

ND HOPES

Substance Use and Suicide in ND

Introduction

With support from North Dakota Health and Human Services (ND HHS), ND HOPES created the following data brief about substance use and its relationship to suicide in North Dakota (ND). ND HOPES is a 5-year initiative funded by the Centers for Disease Control and Prevention (CDC) working to reduce suicide attempts and deaths in the state. ND HOPES delivers suicide prevention programs, resources, and supports, with tailored initiatives for populations disproportionately affected by suicide.

The suicide data presented in this brief were derived from the [ND Violent Death Reporting System \(NDVDRS\)](#). The NDVDRS is a state-based surveillance program that collects data on all violent deaths that occur within ND,¹ including suicides. NDVDRS collects data on suicide deaths from a variety of sources including death certificates, coroner/medical examiner reports, law enforcement reports, crime laboratory reports and toxicology results.²

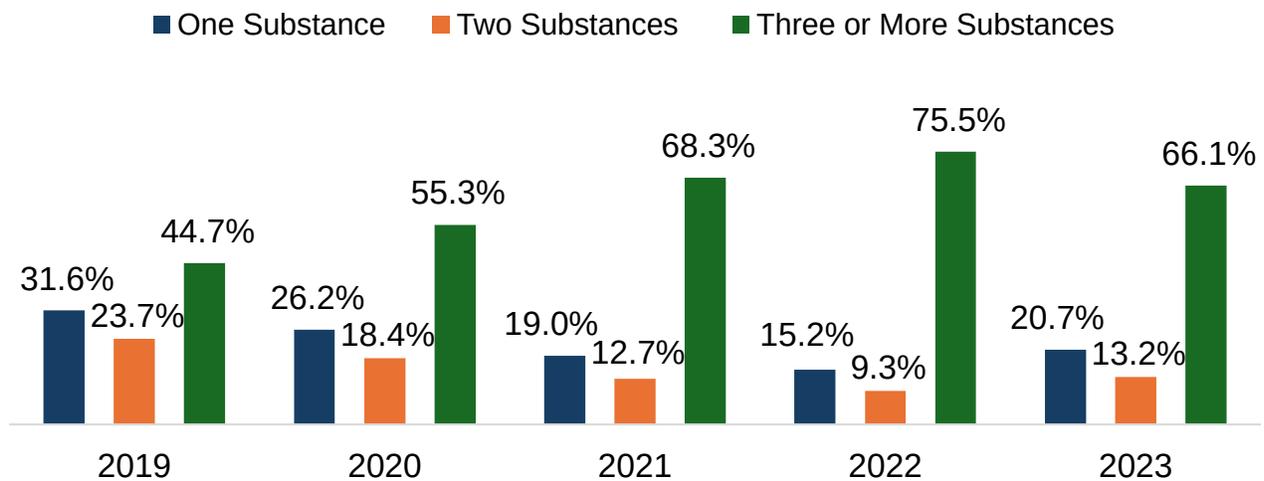
This data brief highlights the connection between substance use and suicide among those who lost their lives to suicide in ND.

This information illustrates the impact of substance use as a risk factor for suicide, the increasing rate of substance use conditions, and the rising need for high-quality behavioral health treatment for those most at risk.³

We want to recognize that each of the individuals in this brief who have died by suicide is a life lost and that there are significant and lasting impacts of these deaths on families, friends and communities. The purpose of this data brief is to increase awareness of the risks of substance use on suicidal behaviors and fatalities. If you or anyone you know is struggling with substance use, mental health, or suicidal thoughts, please call or text 988 to reach supportive counselors or chat at 988lifeline.org.

Substance Use Among Suicides in ND

Substance use and suicide represent an interconnected public health crisis in ND, with both issues showing troubling upward trends in recent years. Between 2019 and 2022 suicide deaths in the state increased by 26%, while estimates from 2021–2022 indicate that more than one-fifth of ND's population met the criteria for a substance use disorder (SUD).^{4, 5}

Figure 1. Quantity of Substances Present among Suicides in ND, 2019-2023

Research shows that certain SUDs can increase the risk of suicidal ideation at disproportionate rates.⁶ In comparison to individuals who do not use substances, those living with opioid and alcohol use disorders are more than 1.71 times more likely to be at risk of suicidal ideation.⁶

These patterns illustrate the relationship between substance use and mental health, where substance use can heighten emotional distress, impair judgment, and amplify the risk of suicidal behaviors.⁶

The connection between suicide and substance use reflects the need for targeted behavioral health efforts to reduce the risk these conditions can pose on physical and emotional safety.^{6,7}

Substance use refers to the intake of drugs, medication or alcohol and can range from therapeutic or legal uses to misuse of prescription medications and illicit drugs.² Polysubstance use is the act of an individual using more than one substance in a short period of time.

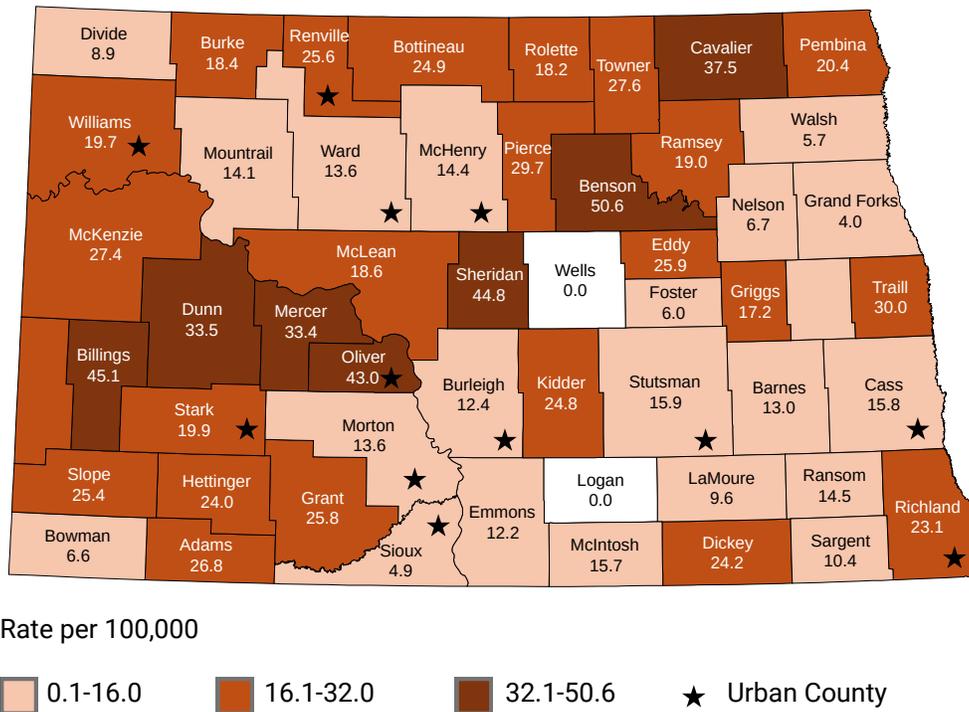
Polysubstance use was increasingly present from 2019 to 2023 among suicides in ND.² As seen in **Figure 1** above, on average more than 60% of all individuals who died by suicide presented with three or more substances in their toxicology.²

As this trend continues to be a risk factor among people with suicidal behaviors and accidental poisonings in ND, behavioral health and suicide prevention efforts should continue to be tailored to address this risk and engage patients in care.

Figure 2 represents the number of suicides in each county with substances present in toxicology. Benson County had the highest rate of suicides with present substance use (50.6 per 100,000 residents).²

Additionally, the top seven counties with the highest rate of suicides with present substance use in ND were all classified as rural. The disproportionate presence of substance use among suicides in rural counties may be further magnified due to the limitations in resources.

Figure 2. Rate of Suicides with Substance Use Present by County, 2019-2023

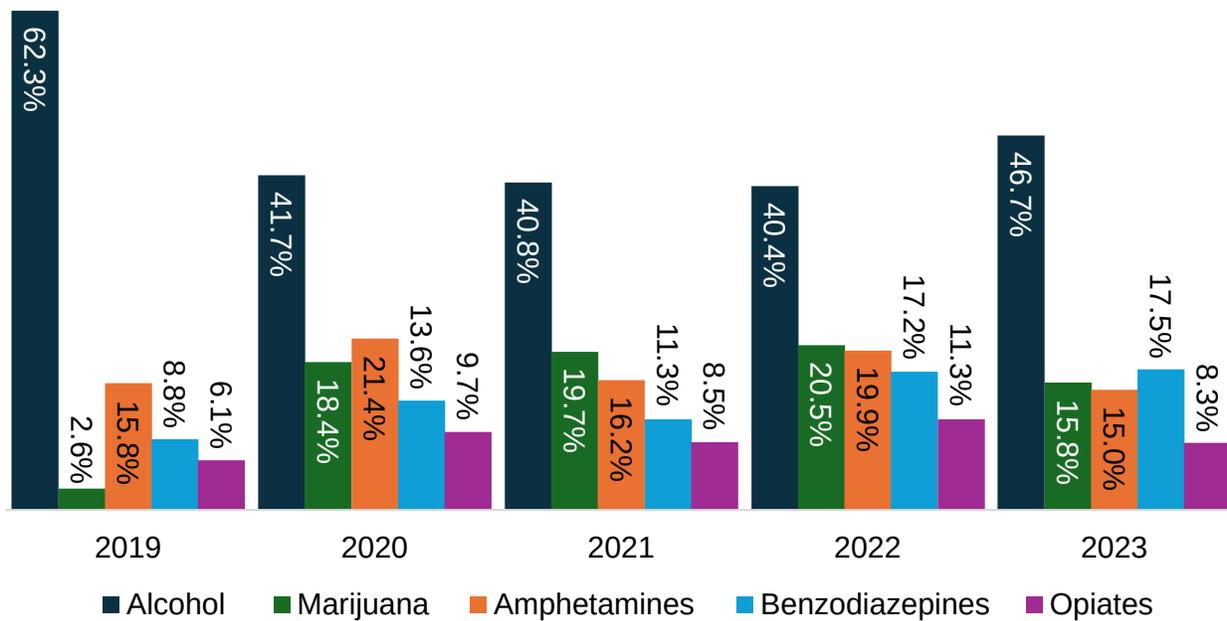


988 Suicide and Crisis Lifeline should be promoted as a tool to support rural residents in these communities’ experiencing substance use and suicidal ideation to reduce the disproportionate risk of dying by suicide.

To address the limitations in resources, behavioral health services should be integrated in rural communities to improve the screening of individuals who use substances. These screenings could be conducted within primary care or mental health clinics, emergency rooms and other community-based clinics to improve the diagnoses rate of SUDs and facilitate referrals.⁸ This expansion should continue to improve access to virtual healthcare, increase the behavioral health workforce in rural counties and promote outreach efforts within these communities.⁸

The presence of substances in toxicology does not solely indicate a history of SUD or the presence of a lethal dosage but can be indicative of larger risk factors for suicide like stress or isolation, related health concerns and impaired judgement.^{9,10} These health trends can support both behavioral health and suicide prevention professionals in identifying those most at risk of suicidal ideation and fatal outcomes.⁹

Among substances reported in NDVDRS and discussed in **Figure 3**, there is no distinction made between substances that were prescribed and those that were illicit.² Alcohol was the most common substance present among suicides in ND, reported in almost half of all cases with available toxicology.²

Figure 3. Most Common Substances Present among Suicides in ND, 2019-2023

The increased presence of alcohol in toxicology is reflective of the higher risk of suicide associated with alcohol use and alcohol use disorders.⁹ Alcohol was followed by amphetamines and marijuana as the most commonly present substances found in toxicology. Marijuana had the greatest increase, more than doubling in prevalence among individuals who died by suicide from 2019 to 2023.² The increase in substances present in toxicology may be associated with the surge in consumption of substances across the state for both medicinal and recreational purposes.⁹

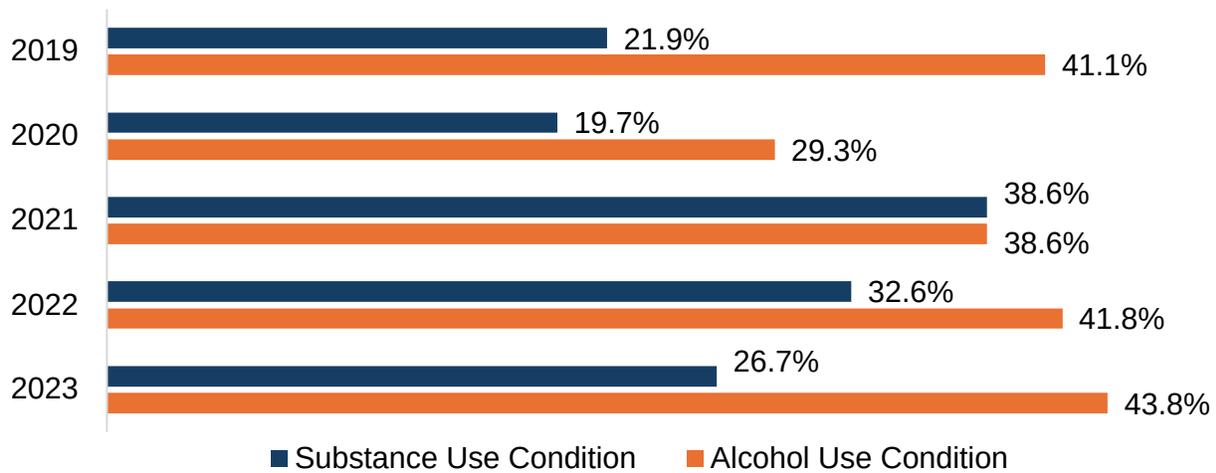
Substance Use Conditions among Suicides in ND

Substance and alcohol use conditions in NDVDRS refer to an individual with a reported history of misuse, active use, or a diagnosis of a disorder.²

Substance and alcohol use conditions are only identified if they were recorded in the individual's medical records, law enforcement reports or other related documents.² Subsequently, SUDs are potentially underreported in at risk populations due to barriers to diagnosis.¹¹ Although potentially underreported, this data is key in illustrating the burden of substance use conditions and their impact on suicidal behaviors and the risk of suicide.⁹

Substance use conditions including drug and alcohol use disorders can impact an individual's mental health and can increase risk of suicide. As seen in **Figure 4**, between 2019 and 2023, approximately 20% or more of individuals who died by suicide reported substance use or alcohol use conditions.² Alcohol use conditions were reported more frequently, aligning with toxicology findings that alcohol was present in almost half of all fatalities.²

Figure 4. Substance Use Conditions Present among Suicides in ND, 2019-2023



The overall prevalence of substance and alcohol use conditions reported highlights a trend of consistent access to substances, and the need for engagement in supportive behavioral health services.¹¹

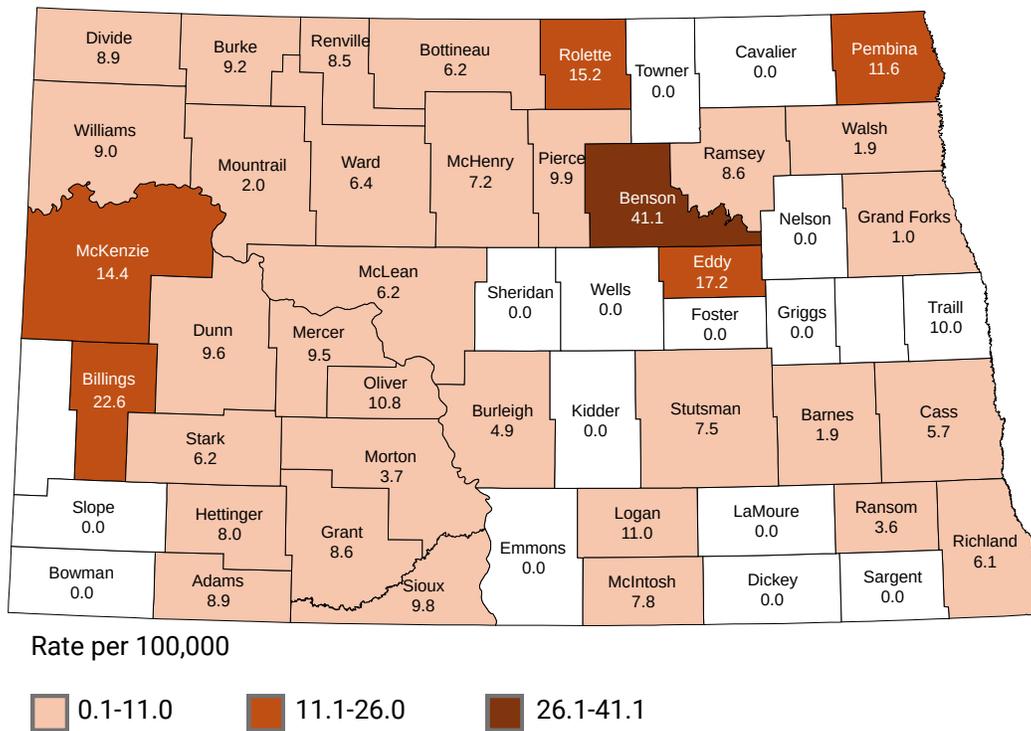
The spike in substance use conditions present among individuals who died by suicide in 2021 may reflect the impact of the COVID-19 pandemic on accessibility and engagement in substance use services for those at risk in ND.¹¹ Moving forward in improving health outcomes in ND, increased screenings for substance use will help identify issues early and prevent SUDs. This can help decrease suicide risk and fatalities.¹¹

Figure 5 shows the rates of suicide among individuals who had a reported substance use condition by county. The highest rate was within Benson County (41.1 per 100,000 residents).^{2,7} Additionally, the top six counties with the highest rates of suicide with identified substance use conditions were all rural counties.

Due to potential geographic or economic barriers, residents in rural communities experiencing substance use conditions and suicidal ideation may need additional support in accessing services and staying in care.¹¹ Which refers to a patient being engaged in healthcare, treatment or on medication as long as necessary for their recovery and well-being.¹¹

As rural residents continue to report increased rates of substance use conditions, it's critical to promote services that can support individuals living with behavioral health conditions and who may be at risk of adverse health events.⁸ Opioids were found to be linked to co-occurring mental health conditions that subsequently can increase the risk of suicide.⁹ This data supports the continued distribution of Naloxone, a medication that rapidly reverses an opioid overdose, to combat these issues. Additionally, education on the life-saving benefits of Naloxone should be promoted within communities with higher rates of reported substance use conditions.⁸

Figure 5. Rate of Suicide with Substance Use Conditions Present by County, 2019-2023



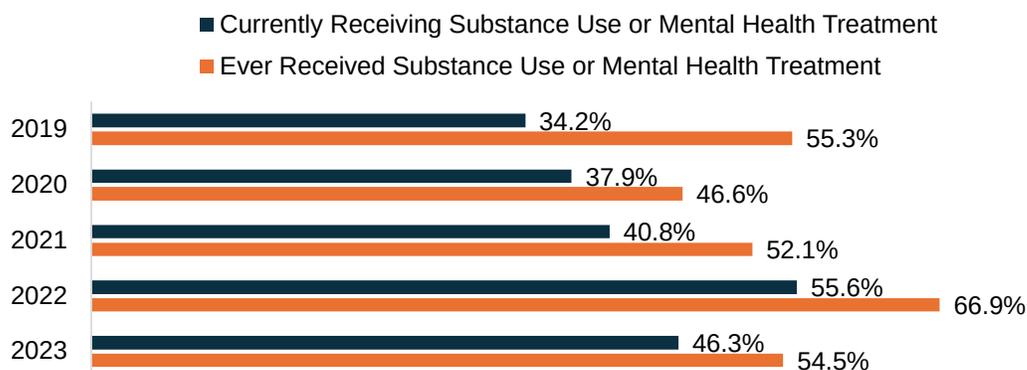
In rural communities, the [988 Suicide and Crisis Lifeline](#) should also be promoted to improve access to a supportive counselor for individuals experiencing emotional distress.

Substance Use or Mental Health Treatment among Suicides in ND

Substance use or mental health treatment data are only available if they were reported in the individual’s medical records, law enforcement reports or other related documents.² Acknowledging any underreporting in our variables due to data limitations, there are still potential gaps in treatment among ND residents due to social, economic and systemic barriers experienced by patients.²

Among ND residents 12 years of age and older who identified the need for substance use treatment, 2022-2023 estimates found that 76.8% did not receive treatment.¹³ These potential gaps in treatment reflect a need to continue to facilitate referrals to supportive behavioral health services.

On average from 2019-2023, more than half of the individuals who died by suicide with positive toxicology results had ever received substance use or mental health treatment (see **Figure 6**).² Similarly, from 2019 to 2023 there was an increase in individuals who were currently engaged in treatment at time of death.² Although these trends reflect successful expansions of behavioral health services in reaching more at risk patients there are still ways we can continue to engage new patients in care.

Figure 6. Treatment Enrollment among Suicides with Substances Present in ND, 2019-2023

To increase treatment enrollment among at risk patients in ND, a low barrier model of care should continue to be employed within healthcare.¹⁴ Low barrier care is a model for treatment that reduces the demands placed on a patient and makes behavioral health services more accessible, flexible and responsive.¹⁴ This model provides accessible care by expanding behavioral health treatment to meet patients where they are.¹⁴ In ND this may be done by using existing authorized Syringe Service Programs, mobile clinics or other community-based outreach.¹⁴

Low barrier care provides flexible treatment by adapting care to meet a patient's evolving needs, reducing program requirements and providing trauma informed care.¹⁴ Finally, the low barrier model provides responsive care, by establishing person-centered treatment that attends to the unique personal circumstances of each patient.¹⁴ These personal circumstances are addressed with comprehensive services such as counseling, medication for treatment, social services support and more.^{14,17}

As seen in **Figure 7**, ND has eight regions where low barrier models of care can continue to be implemented within behavioral healthcare to reduce the risk of dying by suicide.^{14,15} Within all eight ND regions there are approximately 87 behavioral health facilities that provide specific treatment for substance use, self-injury, and suicidal behaviors.¹⁶

Each region has differing rates of behavioral health facilities equipped to support patients with these co-occurring conditions. Region eight has the most facilities per 100,000 residents in the state, almost double that of any other region (see **Table 1**). These regional differences may impact treatment enrollment or access to resources among individuals due to social, economic or geographic barriers.¹⁶

To improve treatment enrollment, the SBIRT-SC model should be regularly employed within all healthcare facilities to identify patients in need of support.¹⁷

Figure 7. ND Regions by Rate of Behavioral Health Facilities per 100,000 Residents

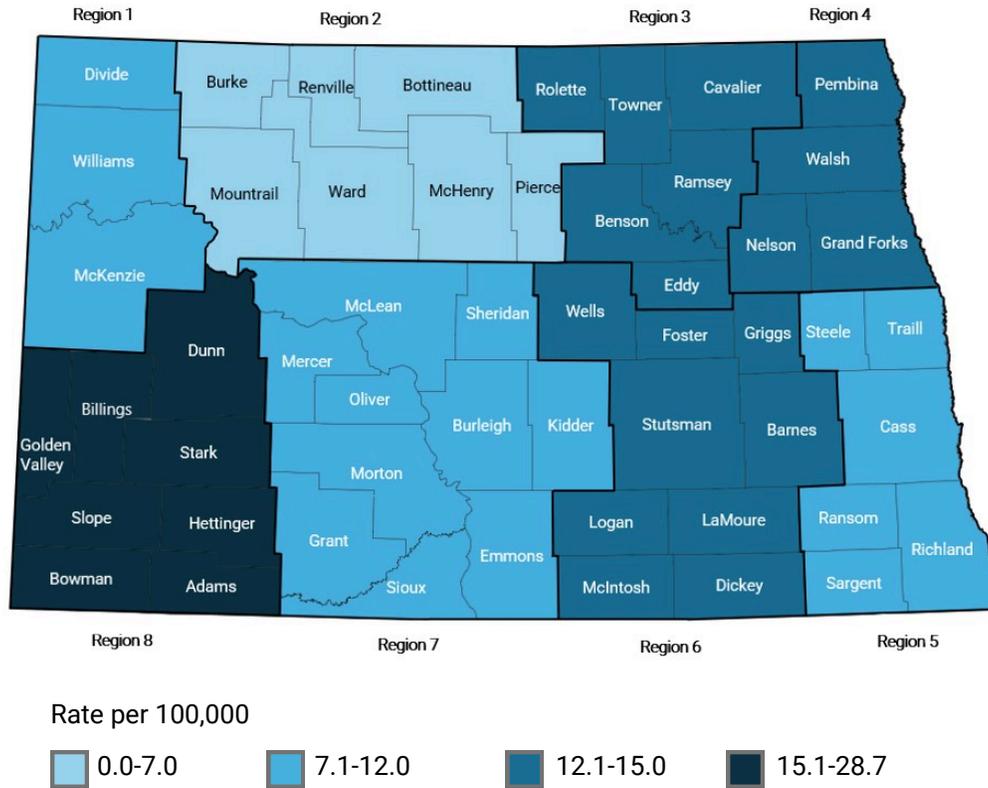


Table 1. Rate of Current Behavioral Health Treatment Facilities by Region, per 100,000 Resident

Region	Behavioral Health Treatment Facilities (per 100,000 residents) ¹⁵
Region 1	8.7
Region 2	6.1
Region 3	13.6
Region 4	12.8
Region 5	9.7
Region 6	14.5
Region 7	8.2
Region 8	28.7



Beyond screenings, substance use counselors within these treatment facilities should receive additional resources and support in identifying the warning signs and risk factors associated with suicide. Finally, within primary care, behavioral health and other community facilities, [988 Suicide and Crisis Lifeline](#) should be promoted to connect patients experiencing substance use and suicidal ideation with counselors who can provide emotional support.¹²

Recommendations

Based on the information provided in this data brief, we share the following recommendations:

- **Promote awareness of the co-occurring nature of substance use and suicidal behaviors** to improve early risk-factor identification among individuals who engage in polysubstance use and those living in rural communities.
- **Integrate suicide and substance use screenings into primary care, behavioral health, and community-based facilities**, to increase diagnosis and enrollment in high quality behavioral healthcare.
- **Improve access and retention to substance use and mental health treatment** by continuing to incorporate low barrier models of care.

This data brief highlights the relationship between substance use and the risk of suicide.

In ND individuals who experience suicidal ideation and substance use disorders, especially those in rural counties, are at increased risk of dying by suicide. With proper access to behavioral healthcare and prevention services, these associated risk factors can be mitigated.

As a part of ND HOPES, several health centers and hospitals across the state are implementing the SBIRT-SC model. This model involves screening patients for both suicide and substance use followed by providing brief interventions and follow-up care for people with identified risk.

We recommend [ND HOPES free Screening, Brief Intervention and Referral to Treatment – Suicide Care \(SBIRT-SC\) Training](#). Any licensed professional can be trained to deliver the components of SBIRT-SC; unlicensed professionals can be trained to deliver some components within the SBIRT-SC workflow. Individuals who have completed SBIRT-SC training report increases in knowledge, self-efficacy, and intentions to deliver the components of the model.

Screening patients for both suicide and substance use risk in general medical settings promotes earlier identification of people who are struggling and can work to connect patients to necessary treatments, reducing the risk of suicide. Many of our community partners are implementing a variety of other initiatives that help strengthen protective factors among ND residents.

Additional Resources

For locating suicide prevention resources near you, please see our [North Dakota Suicide Prevention Resource Inventory](#), or view [FirstLink's 2-1-1 Directory of Resources](#). We also recommend the [Rural Health Information Hub's Rural Suicide Prevention Toolkit](#) for those looking to learn more about mental health promotion and suicide prevention in rural areas.

If you or someone you know needs help, there are supportive national and state resources available. Call or text 988, or chat online at 988lifeline.org to connect with a trained counselor 24 hours a day, 7 days a week.

References

¹Numbers represent both ND residents and Out-of-State residents where the initial injury that led to death occurred in ND.

² [ND National Violent Death Reporting System](#)

³ [Addressing Suicidal Thoughts and Behaviors in Substance Use Treatment SAMHSA](#)

⁴ [ND Suicide Overview Dashboard](#)

⁵ [NDHHS, Behavioral Health Data Book 2025](#)

⁶ [Substance Use Disorder Increases Risk of Suicidal Thoughts and Attempts, Pew](#)

⁷ [NCHS Urban-Rural Classification Scheme for Counties](#)

⁸ [How States can Boost Behavioral Health Services in Rural Communities](#)

⁹ [Intersections of Substance Use and Suicide: Evidence and Key Take-Aways](#)

In 9.3% of the suicides from 2019-2023, the substance present in toxicology was identified as the decedents cause of death. (NDVDRS).

¹¹ [Pathways to Wellness: Integrating Suicide Prevention in Substance Use Disorder Treatment](#)

¹² [988 Suicide and Crisis Lifeline](#)

¹³ [National Survey on Drug Use and Health, 2021-2022](#)

¹⁴ [SAMHSA Low Barrier Models of Care for SUDs](#)

¹⁵ [ND Regional Behavioral Health Clinics](#)

¹⁶ [NDHHS Mental Health Program Directory](#)

¹⁷ [The Screening, Brief Intervention, and Referral to Treatment – Suicide Care \(SBIRT-SC\) model](#) is supportive low barrier care that can be implemented in primary care settings to reduce the risk of suicide among patients who engage in substance use.

¹⁸ [Framework | Zero Suicide](#)