THE INTERSECTION of SUBSTANCE MISUSE AND SUICIDE PREVENTION

An Opportunity for Alignment and Call to Action

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The purpose of this paper is to highlight the alignment of substance misuse and suicide as priority health issues. The goal is to identify strategies and leverage resources being used to address them, with the aim of decreasing associated morbidity and mortality.

Substance misuse and suicide are both preventable public health problems with similar risk factors. These similarities provide an opportunity for professionals working in health care and behavioral health care systems to develop comprehensive approaches, such as the following:

1. Creating learning opportunities for substance misuse and suicide prevention professionals
2. Recognizing opportunities to collaborate within organizations and among systems to design and deliver services, programs, and initiatives based on best practices
3. Reducing the barriers around organizational systems, including data and surveillance, funding, and care planning (e.g., screening, safety planning, and transitioning)

This paper provides data on substance misuse and suicide while highlighting the shared risk factors of the two. Mental health challenges and disorders combined with substance misuse and other health problems can increase the risk of suicide. Specifically, contributing factors including alcohol, opioid and non-opioid use, chronic pain, self medicating, and substance misuse in youth and those with racial trauma warrant further research, to determine the extent in which these factors compound risk. By examining and applying promising approaches in the field it is possible to lessen the risk of suicide associated with the above mentioned factors. It is recommended that these approaches be used in individual level suicide prevention safety planning, and in conjunction with current community level environmental suicide prevention strategies.

Relationship between Substance Misuse and Suicide

People at risk for substance misuse and suicide share certain risk factors compounded by mental health challenges, including co-occurring disorders and illnesses, especially depression. Some risk factors stem from environmental factors related to challenging life circumstances, such as family illness, discord, or disruption, chronic pain, grief, isolation, or lack of economic opportunity, among others. These circumstances can tax the human psyche and nervous system and require significant coping skills. These challenges can be compounded by other factors resulting in risk taking and life-threatening behaviors, such as impulsivity in youth or feelings of overwhelming burdensomeness in seniors. Professionals in both the suicide and substance misuse prevention fields need to be aware of shared risk and protective factors and implement prevention programming that reduces risk and enhances protective factors within the population and in communities.

Among the reported substances, alcohol and opioids are associated with the greatest risks of suicidal behavior (Parks et al., 2014). According to the Centers for Disease Control and Prevention, opiates (including heroin and
prescription pain medications) were present in 20% of suicide deaths, marijuana in 10.2%, cocaine in 4.6%, and amphetamines in 3.4% (Esang & Ahmed, 2018).

Of all the factors associated with suicide, only depression is more closely correlated than substance misuse (Bachmann, 2018). Individuals with a substance misuse disorder are nearly six times as likely to attempt suicide at some point in their life (National Institute of Mental Health, 2017). It is estimated that 60% of people who die by suicide have a mood disorder such as depression (U.S. Department of Health and Human Services [HHS], 2014). Depression may exist independent of substance use disorders or can be the result of substance use (Substance Abuse and Mental Health Services Administration [SAMHSA], 2005). It is possible for someone to have both independent and substance use–induced mental health disorders (SAMHSA, 2005). Studies have shown that those who attempted suicide were more likely to have depression, and many of those individuals had a substance use disorder (HHS, 2008).

Alcohol Use and Suicide

Compared with the general population, individuals with alcohol dependence and persons who use drugs have a 10 to 14 times greater risk of death by suicide, respectively (Wilcox et al., 2004). Approximately 22% of deaths by suicide have involved alcohol intoxication (Wilcox et al., 2004). Alcohol intoxication increases the risk of suicide by increasing depression and decreasing inhibitions. Underlying risks, such as genetic factors, personality traits, or past abuse or trauma, may put someone at risk for alcohol misuse. Progressively, the acute effects of alcohol use act as an important and more immediate risk factor for suicidal behavior. Mechanisms responsible for alcohol’s ability to increase the risk for suicidal behavior include the following: (1) increased psychological distress; (2) increased aggressiveness; (3) disinhibition, which propels suicidal ideation into action; and (4) constricted cognition, impairing the use of alternative coping strategies (SAMHSA, 2016).

Given the clear comorbidity of substance use disorder and mental health challenges, those with alcohol dependence should be screened for mental health disorders and those with mental health disorders should be questioned about drinking habits. For those seeking to stop drinking alcohol, treatment should be provided to decrease the risk of depression that can occur with cessation of alcohol use (Olson, 2017). Treatment plans should include routine screening for suicide risk, as well as creating a plan to address suicidality and ensure continuity of care (this includes providers, community, friends, and family) (Suicide Prevention Resource Center [SPRC], n.d.).

Opioid Use and Suicide

In 2019, more than 50,042 Americans died of opioid overdose (American Hospital Association, 2020). Given the nature of overdose, it is difficult to know “intent” when examining opioid overdose mortality (i.e., how many of these deaths were accidental and how many were suicides). Overdose deaths require more psychological evidence to be attributed to suicide than do other violent methods and may be underreported because of a lack of information regarding past suicide attempts, mood disorder, or suicide notes when a cause of death determination is made (SPRC, 2018). Men with an opioid use disorder were twice as likely to fall victim to suicide, and women with an opioid use disorder were eight times as likely to fall victim to suicide. Opioid use is associated with a 40% to 60% increased likelihood of suicidal thought and a 75% increased likelihood of suicide attempt. Some studies suggest that opioid and injection drug users are 13 times as likely to die by suicide (Oquendo, 2017).
Despite a nationwide drop in opioid prescriptions, opioids account for a majority of overdose deaths. However, only 8% of those who died of an overdose had a recent prescription (Arnstein, 2016). Physicians need to continue to limit exposure of opioids by prescribing nonopioid drugs and nondrug therapies to prevent pain when possible. Community-level education and prevention efforts should include drug disposal sites and education on the effects of nonprescribed opioids, especially for those taking benzodiazepines (sedatives), because concurrent use of these drug types increases the risk of overdose death.

Chronic Pain: A Predisposing Factor for Substance Misuse and Suicide

Individuals with chronic pain are twice as likely to report suicidal behaviors and die by suicide (Racine, 2018). There is growing evidence that substance use may be driven by the desire to reduce pain (Zale et al., 2015). Those who report co-occurring substance use disorder and chronic pain attribute pain as the main reason they began to misuse alcohol or substances (Zale et al., 2015). It is estimated that 10% of patients with chronic pain misuse opioids (National Institute on Drug Abuse [NIDA], 2021).

Pain-related factors, such as sleep problems, loss of physical functioning, mental health problems, concurrent chronic pain conditions, and frequent episodes of severe pain, are predictors of suicidality (Racine, 2018). In addition, pain catastrophizing, hopelessness, perceived burdensomeness, and social isolation add to this risk (Racine, 2018).

Chronic pain management programs should incorporate suicide screening and prevention, as well as alternative therapies, as part of their treatment protocols. This risk factor must be addressed in any comprehensive suicide prevention initiative, especially those including older adults. Some risk factors associated with chronic pain can be addressed through targeted interventions other than prescription drugs.

Self-Medication as a Coping Strategy

It is hypothesized that individuals may self-medicate with alcohol or drugs to cope with mental health disorders, medical problems, or stressful experiences to manage or help counteract the effects of these issues (NIDA, 2021; Turner et al., 2018). Self-medicating can lead to substance use disorders, increased risk for psychiatric comorbidity, and increased suicidal behavior (Turner et al., 2018). Although some drugs may reduce symptoms temporarily, there is evidence that drug use may worsen symptoms in the long run (NIDA, 2021).

A 2018 literature review found that of those using drugs and alcohol to cope with a mental health disorder, 20% had an anxiety disorder, 21% had post-traumatic stress disorder, and 23% had major depression (Turner et al., 2018).

Some people who self-medicate may have subclinical levels of mental health disorders that do not rise to a level of diagnosis (NIDA, 2021). The long-term use of substances to self-medicate can lead to changes in areas of the brain that are also affected by certain mental health disorders, thus leading to increased susceptibility to these disorders (NIDA, 2021). This finding underscores the need for continued use of sensitive screening practices.
While screening for mental health disorders, it is important for health care providers to inquire about self-medicating habits (Turner et al., 2018). Efforts should be made to identify those who are experiencing subclinical levels of mental health disorders to provide early support and treatment.

**Racial Trauma, Substance Use, and Suicide**

Suicide and fatal drug overdose deaths are rising within the Black, Indigenous, and people of color (BIPOC) communities. Preliminary 2020 data show that Black Americans have experienced a 45% increase, Latinx a 42% increase, and Asian Americans a 25% increase in suicide and drug overdose deaths since 2019 (Arthur, 2021). These data are in contrast to a 13% rise in suicide and overdose deaths in whites (who still have higher rates of suicide and overdose deaths overall) (Arthur, 2021).

There was a 51% increase nationally in drug overdose deaths for people of color in 2020, up from 48% in 2019 (Arthur, 2021). There is no way to know for sure whether these deaths were intentional or accidental; however, there is a strong correlation between heavy substance use and suicidal behaviors (Arthur, 2021).

Although the exact cause of the increased rates of overdose deaths and suicides is unknown, it is important to look at factors that make the BIPOC community vulnerable to substance misuse. Exposure to trauma, such as discrimination and racism, can lead to chronic stress, which makes individuals vulnerable to maladaptive behaviors, including substance use disorders (Amaro et al., 2021). Trauma as a risk factor for developing a substance use disorder is particularly significant in men (Connolly, 2019). This is especially troubling because minorities (primarily Black men) are more likely to experience racial trauma while at the same time facing harsher sentencing and higher incarceration rates for drug offenses, rather than receiving treatment and recovery services (SAMHSA, 2020). This reality creates fear and reduces help-seeking behavior (SAMHSA, 2020).

To address racial trauma and substance misuse, institutional racism and racial and cultural stereotypes must be removed from health and mental health services. Furthermore, mental health research, including the creation of screening tools, must include members of the BIPOC community. On the community level, stigma and shame surrounding mental health treatment needs to be reduced and help-seeking behavior encouraged. Racial trauma must be addressed on the community level and within health care systems.

**Youth Self-Harm and Suicide by Poisoning**

In 2018 poisoning accounted for 12.9% of suicide deaths in the United States across all age groups (National Action Alliance for Suicide Prevention [Action Alliance], 2019). Drug- and alcohol-related self-harm, suicide attempts, and deaths fall under the category of poisoning. Drugs are the predominate means used in suicide deaths by poison (Action Alliance, 2019; Smith, 2021). Poisoning by drug overdose includes illegal drugs as well as prescription and over-the-counter (OTC) medications (Action Alliance, 2019). When addressing suicide and self-harm through drug use, it is important to note that youth tend to use a single substance, whereas adults tend to use multiple substances in an attempt (Smith, 2021).

Youth are particularly at risk of suicide attempts and self-harm by poisoning. In the United States from 2000 to 2018, there was a significant increase in the rate of suicide attempts by poisoning among predominately female, youth (Spiller et al., 2019). More recently, the Northern New England Poison Center (NNEPC) reported a 44% increase in self-harm–related poisoning cases between October 2020 and February 2021 in youth ages 9 to 16 years (NNEPC, 2021). Within the same time period, the increase in self-harm–related poisoning cases...
among 13 and 14 year-olds increased 72%, with cases in girls in this age category increasing 81% (NNEPC, 2021). The most common substances used for self-harm for this age group are nonopioid pain medications and antidepressants, as highlighted by an 86% increase in poisonings involving OTC pain medications (Smith, 2021).

In addition to screening for mental health disorders and lethal means counseling, prevention initiatives should focus on public outreach regarding safe medication storage and drug disposal programs. Prevention initiatives should also focus on legislation on packaging and dose limitations of OTC pain medications.

Promising Approaches

Screening Brief Intervention and Referral to Treatment (SBIRT) and Youth SBIRT

Screening Brief Intervention and Referral to Treatment (SBIRT) data from 2018 to 2019 collected in Vermont indicate an association between substance misuse and suicide prevalence. The Center for Substance Abuse Treatment of the Substance Abuse and Mental Health Services Administration (SAMHSA) is supporting a youth- and young adult–focused Vermont statewide SBIRT initiative through Spectrum Youth & Family Services. Currently, various community and medical settings, including pediatric clinics, emergency departments, community drop-in shelters, school multicultural youth programs, and women’s health clinics, are using tablet-based universal screening for substance use and mental health (including the Patient Health Questionnaire-3 [PH-Q-3], with the item on suicidal ideation that ideally triggers higher levels of assessment when indicated) and motivational interventions. Data from the project add to our understanding of how substance use increased the prevalence of suicidal ideation in both adolescents and young adults in Vermont. In the Youth SBIRT data, another common and problematic addiction—"screen time"—is affecting mood and suicidal ideation.

Zero Suicide Safer Pathways to Care

Zero Suicide is an evidence-based set of principles and practices implemented by health care organizations and systems to decrease the risk that a patient will die by suicide (EDC, n.d.). It is important to address the intersection between suicide and substance use in the system of care. Examples include substance misuse and suicide screening using evidence-based tools and protocols to ensure timely adherence to best practices for addressing both the suicidality and the substance use and including how individuals are transitioned through care systems with the supports (contacts) they need to be successful. In some exemplary programs (e.g., Ulster County Jail, Kingston NY or Community Health Center, Cape Girardeau, MO), as the stages of change in substance use disorder treatment occur safety plans are made for overdose prevention, including the risk of suicide. Some substance use disorder treatment programs adapted Zero Suicide protocols to support staff in the delivery of Integrated Treatment for Co-occurring Disorders (ITCD) (EDC, 2018). There is a need for the development, implementation, and evaluation of more practical models for early intervention in substance misuse, to decrease the role of substance misuse as a risk factor for suicide.

Counseling on Access to Lethal Means (CALM)

Counseling on Access to Lethal Means (CALM) is critical training for all substance misuse and suicide prevention clinicians. Lethal means are actions or items that may be used in a suicide attempt. Examples of lethal means are firearms, poison (including drugs), hanging, suffocation, and jumping from tall structures.
CALM focuses on how to (1) identify people who could benefit from lethal means counseling, (2) ask about their access to lethal means, and (3) work with them and their families to reduce access (EDC, n.d.). There is evidence that reducing access or lethality of means is associated with a reduction in the suicide rate (Action Alliance, 2019).

Peer Recovery Supports

Peer supporters are individuals, in recovery and trained to provide support, who use their personal experience with mental health and/or substance use disorders to help guide, motivate, and mentor those in recovery (Davidson et al., 2020). The use of peer support staff can help remove the barrier of lived experience and understanding that may exist between clinical staff and individuals in recovery (SAMHSA, 2017). Research shows that peer support staff can produce outcomes similar to those reported with nonpeer support staff in comparable roles (Davidson et al., 2020).

In those with substance use disorders, research has shown that peer support helps increase treatment retention, increase access to social support, decrease involvement in the criminal justice system, and reduce relapse rates and substance use (SAMHSA, 2017). Generally, peer support can help reduce hospital readmissions, increase hopefulness and a sense of well-being, increase engagement with mental health providers, increase self-care, and decrease depression (Davidson et al., 2020).

Individuals with alcohol dependence and persons who use drugs, especially opioids, are at greatest risk for suicidal behavior and have higher suicide rates. Youth are particularly at risk of suicide attempts and self-harm as a result of substance misuse, with OTC pain medication being the primary substance used. Both substance misuse and suicidality have many shared risk factors and may be attributed to numerous factors. Those who suffer from chronic pain are more likely to report suicidal behaviors and die by suicide and attribute chronic pain as the main reason they began misusing drugs or alcohol. Self-medication may also stem from maladaptive coping methods to manage mental health disorders, medical problems, or stressful experiences. Long-term exposure to stress and trauma can make individuals vulnerable to substance misuse. This includes trauma caused by systemic racism and discrimination. Self-medicating can lead to substance use disorders and increased comorbidity with mental health disorders.

Physicians need to continue to limit exposure of opioids by prescribing nonopioid drugs and nondrug therapies to prevent pain, when possible, when working with patients who have short-term and chronic pain. While screening for mental health disorders, it is important for health care providers to inquire about substance use. Screening tools should be sensitive enough to identify those who are experiencing subclinical levels of mental health disorders, to provide early support and treatment. Furthermore, mental health research, including the creation of screening tools, must include members of the BIPOC community. Stigma surrounding drug use and suicide needs to be reduced to increase help seeking. This is especially true within the BIPOC community and among boys and men. Community-level prevention efforts should also provide education on appropriate lethal means storage, including proper drug storage. Education on the effects of nonprescribed opioids and drug disposal programs should be highlighted.

Programs such as CALM and Zero Suicide can help screen for suicidality, provide preventive actions, and ensure proper handoffs for treatment. For those in treatment, peer support professionals can increase treatment retention and follow-through by providing professionals with lived experience as mentors.
References


Education Development Center (EDC). (2018). *Substance use disorder in the Zero Suicide framework* [PowerPoint slides].
http://zerosuicide.edc.org/sites/default/files/Substance%20Use%20Disorders%20in%20the%20Zero%20Suicide%20Framework.Slides_Transcript.pdf

Education Development Center (EDC) (n.d.). *Zero Suicide.* https://zerosuicide.edc.org/resources/resource-database/counseling-access-lethal-means-calm


**Resources on This Topic**

**Webinars**

*Substance use disorders in the Zero Suicide framework.* This webinar, presented by the Zero Suicide Institute at the Education Development Center, highlights innovative ways that health and behavioral health care organizations are changing organizational practices and providing improved care for patients with substance abuse disorders who are at heightened risk for overdose and suicide.

*The intersection of opioids and suicide: A prevention approach.* (1 hour, 27 minutes) Slides are also available (PDF | 7.9 MB) The webinar, from CSAP’s National Prevention Week 2019 webinar series, features a discussion about the relationship and intersection between these two growing public health challenges and what prevention strategies and approaches can be used to address them at the national and state level.

*Integrating suicide prevention into the SBIRT model.* This webinar, presented by Brett Harris, PhD, describes suicide as a public health problem and explains how suicide screening and intervention can be integrated into the SBIRT model.

**Lethal Means Reduction Webinars and Presentations: Opioid Misuse Overdose and Suicide Webinar Series.**

SAMHSA’s Center for the Application of Prevention Technologies (CAPT) and the Suicide Prevention Resource Center (SPRC) hosted a national webinar series that explores the intersection of opioid misuse, overdose, and suicide as public health challenges and what prevention strategies and approaches can be used to address them at the national and state level.
suicide, with an in-depth look at chronic pain as a contributing factor to these related problems. These webinars examined the national narrative on opioids and suicide, by drawing on current research to define the scope of the problem and explore how these health concerns intersect. The purpose of this series was to illustrate the connections between suicide and opioid misuse, so substance misuse and suicide prevention practitioners can develop a coordinated response to them. The series highlights opportunities for alignment and feature examples of partnerships between the suicide and substance misuse prevention fields.

**Webinar #1:** In this webinar, presenters examine current research on the relationship between these problems, discuss opportunities for cross-sector collaboration to address them, and describe examples from the field where this work is already underway. [http://www.sprc.org/events-trainings/intersection-opioid-abuse-overdose-suicide-understanding-connections](http://www.sprc.org/events-trainings/intersection-opioid-abuse-overdose-suicide-understanding-connections)

**Webinar #2:** In this webinar, presenters examine common characteristics among people with chronic pain and discuss strategies for reducing the risk of opioid overdose and suicide in this population. [http://www.sprc.org/events-trainings/intersection-opioid-abuse-overdose-suicide-role-chronic-pain](http://www.sprc.org/events-trainings/intersection-opioid-abuse-overdose-suicide-role-chronic-pain)

**Publications**


**Literature Review**


Ilgen, M., & Kleinberg, F. (2011). The Link between substance abuse, violence, and suicide. *Psychiatric Times, 28*(1). A growing body of literature has identified the links among substance use disorders, interpersonal violence, and risk of suicide. This article provides a literature review and includes suggestions for how to identify patients with substance use disorder who may be at elevated risk for suicide.