrator | * | * | * | * | 21 | 4.0 |
| Death by Suicide of a Friend or Family member (within the past 5 years) | 5 | 3.8 | 5 | 1.3 | 10 | 1.9 |
| Life Stressors | | | | | | |
| Financial Problem | 56 | 42.4 | 137 | 34.9 | 193 | 36.8 |
| Physical Health Problem | 30 | 22.7 | 72 | 18.3 | 102 | 19.4 |
| Job Problem/Lost Job | 18 | 13.3 | 62 | 15.8 | 80 | 15.2 |
| Criminal Legal Problem | 12 | 9.1 | 42 | 10.7 | 54 | 10.3 |
| Other Legal Problem | 7 | 5.3 | 21 | 5.3 | 28 | 5.3 |
| Eviction or Loss of Home | * | * | * | * | 22 | 4.2 |
| School Problem | * | * | * | * | 11 | 2.1 |

Data Source: Oregon Violent Death Reporting System

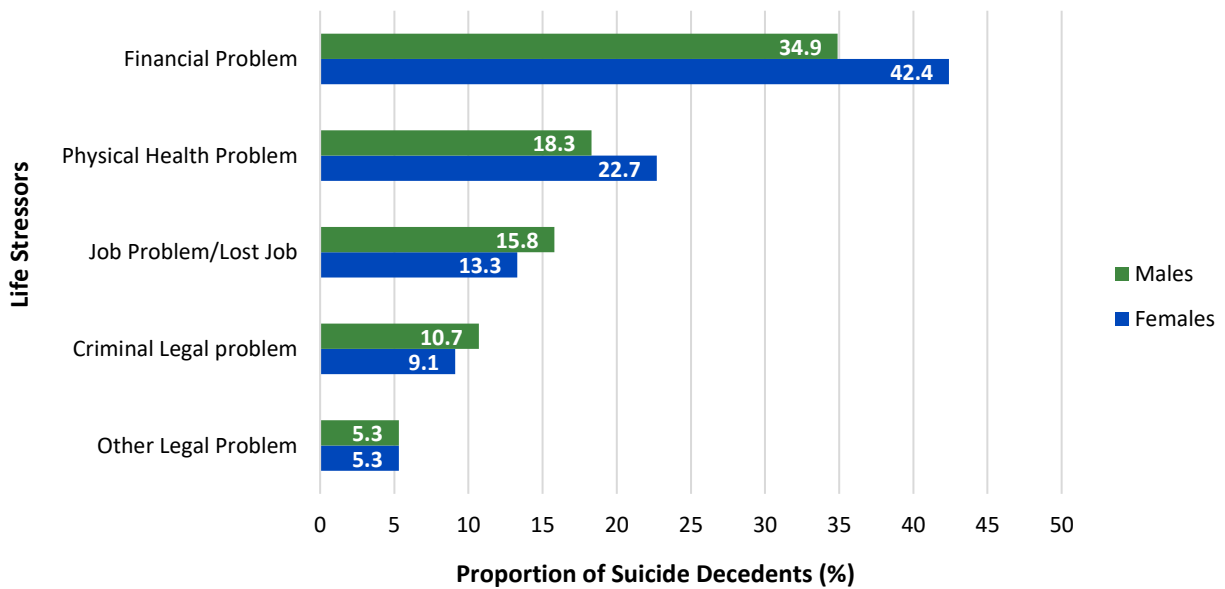
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Graph 9: Interpersonal Problems among Suicide Decedents by Sex, Deschutes County, OR, 2003-2017



Data Source: Oregon Violent Death Reporting System

Graph 10: Life Stressors among Suicide Decedents by Sex, Deschutes County, OR, 2003-2017



Data Source: Oregon Violent Death Reporting System

Mechanism of Death

Table 6 shows the mechanism of death decedents used to die by suicide in Deschutes County. Lethal means varied, however over half of all decedents used a firearm to die by suicide (N=298, 56.8%). Disparities in mechanism of death between female and male decedents exist and vary greatly. Male decedents were 66% more likely to die by firearm when compared to female decedents (63.1% vs 37.9%). Further, male decedents were 408% more likely than female decedents to die by fall/jumping (22.9% vs 4.5%). Female decedents were 130% more likely to die by poisoning when compared to male decedents (33.3% vs 14.5%); and female decedents were 31% more likely to die by hanging than male decedents (19.7% vs 15.0%). Graph 11 and Graph 12 display data related to mechanism of death.

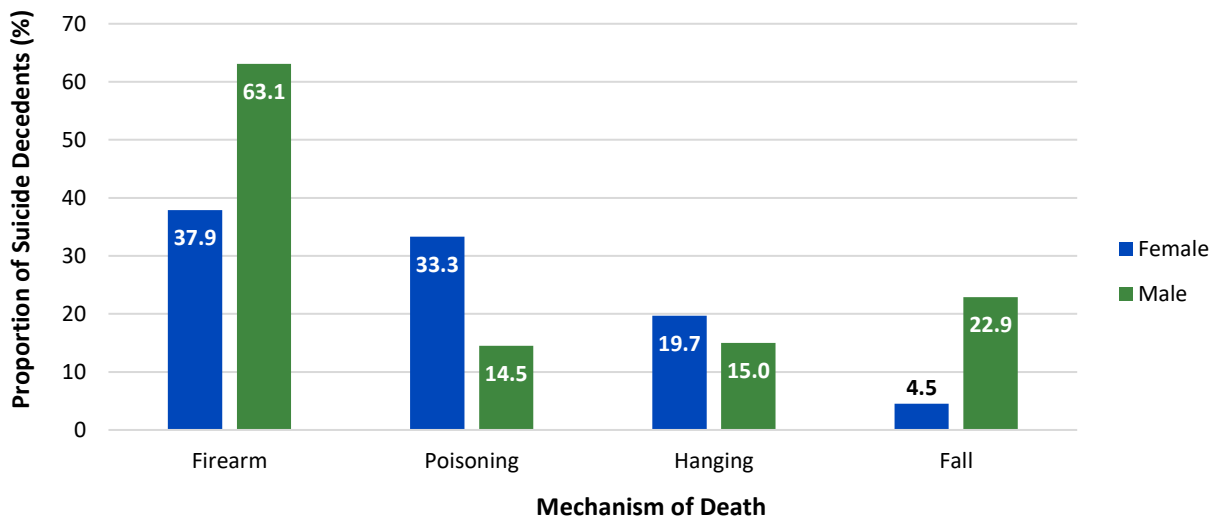
Table 6: Mechanism of Death among Suicide Decedents, Deschutes County, OR 2003-2017

| Mechanism of Death | Females (N=132) | | Males (N=393) | | Total (N=525) | |
|---|--------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Firearm | 50 | 37.9 | 248 | 63.1 | 298 | 56.8 |
| Sharp Instrument | * | * | * | * | 12 | 2.3 |
| Poisoning (Including Overdose) | 44 | 33.3 | 57 | 14.5 | 101 | 19.2 |
| Hanging/Strangulation/Suffocation | 26 | 19.7 | 59 | 15.0 | 85 | 16.2 |
| Fall | 6 | 4.5 | 9 | 22.9 | 15 | 2.9 |
| Motor Vehicle (including buses, motorcycles, cars and trains) | * | * | * | * | 5 | 1.0 |

Data Source: Oregon Violent Death Reporting System

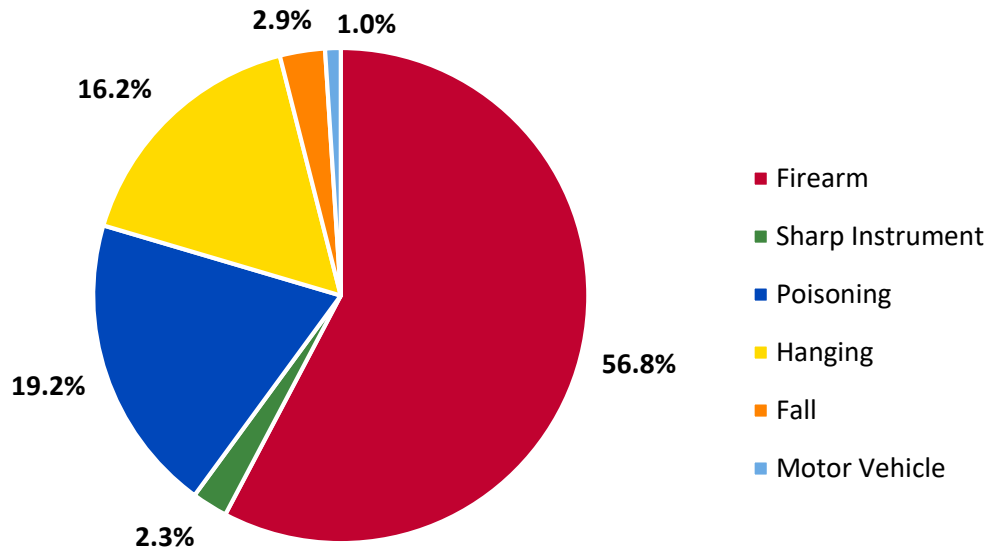
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Graph 11: Mechanism of Death among Suicide Decedents by Sex, Deschutes County, OR, 2003-2017



Data Source: Oregon Violent Death Reporting System

Graph 12: Mechanism of Death among Suicide Decedents, Deschutes County, OR, 2003-2017



Data Source: Oregon Violent Death Reporting System

Substances Causing Poisoning Death

There were 101 total deaths by poisoning in Deschutes County between 2003-2017 (Table 7). Poisoning can be in the form of a substance or gas. Among suicide decedents that died by poisoning, prescription drugs were the most-used poison (N=57, 56.4%). This was followed by carbon monoxide poisoning (N=24, 23.8%). Of the decedents that died by poisoning, more males died by carbon monoxide than females while more females died by prescription drugs than males.

Table 7: Substance Causing Poisoning Death by Sex, Deschutes County, OR 2003-2017**

| Substance | Females (N=44) | | Males (N=57) | | Total (N=101) | |
|--------------------------|-------------------|------|-----------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Carbon Monoxide | 7 | 15.9 | 17 | 29.8 | 24 | 23.8 |
| Over-the-Counter Drug | * | * | * | * | 5 | 5.0 |
| Prescription Drug | 32 | 72.7 | 25 | 43.9 | 57 | 56.4 |
| Street/Recreational Drug | * | * | * | * | 5 | 5.0 |
| Other Poison | * | * | * | * | 12 | 11.9 |

Data Source: Oregon Violent Death Reporting System

*Suppressed

(**Note: Percentage may exceed 100% because multiple substances may have contributed to death)

Toxicology Results

Toxicology information aids in understanding the role of alcohol, illegal drugs, and prescription drugs in suicide deaths. Toxicology results are not available for every decedent in this report as not every decedent is tested for substances in their body at the time of death. Further, when a toxicology test is administered for a decedent, the decedent may only be tested for handful of substances, rather than all substances listed in Table 8. Toxicology testing varies greatly and therefore findings in Table 8 are representative of only those decedents for whom results are available and should not be interpreted as representative of all decedents in the report period.

Every decedent in the report period was evaluated for suspected alcohol use, meaning that law enforcement and/or a medical examiner suspect the decedent used alcohol in the hours preceding the death. Of all the suicide decedents, 28.2% (N=148) were suspected of alcohol use in the hours preceding death. Of all the decedents in the report period, 153 decedents were tested for alcohol presence in the body at time of death and 49.7% (N=76) of those individuals tested positive for alcohol. Of all the decedents in the report period, 66 decedents were tested for opiates and 31.8% (N=21) of those individuals tested positive for opiates. Remaining toxicology results are displayed in Table 8.

Table 8: Toxicology Results among Suicide Decedents, Deschutes County, OR 2003-2017**

| Substance | Females (N=variable dependent) | | Males (N= variable dependent) | | Total (N= variable dependent) | |
|---------------------------------|--------------------------------------|------|-------------------------------------|------|-------------------------------------|------|
| | Count | % | Count | % | Count | % |
| Alcohol Use Suspected (N = 525) | 34 | 25.8 | 114 | 29.0 | 148 | 28.2 |
| Alcohol Result (N = 153) | 18 | 40.9 | 58 | 53.2 | 76 | 49.7 |
| Amphetamine (N = 48) | * | * | * | * | 12 | 25.0 |
| Antidepressant (N = 70) | 17 | 68.0 | 16 | 35.6 | 33 | 47.1 |
| Benzodiazepines (N = 32) | * | * | * | * | 11 | 34.4 |
| Cannabis (N = 65) | * | * | * | * | 12 | 18.5 |
| Muscle Relaxant (N = 30) | * | * | * | * | 7 | 23.3 |
| Opiate (N = 66) | 10 | 43.5 | 11 | 25.6 | 21 | 31.8 |

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 of Decedents

It is vital to note that deaths by suicide not only affect family members and other loved ones, but also co-workers and organizations with which decedents were employed. In a study conducted by the Centers for Disease Control and Prevention, researchers found that nationally, persons working in farming, fishing, and forestry had the highest rate of suicide in the United States.¹⁸

Occupations of suicide decedents are displayed in Table 9. During the report period, occupations among decedents vary greatly. Nearly a quarter (24.5%, N=129) of all decedents were not actively participating in the workforce at the time of death (“Not Currently in Workforce”); this includes individuals that were retired, unemployed, or a homemaker. The occupation with the highest number of suicide decedents was “Construction” (12.4%, N=65), followed by ‘Sales and Related’ (8.0%, N=42), and “Production” (5.5%, N=29). Meaning that nearly every 1 in 8 decedents worked in the construction industry, every 1 in 12 decedents worked in the sales industry, and every 1 in 18 decedents worked in the production industry.

¹⁸ McIntosh WL, Spies E, Stone DM, Lokey CN, Trudeau AT, Bartholow B. Suicide Rates by Occupational Group — 17 States, 2012. *MMWR Morbidity and Mortality Weekly*. 2016;65:641-645.

Table 9: Normal Occupations among Suicide Decedents, Deschutes County, 2003-2017

| Occupation | Total (N = 525) | |
|--|-----------------|------|
| | Count | % |
| Construction | 65 | 12.4 |
| Sales and Related | 42 | 8.0 |
| Production | 29 | 5.5 |
| Healthcare Practitioners and Technical Support | 27 | 5.1 |
| Food Preparation and Serving Related | 23 | 4.4 |
| Office and Administrative Support | 23 | 4.4 |
| Transportation and Material Moving | 23 | 4.4 |
| Building and Grounds Cleaning and Maintenance | 21 | 4.0 |
| Installation, Maintenance, and Repair | 20 | 3.8 |
| Arts, Design, Entertainment, Sports, and Media | 17 | 3.3 |
| Business and Financial Operations | 14 | 2.3 |
| Personal Care and Service | 12 | 2.3 |
| Computer and Mathematical | 11 | 2.1 |
| Architecture and Engineering | 11 | 2.1 |
| Community and Social Service | 10 | 1.9 |
| Farming, Fishing, and Forestry | 10 | 1.9 |
| Protective Service | 7 | 1.3 |
| Educational Instruction and Library | 7 | 1.3 |
| Life, Physical, and Social Science | 6 | 1.1 |
| Military Specific | 6 | 1.1 |
| Not Currently in Workforce | 129 | 24.5 |
| Other & Unknown | 12 | 2.3 |

Data Source: Oregon Violent Death Reporting System

Place of Death

Table 10 displays the locations with which suicide deaths occurred. A vast majority of suicide deaths during the report period occurred in decedents' homes (68.2%, N=358), demonstrating the critical need for family, friends, and loved ones of those at risk for suicide to be aware of suicide warning signs and how to effectively intervene and refer the person at risk to appropriate resources. Nearly every 1 in 10 suicide deaths occurred in a natural area (9.7%, N=48), which include fields, beaches, rivers, or woods. Roughly every 1 in 17 deaths occurred on a street, road, or highway during the report period. Graph 13 displays place of death data during the report period.

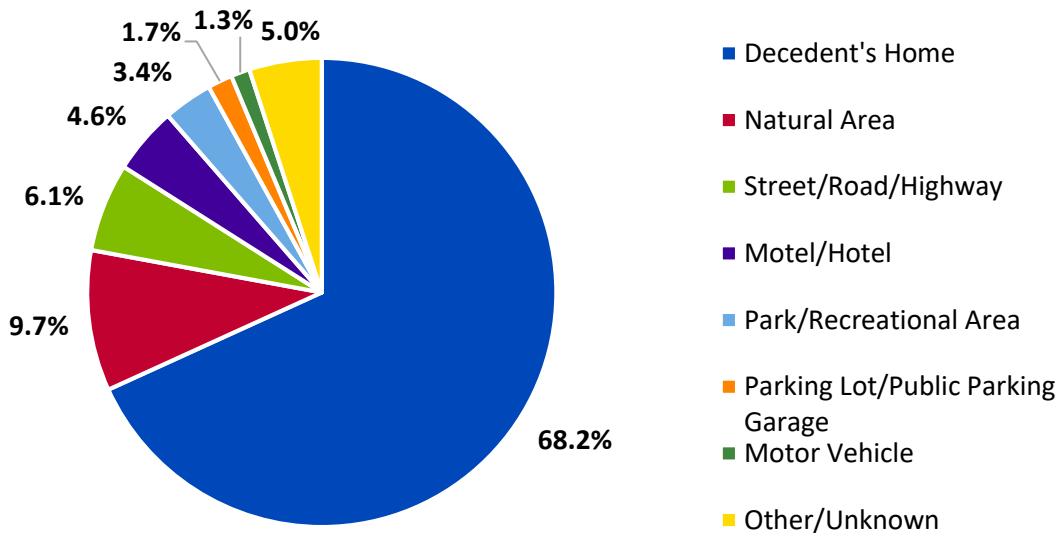
Table 10: Place of Death, Deschutes County, OR 2003-2017

| Location | Females (N=131) | | Males (N= 391) | | Total (N= 525) | |
|-----------------------------------|--------------------|------|-------------------|-----|-------------------|------|
| | Count | % | Count | % | Count | % |
| Decedent's Home | 92 | 70.2 | 266 | 68 | 358 | 68.2 |
| Natural Area | 15 | 11.5 | 33 | 8.4 | 48 | 9.7 |
| Street/Road/Highway | 6 | 4.6 | 26 | 6.6 | 32 | 6.1 |
| Motel/Hotel | 7 | 5.3 | 17 | 4.3 | 24 | 4.6 |
| Park/Recreational Area | * | * | * | * | 18 | 3.4 |
| Parking Lot/Public Parking Garage | * | * | * | * | 9 | 1.7 |
| Motor Vehicle | * | * | * | * | 7 | 1.3 |
| Other/Unknown | 7 | 5.3 | 19 | 4.9 | 26 | 5.0 |

Data Source: Oregon Violent Death Reporting System

*Suppressed

Graph 13: Place of Death, Deschutes County, OR, 2003-2017



Data Source: Oregon Violent Death Reporting System

Geospatial Analyses

Research conducted by the Centers for Disease Control and Prevention suggest that rates of death by suicide are greater in nonmetropolitan areas throughout the United States compared to metropolitan areas.¹⁹ Within in Deschutes County, deaths by suicide varied greatly by region from 2003-2017 (Table 11). Due to the relative rarity of death by suicide in small communities in Deschutes County, it is impossible to create stable estimates and comparability metrics for many populations areas—however, it is possible for some areas such as Bend and Redmond. “All other Deschutes Counties Areas Combined” includes La Pine, Sisters, Sunriver, and Terrebonne. Please note that the analytical method, indirect age adjustment, used to calculate standardized mortality ratios in this section are different from those to calculate previously reviewed rates of death in this report, which was direct age-adjustment. As a result, the rates in Table 11 should not be compared to previous rates and may reflect a different estimate.²⁰

Table 11 includes Standardized Mortality Ratios (SMR). When a SMR is equal to 1.0, this means the number of observed deaths equals that of expected cases. When a SMR is higher than 1.0, there is a higher number of deaths than is expected when compared to the referent. Conversely, when a SMR is lower than 1.0, there is a lower number of deaths than is expected when compared to the referent. Bend saw 1.4 (95% CI=1.3-1.6) times the suicide mortality compared to the county average and Redmond saw 1.2 (95% CI= 0.9-1.4) times the suicide mortality compared to the county average. All other Deschutes County Areas Combined however, saw 0.7 (95% CI = 0.6-0.9) times less mortality compared to the county average.

Nearly 61% of suicide deaths during the study period occurred in Bend (N=318). The indirect age-adjusted rate of suicide in Bend was higher than the rate for Deschutes County as a whole with 32.1 deaths (SMR: 1.4; 95% CI=1.3-1.6) per 100,000 people. Redmond’s indirect age-adjusted suicide rate was 26 deaths (SMR: 1.2; 95% CI=0.9-1.4) per 100,000 people. All other Deschutes County Areas Combined includes more rural areas, which had a lower indirect age-adjusted suicide rate than the suburban and urban areas in Deschutes County—15.9 deaths (SMR 0.7; 95% CI=0.6-0.9) per 100,000 people.

¹⁹ Ivey-Stephenson AZ, Crosby AE, Jack SP, Haileyesus T, Kresnow-Sedacca M. Suicide Trends Among and Within Urbanization Levels by Sex, Race/Ethnicity, Age Group, and Mechanism of Death — United States, 2001-2015. *MMWR Surveillance Summary* 2017;66(No. SS-18):1-16.

For further information on methods of age adjustment please see: Curtin, LR, Klein, RJ. Direct Standardization (Age-Adjusted Death Rates). *Healthy People Statistical Notes*, no. 6. Hyattsville, Maryland: National Center for Health Statistics. March 1995.

²⁰ For further information on methods of age adjustment please see: Curtin, LR, Klein, RJ. Direct Standardization (Age-Adjusted Death Rates). *Healthy People Statistical Notes*, no. 6. Hyattsville, Maryland: National Center for Health Statistics. March 1995.

Table 11: Suicide Rates and Standardized Mortality Ratios for Regions within Deschutes County, OR 2003-2017*

| Region | Observed Deaths | Crude Suicide Rate | Age-Adjusted Suicide Rate | Standardized Mortality Ratio | 95% Confidence Interval |
|---|-----------------|--------------------|---------------------------|------------------------------|-------------------------|
| Deschutes County | 525 | 22.2 | 25.3 | Referent | |
| Bend | 318 | 27.6 | 32.1 | 1.4 | 1.3 – 1.6 |
| Redmond | 85 | 21.6 | 26.0 | 1.2 | 0.9 – 1.4 |
| All other Deschutes County Areas Combined | 66 | 14.7 | 15.9 | 0.7 | 0.6 – 0.9 |

Data Source: Oregon Violent Death Reporting System

**Note: 56 deaths are not included in the calculations as those decedents' residences were outside of Deschutes County*

DISCUSSION AND RECOMMENDATIONS

The current report discusses suicide-related trends, contributors, and risk factors for Deschutes County. Analysis for this report has been limited to the exclusive use of mortality surveillance data and therefore it is necessary to incorporate findings with other relevant data sources to establish a comprehensive basis for addressing suicide as a public health issue in Deschutes County. The following discussion and recommendations are based on the analytical findings of this report as well as evidence-based constructs for developing a comprehensive approach to suicide prevention.

It is important to note that a successful suicide prevention approach requires consistent leadership and coordination. The Deschutes County Suicide Prevention Program includes a braided funding model, which shows strong collaboration across the Deschutes County Health Services agency. Moreover, the braided funding model leaves staff responding to multiple funder requirements and focused on resource development and maintenance at the expense of program implementation. Adequate financial support to maintain program staff is imperative for decreasing the rate of suicide attempts and deaths in Deschutes County.

General Public

Preventing suicide is not the responsibility of a single entity, rather it takes a community to prevent suicide. Therefore, it is vital to implement a comprehensive approach with sustainable, population-level impact.

Stigma in regards to mental health and suicide can contribute to a code of silence around suicide, which in turn can hinder help-seeking behavior. In order to combat stigma, it is vital for the general public to discuss suicide as a public health issue. The community conversation should be guided using principles of suicide safe messaging in order to prevent the increase of risk for vulnerable individuals in Deschutes County.²¹ Further, community conversations should also include messaging around mental health being just as important as physical health, such as community-wide messages from the Mind Your Mind Central Oregon Campaign.²²

The current report showed that most suicides occurred in the home and that over one-third of all suicide decedents disclosed an intent to die by suicide. Suicide prevention training and education being made available to the general public is of the utmost importance to help prevent suicide in Deschutes County. The general public needs important knowledge, training, and skills on how to recognize suicide warning signs, how to ask someone about suicidal intent, and how to connect someone to appropriate, professional help. Therefore, it is recommended for continual maintenance of funding and capacity to offer evidence-based trainings in Deschutes County, such as Question Persuade Refer, Mental Health First Aid, and Applied Suicide Intervention Skills Training. In addition to increasing knowledge and skills for suicide prevention in the general public, it is important to increase general awareness around suicide

²¹ Chambers DA, Pearson JL, Lubell K, Brandon S, O'Brien K, Zinn J. The science of public messages for suicide prevention: a workshop summary. *Suicide Life Threat Behav.* 2005;35(2):134-145

²² Mind Your Mind Central Oregon Website: www.mindyourmindco.org

prevention resources in Deschutes County. Knowing what is available and how to access resources can increase the likelihood that community members will refer loved ones to appropriate, professional help.

It is important to promote and educate the general public on safe storage of lethal means. The majority of suicide deaths in Deschutes County occur in the home, and over 50% of suicides are completed by firearm and 20% by poisoning. Suicidal impulses are relatively brief, approximately half of all individuals that attempt suicide report that the time between suicidal thoughts and acting on those thoughts was 10 minutes or less.²³ Suicide can be avoided if someone does not have an easy way to act on suicidal impulses during their most vulnerable moments—safe storage, such as prescription lock boxes or gun safes, is key to helping prevent suicide.

Businesses

Suicide not only affects an individual's loved ones, but can also have deleterious effects on the workplace. Therefore local businesses in industries with higher prevalence of death by suicide are encouraged to implement comprehensive suicide prevention policies and protocols to support employees and save lives.

The occupation with the highest number of suicide decedents in Deschutes County is the construction industry. Efforts should be made to engage with local construction companies to implement suicide prevention policies and protocols as it relates to occupational health and safety. Given that nearly a quarter (24.5%, N=129) of decedents were not engaged in the workforce, efforts should be made to engage with unemployment agencies to implement suicide prevention policies and protocols. All businesses in Deschutes County are encouraged to follow the U.S. Surgeon General's National Strategy for Suicide Prevention, specifically, the goals and objectives outlined for workplaces as well as implementing appropriate suicide prevention protocols when employees are fired, laid-off, and when employees resign.

The U.S. Surgeon General's National Strategy for Suicide Prevention includes goals and objectives for all workplaces.²⁴ Some recommendations to note include:

- Implement organizational changes to promote mental and emotional health of employees;
- Ensure that mental health services are included as a benefit in health plans and encourage employees to use these services as needed;
- Screen for mental health needs, including suicidal thoughts and behaviors, and make referrals to appropriate resources as needed;
- Train employees and supervisors to recognize coworkers in distress and respond appropriately;
- Disseminate information about the National Suicide Prevention Lifeline as well as other local and regional resources.

²³ Deisenhammer EA, Ing C, Strauss R, Kemmler G, Hinterhuber H, Weiss EM. The duration of the suicidal process: How much time left for intervention between consideration and accomplishment of a suicide attempt? *J Clin Psychiatry*. 2009;70(1): 19-24

²⁴ Office of the Surgeon General (US); National Action Alliance for Suicide Prevention (US). 2012 National Strategy for Suicide Prevention: Goals and Objectives for Action: A Report of the U.S. Surgeon General and of the National Action Alliance for Suicide Prevention. Washington (DC): US Department of Health & Human Services (US); 2012 Sep. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK109917/>

Media

The media can play an important role in preventing suicide when using evidence-based media reporting practices; conversely, irresponsible reporting on suicide in the media can increase suicide risk in a community.²⁵ Further, multiple entities, including the Office of the Surgeon General, the World Health Organization, the National Action Alliance for Suicide Prevention, and the Poynter Institute urge the media to adhere to Suicide Safe Messaging Guidelines when reporting on suicide.^{25,26,27,28}

Engagement with local media entities in Deschutes County is highly recommended in order to implement suicide prevention best practices, policies, and protocols. For example, onboarding training for all new employees in regards to suicide reporting best practices is highly recommended. Moreover, media agencies should consider posting suicide prevention resources at the beginning and end of publications and articles that cover suicide. Collaboration between local media agencies and the Central Oregon Suicide Prevention Alliance is also recommended in order to foster mutually beneficial partnerships and ultimately prevent suicide in Deschutes County as well as Central Oregon.

Primary Care

Research shows that a majority of suicide decedents have visited a primary care physician within one year, and one-fifth of decedents within one month, preceding death.²⁹ There is ample opportunity for suicide prevention and intervention in the primary care setting. A comprehensive approach to preventing suicide in clinical settings will help prevent suicide—and one approach alone is not enough. It is recommended that primary care clinics consider adopting *Zero Suicide*, which is a model that guides health care organizations through systems-wide transformations change toward safer suicide care.³⁰ The *Zero Suicide* model includes seven essential elements geared toward organizational culture shifts as well as quality improvement mechanisms. The seven essential elements include leadership development, staff training, patient screening and assessment, care protocols, treatment, program evaluation, and quality improvement.³⁰ *Zero Suicide* prioritizes suicide prevention as a core organizational value.

Another comprehensive model to consider adopting is the Primary Care Toolkit developed by a team of experts from the Central Oregon Suicide Prevention Alliance.³¹ The Primary Care Toolkit is designed to

²⁵ Stack, S. (2000). Media impacts on suicide: A quantitative review of 293 findings. *Social Science Quarterly*, 81(4), 957–971.

²⁶ World Health Organization. (2017). Preventing suicide: A resource guide for media professionals. Retrieved from: <http://apps.who.int/iris/bitstream/10665/258814/1/WHO-MSD-MER-17.5-eng.pdf?ua=1>

²⁷ National Action Alliance for Suicide Prevention, Media Messaging: <https://theactionalliance.org/news>

²⁸ Poynter. 2020. *Reporting On Suicide? Consider These Common Problems And Their Solutions - Poynter*. [online] Available at: <https://www.poynter.org/reporting-editing/2019/reporting-on-suicide-consider-these-common-problems-and-their-solutions/>

²⁹ Ahmedani, B.K., Simon, G.E., Stewart, C. *et al*. Health Care Contacts in the Year Before Suicide Death. *J GEN INTERN MED* 29, 870–877 (2014). <https://doi.org/10.1007/s11606-014-2767-3>

³⁰ Zero Suicide Institute, About Us: <http://zerosuicideinstitute.com/about-us>

³¹ Suicide Prevention in Primary Care Settings: <https://www.oregonsuicideprevention.org/deschutes-county-toolkit/>

help primary care practices support at-risk patients and includes various components such as guidelines, workflows, screenings, and how to discuss firearms in a culturally responsive approach with patients.

Further, it is also recommended that collaboration between primary care and specialty behavioral health care continue to be strengthened in the Central Oregon region through the Advancing Integrated Care (AIC) project, which is a project of the Regional Health Improvement Plan and the Central Oregon Health Council.³² The goal of AIC is to identify and engage 100% of individuals in Central Oregon that have a behavioral health need and ensure an effectively and timely response. There are five key components to the AIC project: identification, integration, referrals, coordination, and care team expansion.

Research shows that people who die by suicide are more likely to engage with a primary care physician than any other medical provider preceding their death.²⁹ In order to support comprehensive approaches to preventing suicide in primary care settings, it is also recommended that clinicians participate in suicide prevention and intervention training, such as *Kognito* and Applied Suicide Intervention Skills Training (ASIST). Primary care providers can play a vital role in preventing suicide in Deschutes County.

Behavioral Health and Other Social Services

A vast majority of suicide decedents in Deschutes County who had a mental health problem—75%--were engaged in mental illness treatment at the time of death, however that when an individual dies by suicide, it is no one's fault, including a behavioral health provider. It is recommended that behavioral health providers and other social service providers, who have not already done so, engage in training around screening and managing suicide care.

Multiple suicide screening tools exist, however many entities in Deschutes County have already implemented the Columbia Suicide Severity Risk Scale (C-SSRS); a tool that is also supported by the Substance Abuse and Mental Health Services Administration (SAMHSA).³³ Training in using the C-SSRS is available at no cost online and personalized trainings can also be requested.

Individuals trained in clinical behavioral health practice should be treating and managing patients at risk of suicide using evidence-based training models. Clinical behavioral health clinicians are encouraged to engage in various suicide-care trainings, such as Collaborative Assessment and Management of Suicidality (CAMS) or Assessing and Managing Suicide Risk (AMSR). Further, it is recommended that providers use effective, strengths-based safety planning with people at risk for suicide, such as the Stanley and Brown Safety Planning Intervention (SPI).³⁴ All behavioral health and social service providers

³² Central Oregon Health Council Behavioral Health: Identification and Awareness Workgroup: <https://cohealthcouncil.org/workgroups/id-and-awareness/>

³³ The Columbia Lighthouse Project: <https://cssrs.columbia.edu/>

³⁴ Stanley, B., and Brown, G. K. (2012). Safety planning intervention: A brief intervention to mitigate suicide risk. *Cognitive and Behavioral Practice*, 19(2), 256-264.

are urged to refrain from using “no-suicide contracts” as this type of intervention is not supported by evidence and could potentially be deleterious in reducing suicide risk.^{35,36}

It is also recommended, as with primary care settings, that behavioral health and other social services settings consider implementing the comprehensive, evidenced-based *Zero Suicide* model. The description of this model can be found in the aforementioned section of this report. Further, in order to increase access to specialty behavioral health care, it is recommended that clinicians engage in the AIC project described in the primary care section of this report.

Schools

Although data from this report shows the majority of suicide deaths in Deschutes County occur among middle-aged adults, it should be noted that the youth suicide rate during this report period nearly doubled. Further, according to the Oregon Public Health Assessment Tool and the Oregon Health Authority, Deschutes County has the sixth-highest youth suicide death burden in the state. Adolescents are more vulnerable to suicide contagion than adults, as adolescents are developing a sense of self that makes them more susceptible to peer influences.^{37,38} Adolescents are also less future-oriented than adults, and are often more concerned with rewards reaped from their peers rather than adults.^{39,40} Further, exposure to a suicide attempt or death of an important other can lead to an increased risk of suicidality and distress.⁴¹ Specific youth-focused suicide prevention efforts should continue to be prioritized in Deschutes County.

Schools play an integral role in helping prevent youth suicide. Because suicide is a complex public health issue, it is not schools’ responsibility alone to prevent youth suicide. It is recommended that Deschutes County School Districts continue to strengthen their comprehensive approach to youth suicide prevention that includes collaboration with, and connection to, community-wide suicide prevention efforts.

A comprehensive approach should include suicide prevention, intervention, and postvention strategies that not only targets students, but also parents, staff, and administrators. Further, a comprehensive approach should include strategies that span beyond knowledge attainment and awareness raising. In other words, suicide prevention curricula or mental health awareness days alone are not sufficient. Skill-

³⁵ Edwards, S., & Sachmann, M. (2010). No-suicide contracts, no-suicide agreements, and no-suicide assurances. *Crisis, 31*(6), 290-302. doi: 10.1027/0227-5910/a000048

³⁶ Rudd, M., Mandrusiak, M., & Joiner Jr., T. (2006). The case against no-suicide contracts: The commitment to treatment statement as a practice alternative. *Journal Of Clinical Psychology, 62*(2), 243-251. doi: 10.1002/jclp.20227

³⁷ Cheng Q, Li H, Silenzio V, Caine ED (2014) Suicide contagion: A systematic review of definitions and research utility. *PLoS ONE 9*(9): e108724. doi:10.1371/journal.pone.0108724

³⁸ Giordano, Peggy C. Relationships in adolescence. *Annual Review of Sociology.* 2003; 29:252–81.

³⁹ Steinberg, Laurence; Graham, Sandra; O’Brien, Lia; Woolard, Jennifer; Cauffman, Elizabeth; Banich, Marie. Age differences in future orientation and delay discounting. *Child Development.* 2009; 80(1):28–44. [PubMed: 19236391]

⁴⁰ Crosnoe, Robert. Fitting in, standing out: Navigating the social challenges of high school to get an education. Cambridge University Press; 2011.

⁴¹ Liu, Ruth X. Vulnerability to friends’ suicide influence: The moderating effects of gender and adolescent depression. *Journal of Youth and Adolescence.* 2006; 35(3):479–89.

building, care coordination, and policy, systems, and environmental change strategies should also be incorporated into a comprehensive approach to prevent youth suicide.

Not only is a comprehensive approach to preventing youth suicide evidence-based, but it is also mandated by the Oregon law. It is recommended that Deschutes County school districts collaborate with one another as well as Deschutes County Health Services in order to comply with Senate Bill 485, Senate Bill 52, as well as the Student Success Act.

A comprehensive approach is also one that includes strategies for shifting school culture towards positive attitudes around mental health and help-seeking among students. Currently, four schools within Deschutes County have Youth Action Councils that are geared toward promoting positive school culture and promoting school-based health center resources. It is recommended that more schools within Deschutes County adopt a Youth Action Council in order to promote youth resiliency.

Substance Abuse

One-third of suicide decedents in Deschutes County had a substance abuse problem and over one-quarter of all suicide decedents had a problem with alcohol. Given that increased substance use is a warning sign for suicide, it is imperative that behavioral health professionals that treat individuals experiencing substance use disorders be trained in screening and treating suicidality in clients. This is particularly important for people at risk of relapse or those who have relapsed after a period of sobriety.⁴² Recommended suicide prevention trainings for substance use disorder clinicians include: Applied Suicide Intervention Skills Training, Assessing and Managing for Suicide Risk, *Kognito*, and Counseling on Access to Lethal Means. Multiple suicide screening tools exist, and many entities in Deschutes County have already implemented the Columbia Suicide Severity Risk Scale (C-SSRS); a tool that is also supported by the Substance Abuse and Mental Health Services Administration. Training in using the C-SSRS is available at no cost online and personalized trainings can also be requested.

Higher Risk Populations

Men

Similar to national and statewide findings, the majority of suicide deaths occur among men in Deschutes County. Half of all suicide deaths in Deschutes County occurred among men between the ages of 25 to 64 in the report period. There is no single cause to this disparity, however research has shown that various risk factors are more prevalent among men, such as substance use disorders, access to firearms, and reduced engagement in behavioral health care.^{43,44} The report showed similar findings in Deschutes County decedents—males were 68% more likely to die by firearm than females and females were 86%

⁴² Wilcox, H., Conner, K., & Caine, E. (2004). Association of alcohol and drug use disorders and completed suicide: An empirical review of cohort studies. *Drug And Alcohol Dependence*, 76, S11-S19. doi: 10.1016/j.drugalcdep.2004.08.003

⁴³ Cibis, A., Mergl, R., Bramesfeld, A., Althaus, D., Niklewski, G., Schmidtke, A., and Hegerl, U. (2012). Preference of lethal methods is not the only cause for higher suicide rates in males. *Journal of Affective Disorders*, 136(1-2), 9-16.

⁴⁴ Schrijvers, D. L., Bollen, J., and Sabbe, B. G. (2012). The gender paradox in suicidal behavior and its impact on the suicidal process. *Journal of Affective Disorders*, 138(1-2), 19-26.

more likely to be engaged in mental illness treatment than males. Substance use problem prevalence was similar between male and female decedents. A notable characteristic among male suicide decedents is that one-third experienced an intimate partner problem that contributed to the death.

As stated earlier, the occupation with the largest proportion of suicide decedents was the construction occupation, which is a male-dominated industry. It is recommended that behavioral health professionals find culturally relevant ways to engage men in services through targeted outreach and partnerships with industries that primarily employ men. Further, because the report shows that males are more likely to use firearms than females for dying by suicide, it is recommended that mental health promotion and suicide prevention professionals in Deschutes County engage with local firearm retailers in order to promote and normalize mental health resources in culturally relevant ways that resonate with males in Deschutes County.

Veterans

Veteran suicide decedents accounted for one-fifth of all suicides during the reporting period. Given that veterans are engaged in a wide variety of sectors in Deschutes County, it is recommended that all suicide prevention efforts include culturally responsive components to reach veterans. Further, because there is a wide variety of veteran-serving organizations in Deschutes County, it is also recommended that a unified veteran suicide prevention taskforce emerge in order to coordinate efforts and provide resources mapping in order to ensure equitable access to resources for all veterans in Deschutes County.

American Indian/Alaskan Native

Due to concerns regarding statistical reliability and decedent identifiability, the current report did not analyze suicide among racial and ethnic subpopulations. In the United States, people who identify as American Indian/Alaskan Native (AI/NA) have the highest suicide rate compared to the general population and other racial and ethnic subpopulations.⁴⁵ Medical, behavioral health, and other social service providers are encouraged to develop and adopt culturally responsive, evidence-based and tribal practices to support people who identify as AI/NA at risk for suicide.⁴⁶

LGBTQ+ Youth

While not analyzed in the current study, national research shows that young people who identify as LGBTQ+ have higher rates of suicide ideation and attempts than the general population.⁴⁷ This disparity also exists in the state of Oregon; young people who identify as LGBTQ+ have reported significantly higher rates of contemplating suicide in the last 12 months than students who identified as straight.⁴⁸ Further, Oregon students who identify as straight meet positive youth development benchmarks at significantly higher proportions than students who identify as LGBTQ+.⁵⁰

⁴⁵ Racial and Ethnic Disparities. (2020). Retrieved from <http://www.sprc.org/scope/racial-ethnic-disparities>

⁴⁶ U.S. Department of Health and Human Services. To Live To See the Great Day That Dawns: Preventing Suicide by American Indian and Alaska Native Youth and Young Adults. DHHS Publication SMA (10)-4480, CMHS-NSPL-0196, Printed 2010. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, 2010.

⁴⁷ Kann L, Olsen EO, McManus T, et al. Sexual Identity, Sex of Sexual Contacts, and Health-Related Behaviors Among Students in Grades 9-12 — United States and Selected Sites, 2015. *MMWR Surveillance Summary* 2016;65(No. SS-9):1-202.

⁴⁸ 2017 Oregon Healthy Teens Survey, Oregon Health Authority. <https://www.oregon.gov/oha/PH/BIRTHDEATHCERTIFICATES/SURVEYS/OREGONHEALTHYTEENS/Pages/2017.aspx>

Medical, behavioral health, and other social services providers should be aware of these disparities and also integrate culturally responsive practices to meet the needs of LGBTQ+ youth at risk for suicide. Further, youth-serving organizations, including schools, should ensure that safe environments are being fostered for students of all identities, especially those that identify as LGBTQ+, to feel safe, welcomed and supported.

Lethal Means

Over half of all suicide decedents in Deschutes County during the report period died by firearm, followed by one-fifth of suicide decedents dying by poisoning, which includes intentional overdose. Research over the last few decades indicates that when lethal means are less accessible or less deadly, suicide rates by that method tend to decline, which can in turn reduce the overall suicide rate for a community.⁴⁹

A pervasive myth that exists not only in Deschutes County, but nationally, involves the belief that the act of suicide is one that is careful, deliberate, and thought-out. However, research shows that the vast majority of suicides are quickly decided upon and involve little-to-no planning, meaning that the time between the thought and the action is brief.⁵⁰ A majority of suicides are decided upon in 10 minutes or less.^{52, 51, 52} A majority of suicide deaths can be avoided if people do not have an easy way to act on suicidal impulses during their most vulnerable moments.

It is recommended that safe storage efforts be implemented and expanded widely in Deschutes County. This should include a combination of evidence-based approaches, including community awareness campaigns around safe storage, engaging with firearm retailers on training, and increasing access to safe storage means. Safe storage efforts should include approaches for firearms as well as prescription medications, as these are the most widely used methods to die by suicide in Deschutes County. Further, it is recommended that there be increased collaboration between suicide prevention and substance abuse prevention efforts to ensure continuity of efforts and cross promotion.

Efforts should also target firearm owners in a culturally responsive manner. Engaging with firearm owners on effective approaches for safe storage is imperative to mitigating risks of suicide by firearm. Further, because a large proportion of suicide decedents engage with primary care providers, it is recommended that clinicians be trained in specific trainings around lethal means and suicide, such as the Counseling on Access to Lethal Means (CALM) training.

⁴⁹ Means Reduction Saves Lives. (2020), from <https://www.hsph.harvard.edu/means-matter/means-matter/saves-lives/>

⁵⁰ Hawton, K. (2007). Restricting access to methods of suicide: Rationale and evaluation of this approach to suicide prevention. *Crisis: The Journal of Crisis Intervention and Suicide Prevention*, 28(Suppl 1), 4–9. <https://doi.org/10.1027/0227-5910.28.S1.4>

⁵¹ Simon, T., Swann, A., Powell, K., Potter, L., Kresnow, M., & O'Carroll, P. (2002). Characteristics of impulsive suicide attempts and attempters. *Suicide And Life-Threatening Behavior*, 32, 49-59. doi: 10.1521/suli.32.1.5.49.24212

⁵² Deisenhammer EA, Ing CM, Strauss R, et al. The duration of the suicidal process: how much time is left for intervention between consideration and accomplishment of a suicide attempt? *J Clin Psychiatry*. 2009;70(1):19-24.

Regional Disparities within Deschutes County

During the report period, 61% of all suicides in Deschutes County occurred among Bend residents, 16% occurred among Redmond residents, and 13% occurred among residences in all other Deschutes County cities. Most national trends show that the burden of suicide disproportionately affects rural communities more than suburban or urban areas, however Deschutes County is not consistent with this national trend. Bend, being the most populated city in Deschutes County has the highest age-adjusted suicide rate than any other Deschutes County city and the rate is higher than the overall Deschutes County age-adjusted suicide rate.

It is important to remember that each city in Deschutes County is unique and therefore a one-size-fits-all approach to suicide prevention in Deschutes County will be ineffective. In order to appropriately and effectively prevent suicide in Deschutes County, it is imperative to target specific suicide prevention approaches culturally relevant to the Bend area as well as additional culturally relevant approaches for Redmond and the other rural areas of Deschutes County. Authentic engagement in community organizations and residents from throughout Deschutes County is vital. It is recommended that Deschutes County staff work to engage more community partners and organizations in the Central Oregon Suicide Prevention Alliance.

SUICIDE PREVENTION RESOURCES

Crisis and Call Lines

- Deschutes County's 24-hour Crisis Line: 541-322-7500 x9
- National Suicide Prevention Lifeline: 1-800-273-8255 or text "273Talk" to 839863
 - For Veterans press #1
 - For Spanish Language call 1-888-628-9454 or text "MIL1" to 839863
- YouthLine: 1-877-968-8491 or text "teen2teen" to 83983
- Trans LifeLine: 1-877-565-8860
- Trevor Project (LGBTQ+ Youth): 1-866-4881386

Counseling in Deschutes County

- Deschutes County Behavioral Health: 541-322-7500
- St. Charles Behavioral Health Services: 541-706-2768
- Lutheran Community Services Northwest: 541-323-5332
- OSU-Cascades Counseling Clinic: <https://osucascades.edu/counseling-clinic>
 - Offers free counseling to community to individuals 14 years of age and older
- Central Oregon Mental Health Provider Directory: www.preventsuicideco.org/provider-directory/
 - A list of private mental health providers in Central Oregon

Support for Survivors of Suicide Loss

- Bend Area Suicide Bereavement Group: meets the second Monday of the month, 7:00-8:30pm
 - Located at Partners in Care (2075 NE Wyatt Ct.)
 - Email Alison Sorenson at alison@alisonsorensoncounseling.com
- The Compassionate Friends: meets the first Tuesday of the month at 7:00pm (except December)
 - Located at Partners in Care (2075 NE Wyatt Ct.)
 - Contact Carol Palmer at carolpalmerrn@icloud.com or 541-480-0667
- Individual Grief Support from Partners in Care: 541-382-5882
 - Short-term individual support counseling sessions to those who have experienced death of a loved one
- American Foundation for Suicide Prevention, Health Conversations Program: <https://afsp.org/healing-conversations>
 - Outreach support from bereaved individuals to newly bereaved individuals

Suicide Prevention Information

- Deschutes County Suicide Prevention Program: www.deschutes.org/suicideprevention
- Central Oregon Suicide Prevention Alliance: www.preventsuicideco.org
- Suicide Prevention Lifeline: www.suicidepreventionlifeline.org
- National Alliance on Mental Illness (NAMI) Central Oregon: www.namicalcentraloregon.org
- Suicide Prevention Resource Center: www.sprc.org

Youth, Teens, & Young Adults

- First Step Oregon app: www.firststeporegon or download the app wherever you get your apps
- The Trevor Project: www.thetrevorproject.org
- YouthLine: www.oregonyouthline.org

APPENDIX

Tables for Select Populations

Veterans

Table 12: Veteran Suicide Decedents by Age, Deschutes County, OR 2003-2017

| | Total (N=103) Count | % |
|------------|------------------------|------|
| Age | | |
| 18 - 24 | * | * |
| 25 – 44 | 20 | 19.4 |
| 45 – 64 | 35 | 34.0 |
| 65+ | 46 | 44.7 |

Data Source: Oregon Violent Death Reporting System

**Suppressed*

Table 13: Circumstances Related to Mental Health and Substance Abuse among Veteran Suicide Decedents, Deschutes County, OR 2003-2017

| | Total (N=103) Count | % |
|--|------------------------|------|
| Mental Health Status | | |
| Mental Health Problem | 36 | 35.0 |
| Depressed Mood at Time of Death | 51 | 49.5 |
| History of Mental illness Treatment (including current) | 29 | 28.2 |
| Current Mental Illness Treatment | 28 | 27.2 |
| Substance Abuse | | |
| Problem with Any Substance | 32 | 31.1 |
| Problem with Alcohol | 28 | 27.2 |
| Problem with Another Substance | 10 | 9.7 |
| Suicidal Behaviors | | |
| History of Suicide Attempts | 15 | 14.6 |
| History of Suicidal Thoughts | 11 | 10.7 |

Data Source: Oregon Violent Death Reporting System

Table 14: Mental Health Diagnosis among Veteran Suicide Decedents with a Known Mental Health Problem*, Deschutes County, OR 2003-2017

| | Total (N=36) Count | % |
|--|-----------------------|------|
| Mental Health Diagnosis | | |
| Depression/Dysthymia | 28 | 77.8 |
| Anxiety | 6 | 16.7 |
| Post-Traumatic Stress Disorder | 6 | 16.7 |
| Mental Health Treatment | | |
| Current Mental Illness Treatment | 28 | 77.8 |
| History of Mental Illness Treatment (including current treatment) | 29 | 80.6 |

Data Source: Oregon Violent Death Reporting System

*(*Note: Percentage may exceed 100% because some decedents may have multiple diagnoses)*

Table 15: Interpersonal Problems and Life Stressors among Veteran Suicide Decedents, Deschutes County, OR 2003-2017

| | Total (N=103) Count | % |
|------------------------------|------------------------|------|
| Interpersonal Problem | | |
| Intimate Partner Problem | 30 | 29.1 |
| Other Relationship Problem | 8 | 7.8 |
| Recent Argument | 6 | 5.8 |
| Life Stressors | | |
| Job Problem/Lost Job | 10 | 9.7 |
| Financial Problem | 38 | 36.9 |
| Criminal/Legal Problem | 11 | 10.7 |
| Other Legal Problem | 8 | 7.8 |
| Physical Health Problem | 39 | 37.9 |

Data Source: Oregon Violent Death Reporting System

Table 16: Mechanism of Death among Veteran Suicide Decedents, Deschutes County, OR 2003-2017

| | Total (N=103) Count | % |
|-------------------------------------|------------------------|------|
| Mechanism of Death | | |
| Firearm | 74 | 71.8 |
| Poisoning | 16 | 15.5 |
| Hanging, Strangulation, Suffocation | 9 | 8.7 |

Data Source: Oregon Violent Death Reporting System

Table 17: Place of Death among Veteran Suicide Decedents, Deschutes County, OR 2003-2017

| | Total (N=103) | |
|---------------------|---------------|------|
| | Count | % |
| Location | | |
| Decedent's Home | 71 | 69.6 |
| Street/Road/Highway | 9 | 8.8 |
| Natural Area | 8 | 7.8 |
| Motel/Hotel | 8 | 7.8 |

Data Source: Oregon Violent Death Reporting System

Children, Adolescents, and Young Adults (≤24)

Table 18: Circumstances Related to Mental Health and Substance Abuse among Adolescent & Young Adult Decedents (≤ 24), Deschutes County, OR 2003-2017

| | Total (N=71) Count | % |
|--|-----------------------|------|
| Mental Health Status | | |
| Mental Health Problem | 37 | 52.1 |
| Depressed Mood at Time of Death | 32 | 45.1 |
| History of Mental Illness Treatment (including current) | 31 | 43.6 |
| Current Mental Illness Treatment | 25 | 35.2 |
| Substance Abuse | | |
| Problem with Any Substance | 24 | 33.8 |
| Problem with Alcohol | 20 | 28.2 |
| Problem with Another Substance | 19 | 26.8 |
| Suicidal Behaviors | | |
| History of Suicide Attempts | 14 | 19.7 |
| Disclosed Intent to Die by Suicide | 22 | 31.0 |

Data Source: Oregon Violent Death Reporting System

Table 19: Interpersonal Problems and Life Stressors among Adolescent & Young Adult Decedents (≤ 24), Deschutes County, OR 2003-2017

| | Total (N=71) Count | % |
|------------------------------|-----------------------|------|
| Interpersonal Problem | | |
| Intimate Partner Problem | 14 | 19.7 |
| Other Relationship Problem | 19 | 26.8 |
| Recent Argument | 5 | 7.0 |
| Life Stressors | | |
| School Problem | 10 | 14.1 |
| Financial Problem | 17 | 23.9 |
| Criminal/Legal Problem | 11 | 15.5 |

Data Source: Oregon Violent Death Reporting System

Table 20: Mental Health Diagnosis among Adolescent & Young Adult Decedents (≤ 24) with a Known Mental Health Problem*, Deschutes County, OR 2003-2017

| | Total (N=37) Count | % |
|--|-----------------------|------|
| Mental Health Diagnosis | | |
| Depression/Dysthymia | 27 | 73.0 |
| Bipolar Disorder | 6 | 16.2 |
| Schizophrenia | 5 | 13.5 |
| Mental Health Treatment | | |
| Current Mental Illness Treatment | 25 | 67.6 |
| History of Mental Illness Treatment (including current treatment) | 31 | 83.8 |

Data Source: Oregon Violent Death Reporting System

*(*Note: Percentage may exceed 100% because some decedents may have multiple diagnoses)*

Table 21: Mechanism of Death among Adolescent & Young Adult Decedents (≤ 24), Deschutes County, OR 2003-2017

| | Total (N=71) Count | % |
|-------------------------------------|-----------------------|------|
| Mechanism of Death | | |
| Firearm | 40 | 56.3 |
| Poisoning | 6 | 8.5 |
| Hanging, Strangulation, Suffocation | 18 | 25.4 |
| Other | 7 | 9.8 |

Data Source: Oregon Violent Death Reporting System

Adults (25-44)

Table 22: Circumstances Related to Mental health and Substance Abuse among Adult Suicide Decedents (25 – 44), Deschutes County, OR 2003-2017

| | Females (N=43) | | Males (N=129) | | Total (N=172) | |
|--|-------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Mental Health Status | | | | | | |
| Mental Health Problem | 29 | 67.4 | 50 | 38.8 | 79 | 46.0 |
| Depressed Mood at Time of Death | 25 | 58.1 | 54 | 41.9 | 79 | 45.9 |
| Current Mental Illness Treatment | 26 | 60.5 | 37 | 28.7 | 63 | 36.6 |
| History of Mental Illness Treatment (including current treatment) | 27 | 62.8 | 46 | 35.7 | 73 | 42.4 |
| Substance Abuse | | | | | | |
| Problem with Any Substance | 17 | 39.5 | 50 | 38.8 | 67 | 39.0 |
| Problem with Alcohol | 11 | 25.6 | 36 | 27.9 | 47 | 27.3 |
| Problem with Another Substance | 9 | 21.0 | 28 | 21.8 | 37 | 21.5 |
| Suicidal Behaviors | | | | | | |
| History of Suicide Attempt(s) | 21 | 48.8 | 22 | 17.1 | 43 | 25.0 |
| History of Suicidal Thoughts | 11 | 25.6 | 11 | 8.5 | 22 | 12.8 |
| Disclosed Intent to Die by Suicide | 15 | 34.9 | 44 | 34.1 | 59 | 34.3 |

Data Source: Oregon Violent Death Reporting System

Table 23: Mental Health Diagnoses Among Adult Suicide Decedents (25 – 44) with a Known Mental Health Problem, Deschutes County, OR 2003-2017**

| | Females (N=29) | | Males (N=50) | | Total (N=79) | |
|--|-------------------|------|-----------------|------|-----------------|------|
| | Count | % | Count | % | Count | % |
| Mental Health Diagnosis | | | | | | |
| Depression/Dysthymia | 26 | 90.0 | 34 | 68.0 | 60 | 76.0 |
| Anxiety Disorder | * | * | * | * | 9 | 11.4 |
| Bipolar Disorder | 11 | 37.9 | 8 | 16.0 | 19 | 24.1 |
| Schizophrenia | * | * | * | * | 13 | 16.5 |
| Mental Health Treatment | | | | | | |
| Current Mental Illness Treatment | 26 | 90.0 | 34 | 68.0 | 60 | 78.5 |
| History of Mental Illness Treatment (including current treatment) | 26 | 90.0 | 44 | 88.0 | 70 | 88.6 |

Data Source: Oregon Violent Death Reporting System

*Suppressed

(**Note: Percentage may exceed 100% because some decedents may have multiple diagnoses)

Table 24: Interpersonal Problems and Life Stressors among Adult Suicide Decedents (25 – 44), Deschutes County, OR 2003-2017

| | Females (N=43) | | Males (N=129) | | Total (N=172) | |
|---|-------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Interpersonal Relationship Problem | | | | | | |
| Intimate Partner Problem | 13 | 30.2 | 64 | 49.6 | 77 | 44.8 |
| Other Relationship Problem | * | * | * | * | 16 | 9.3 |
| Interpersonal Violence Perpetrator | * | * | * | * | 9 | 5.2 |
| Life Stressors | | | | | | |
| Financial Problem | 18 | 41.9 | 43 | 33.3 | 61 | 35.5 |
| Physical Health Problem | 8 | 18.6 | 8 | 6.2 | 16 | 9.3 |
| Job Problem/Lost Job | 7 | 16.3 | 30 | 23.3 | 37 | 21.5 |
| Criminal Legal Problem | 6 | 14.0 | 14 | 10.9 | 20 | 11.6 |
| Other Legal Problem | * | * | * | * | 12 | 7.0 |
| Eviction or Loss of Home | * | * | * | * | 17 | 9.9 |

Data Source: Oregon Violent Death Reporting System

**Suppressed*

Table 25: Mechanism of Death among Adult Suicide Decedents (25 – 44), Deschutes County, OR 2003-2017

| | Females (N=43) | | Males (N=129) | | Total (N=172) | |
|-----------------------------------|-------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Mechanism of Death | | | | | | |
| Firearm | 17 | 39.5 | 68 | 52.7 | 85 | 49.4 |
| Sharp Instrument | * | * | * | * | 5 | 2.9 |
| Poisoning (Including Overdose) | 13 | 30.2 | 20 | 15.5 | 33 | 19.2 |
| Hanging/Strangulation/Suffocation | 10 | 23.3 | 29 | 22.5 | 39 | 22.7 |
| Fall | * | * | * | * | 5 | 2.9 |

Data Source: Oregon Violent Death Reporting System

**Suppressed*

Middle Aged Adults (45-64)

Table 26: Circumstances Related to Mental health and Substance Abuse among Middle-Aged Adult Suicide Decedents (45 – 64), Deschutes County, OR 2003-2017

| | Females (N=56) | | Males (N=134) | | Total (N=190) | |
|--|-------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Mental Health Status | | | | | | |
| Mental Health Problem | 38 | 67.9 | 51 | 38.1 | 89 | 46.8 |
| Depressed Mood at Time of Death | 27 | 48.2 | 52 | 28.8 | 79 | 41.6 |
| Current Mental Illness Treatment | 33 | 58.9 | 40 | 29.9 | 73 | 38.4 |
| History of Mental Illness Treatment (including current treatment) | 35 | 62.5 | 42 | 31.3 | 77 | 40.5 |
| Substance Abuse | | | | | | |
| Problem with Any Substance | 19 | 33.9 | 48 | 35.8 | 67 | 35.3 |
| Problem with Alcohol | 14 | 25.0 | 42 | 31.3 | 56 | 29.5 |
| Problem with Another Substance | 6 | 10.7 | 18 | 13.4 | 24 | 12.6 |
| Suicidal Behaviors | | | | | | |
| History of Suicide Attempt(s) | 11 | 19.6 | 19 | 14.2 | 30 | 15.8 |
| History of Suicidal Thoughts | 9 | 16.1 | 16 | 12.0 | 25 | 13.2 |
| Disclosed Intent to Die by Suicide | 21 | 37.5 | 47 | 35.1 | 68 | 35.8 |

Data Source: Oregon Violent Death Reporting System

Table 27: Mental Health Diagnoses Among Middle-Aged Adult Suicide Decedents (45 – 64) with a Known Mental Health Problem, Deschutes County, OR 2003-2017**

| | Females (N=38) | | Males (N=51) | | Total (N=89) | |
|--|-------------------|------|-----------------|------|-----------------|------|
| | Count | % | Count | % | Count | % |
| Mental Health Diagnosis | | | | | | |
| Depression/Dysthymia | 36 | 94.7 | 42 | 82.4 | 78 | 87.6 |
| Anxiety Disorder | 6 | 15.8 | 6 | 11.8 | 12 | 13.5 |
| Bipolar Disorder | 7 | 18.4 | 6 | 11.8 | 13 | 14.6 |
| Post-Traumatic Stress Disorder | * | * | * | * | 6 | 6.7 |
| Mental Health Treatment | | | | | | |
| Current Mental Illness Treatment | 34 | 89.5 | 42 | 82.4 | 76 | 85.3 |
| History of Mental Illness Treatment (including current treatment) | 33 | 86.8 | 40 | 78.4 | 73 | 82.0 |

Data Source: Oregon Violent Death Reporting System

*Suppressed

(**Note: Percentage may exceed 100% because some decedents may have multiple diagnoses)

Table 28: Interpersonal Problems and Life Stressors among Middle-Aged Adult Suicide Decedents (45 – 64), Deschutes County, OR 2003-2017

| | Females (N=56) | | Males (N=134) | | Total (N=190) | |
|--|-------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Interpersonal Relationship Problem | | | | | | |
| Intimate Partner Problem | 16 | 28.6 | 41 | 30.6 | 57 | 30.0 |
| Other Relationship Problem | 10 | 17.9 | 15 | 11.1 | 25 | 13.1 |
| Death of a Family Member or Friend (within past 5 years) | 5 | 8.9 | 9 | 6.7 | 14 | 7.4 |
| Death by Suicide of Friend or Family Member (within past 5 years) | * | * | * | * | 6 | 3.2 |
| Life Stressors | | | | | | |
| Financial Problem | 26 | 46.6 | 49 | 36.6 | 75 | 39.5 |
| Recent Argument | * | * | * | * | 10 | 5.3 |
| Physical Health Problem | 14 | 25.0 | 20 | 15.0 | 34 | 17.9 |
| Job Problem/Lost Job | 10 | 17.9 | 31 | 23.1 | 41 | 21.6 |
| Criminal Legal Problem | 5 | 8.9 | 12 | 9.0 | 17 | 8.9 |
| Other Legal Problem | 5 | 8.9 | 8 | 6.0 | 13 | 6.8 |
| Eviction or Loss of Home | * | * | * | * | 12 | 7.5 |

Data Source: Oregon Violent Death Reporting System

*Suppressed

Table 29: Mechanism of Death among Middle-Aged Adult Suicide Decedents (45 – 64), Deschutes County, OR 2003-2017

| | Females (N=56) | | Males (N=134) | | Total (N=190) | |
|-----------------------------------|-------------------|------|------------------|------|------------------|------|
| | Count | % | Count | % | Count | % |
| Mechanism of Death | | | | | | |
| Firearm | 24 | 42.9 | 82 | 61.2 | 106 | 55.8 |
| Sharp Instrument | * | * | * | * | 5 | 2.6 |
| Poisoning (Including Overdose) | 23 | 41.1 | 26 | 19.4 | 49 | 25.8 |
| Hanging/Strangulation/Suffocation | * | * | * | * | 21 | 11.1 |
| Fall | * | * | * | * | 5 | 2.6 |

Data Source: Oregon Violent Death Reporting System

*Suppressed

Older Adults (65+)

Table 30: Circumstances Related to Mental health and Substance Abuse among Older Adult Suicide Decedents (65+), Deschutes County, OR 2003-2017

| | Females (N=15) | | Males (N=77) | | Total (N=92) | |
|--|-------------------|------|-----------------|------|-----------------|------|
| | Count | % | Count | % | Count | % |
| Mental Health Status | | | | | | |
| Mental Health Problem | 5 | 33.3 | 18 | 23.3 | 23 | 25.0 |
| Depressed Mood at Time of Death | * | * | * | * | 38 | 41.3 |
| Current Mental Illness Treatment | * | * | * | * | 18 | 19.6 |
| History of Mental Illness Treatment (including current treatment) | 6 | 40.0 | 14 | 18.2 | 20 | 21.7 |
| Substance Abuse | | | | | | |
| Problem with Any Substance | * | * | * | * | 17 | 18.5 |
| Problem with Alcohol | * | * | * | * | 14 | 15.2 |
| Problem with Another Substance | * | * | * | * | 6 | 6.5 |
| Suicidal Behaviors | | | | | | |
| History of Suicidal Thoughts | * | * | * | * | 9 | 9.8 |
| Disclosed Intent to Die by Suicide | * | * | * | * | 18 | 19.6 |

Data Source: Oregon Violent Death Reporting System

Table 31: Mental Health Diagnoses Among Older Adult Suicide Decedents (65+) with a Known Mental Health Problem, Deschutes County, OR 2003-2017**

| | Females (N=5) | | Males (N=18) | | Total (N=23) | |
|--|------------------|-----|-----------------|------|-----------------|------|
| | Count | % | Count | % | Count | % |
| Mental Health Diagnosis | | | | | | |
| Depression/Dysthymia | 5 | 100 | 16 | 88.9 | 21 | 91.3 |
| Anxiety Disorder | * | * | * | * | 5 | 21.7 |
| Mental Health Treatment | | | | | | |
| Current Mental Illness Treatment | * | * | * | * | 18 | 78.2 |
| History of Mental Illness Treatment (including current treatment) | * | * | * | * | 19 | 82.6 |

Data Source: Oregon Violent Death Reporting System

*Suppressed

(**Note: Percentage may exceed 100% because some decedents may have multiple diagnoses)

Table 32: Interpersonal Problems and Life Stressors Older Adult Suicide Decedents (65+), Deschutes County, OR 2003-2017

| | Females (N=15) | | Males (N=77) | | Total (N=92) | |
|---|-------------------|------|-----------------|------|-----------------|------|
| | Count | % | Count | % | Count | % |
| Interpersonal Relationship Problem | | | | | | |
| Intimate Partner Problem | * | * | * | * | 13 | 14.1 |
| Death of a Family Member or Friend (within past 5 years) | * | * | * | * | 11 | 12.0 |
| Life Stressors | | | | | | |
| Financial Problem | 9 | 60.0 | 31 | 40.3 | 40 | 43.5 |
| Physical Health Problem | * | * | * | * | 49 | 53.3 |

Data Source: Oregon Violent Death Reporting System

*Suppressed

Table 33: Mechanism of Death among Older Adult Suicide Decedents (65+), Deschutes County, OR 2003-2017

| | Females (N=15) | | Males (N=77) | | Total (N=92) | |
|-----------------------------------|-------------------|------|-----------------|------|-----------------|------|
| | Count | % | Count | % | Count | % |
| Mechanism of Death | | | | | | |
| Firearm | * | * | * | * | 67 | 72.8 |
| Poisoning (Including Overdose) | 5 | 33.3 | 8 | 10.4 | 13 | 14.1 |
| Hanging/Strangulation/Suffocation | * | * | * | * | 7 | 7.6 |

Data Source: Oregon Violent Death Reporting System

*Suppressed