

# Substance Use Disorder— A Risk Factor for Suicide Among Veterans



## From Science to Practice

Using Research to Promote Safety  
and Prevent Suicide

### Overview

*Substance use disorder (SUD) is associated with an increased risk for suicidal ideation, suicide attempts, and death by suicide.<sup>1</sup> SUD is also common among Veterans treated in the Veterans Health Administration (VHA). One study of VHA patients found that 10% met DSM-5 criteria for alcohol use disorder (AUD) and 5% met criteria for a non-alcohol drug use disorder.<sup>2</sup> Overall, 13% of VHA patients met criteria for an SUD, defined as meeting DSM-5 criteria for alcohol use disorder, a drug use disorder, or both.<sup>2</sup> Substance use disorder is treatable, and clinicians can facilitate access to treatment and support patients seeking treatment to reduce suicide risk.<sup>3</sup>*

## Key Findings

### Prevalence of, and Risk Factors for, Substance Use Disorder

- When tobacco is excluded, alcohol and cannabis are the most commonly used substances among Veterans.<sup>2</sup> Veterans aged 18 to 34 and Veterans who are unemployed have the highest prevalence rates of being diagnosed with a SUD.<sup>2</sup> Male Veterans have a higher prevalence rate of SUD compared to female Veterans, and Veterans who are divorced, widowed, or have never been married have higher prevalence rates of SUD relative to Veterans who are married or cohabiting.<sup>2</sup>
- Younger Veterans tend to have higher rates of heavy episodic drinking and prescription drug misuse than do their civilian counterparts, whereas older Veterans generally have lower rates than their civilian counterparts.<sup>4</sup>
- Veterans have a similar or slightly elevated age-adjusted overall prevalence of AUD and SUD

compared with civilians, and male Veterans ages 18–25 have an elevated prevalence of both.<sup>4</sup> The rate of AUD diagnoses among VHA patients is higher than the civilian rate.<sup>5</sup>

- Among a nationally representative sample of Veterans aged 21 and older, more than 40% have a life-time history of AUD. Compared to Veterans without AUD, Veterans with AUD have substantially elevated rates of comorbid anxiety disorders and drug use disorders, and suicidal ideation and suicide attempts.<sup>6</sup>
- In a study of returning Veterans, those with PTSD hyperarousal symptoms were more likely to engage in high-risk drug use in the future. Veterans who endorsed PTSD avoidance symptoms were more likely to engage in future high-risk alcohol use.<sup>7</sup>
- Specific PTSD symptoms may predict some substance use outcomes. Among Veterans, intrusion symptoms predicted use of opioids and stimulants. More specifically, trauma-related nightmares predicted future opioid use, while dissociative nightmares predicted future stimulant use.<sup>7</sup>

### Substance Use and Suicide Risk

- Among VHA patients, a current diagnosis of any SUD, including AUD, was associated with an elevated suicide risk; however, this relationship was less pronounced after adjustment for factors such as other psychiatric diagnoses.<sup>8</sup>
- Between 2000 and 2014, 27,741 Veterans enrolled in VHA primary care died by suicide. Of those, over a quarter had a SUD.<sup>9</sup> Forty-five percent (45%) of suicide decedents had no mental health or substance use diagnosis.<sup>9</sup>
- Among Veterans with recent VHA use who died by suicide in 2018, 59.6% had a mental health or SUD diagnosis in 2017 or 2018.<sup>10</sup> Suicide rates among Veterans receiving VHA care for any mental health or SUD diagnosis decreased from 58.6% per 100,000 in 2005 to 57.2 per 100,000 in 2018.<sup>10</sup>
- Drug problems may be a significant risk factor for suicidal ideation. The rate of suicidal ideation was 9.3 times higher among Veterans who reported drug problems

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than among those who did not, a difference in rate significantly greater than that found among civilians.<sup>11</sup>

- Among U.S. Veterans, those diagnosed with cannabis use disorder (CUD) had higher odds of current suicidal ideation, current and lifetime PTSD, anxiety, and mood disorders, and lifetime alcohol and nicotine dependence compared to Veterans who used cannabis but did not meet diagnostic criteria for CUD.<sup>12</sup> Compared to Veterans who never use cannabis, those who use cannabis had higher odds of SUD, current suicidal ideation, lifetime suicide attempts, and current and lifetime PTSD, anxiety, and mood disorders.<sup>12</sup>
- A study with a nationally representative sample of Veterans identified four classes of Veterans based on behavioral health characteristics. These classes were healthy Veterans (69% of the sample), Veterans with SUD (16% of the sample), Veterans with both personality disorder and substance use disorder (8% of the sample), and Veterans with major depressive disorder (7%). Suicide attempt was most prevalent among Veterans in the personality disorder-substance use disorder class, who were over 13 times more likely than Veterans classified as healthy to have a history of suicide attempt. Veterans with SUD alone were more than twice as likely to have a suicide attempt compared to Veterans in the healthy class.<sup>13</sup> Veterans in the personality disorder-SUD class were also more likely to experience homelessness and incarceration relative to Veterans classified as healthy.<sup>13</sup>

## Opioids and Other Prescription Substances

- The effect of opioid use on suicidal ideation and suicide attempts is stronger than the effect of use of other substances.<sup>1</sup> Among VHA patients, opioid use disorder (OUD) has one of the highest associated rates of suicide of the substance use disorders, although the relative rate for OUD compared with

other such disorders varies depending on patient gender and analytical model. Sedative use disorder is associated with a higher rate of suicide in all models and for both men and women.<sup>8</sup>

- People with OUD are 13 times more likely than those who do not have the disorder to die by suicide,<sup>14</sup> and VHA patients are seven times more likely than commercially insured patients to be diagnosed with OUD.<sup>15</sup> Although the number of male Veterans with OUD who die by suicide is greater, the suicide rate among female Veterans with OUD is higher.<sup>8</sup>
- Among Veterans seeking pain care through VHA, those with comorbid OUD and AUD or OUD and depression had increased risk for suicide attempt.<sup>16</sup>
- Depression, suicidal ideation, and chronic pain are also associated with overdose risk behaviors. Veterans who had elevated symptoms of depression, suicidal ideation, pain interference, or pain severity had elevated rates of overdose risk behaviors in the preceding month, both in comparison with Veterans who experienced lower levels of these symptoms and in comparison with their own behaviors when symptoms were less severe.<sup>17</sup>

## Female Veterans and Substance Use

- While a current diagnosis of any SUD was associated with increased risk for suicide among both male and female Veterans, the strength of the association was two to three times higher for women than for men.<sup>8</sup> Female VHA patients were also prescribed opioids at higher rates than male VHA patients.<sup>18</sup>
- The interaction between a diagnosis of AUD or SUD and PTSD was more strongly predictive of nonfatal intentional self-harm for female VHA patients than for male VHA patients. This interaction is stronger for SUD than for AUD.<sup>19</sup>
- A study of post-9/11 Veterans found that PTSD symptom severity predicted problems with future drug use among men. Among women, however, current drug use problems predicted future PTSD symptom severity.<sup>20</sup>

## Ways You Can Help

- VA's top clinical priority is preventing suicide among all Veterans. VA provides suicide prevention resources to build networks of support among community-based organizations, Veterans Service Organizations (VSOs), health care providers, and other local community members that strengthen protective factors for Veterans. Find out more at: [www.mentalhealth.va.gov/suicide\\_prevention/](http://www.mentalhealth.va.gov/suicide_prevention/)
- VA provides information on Caring Contacts, an evidence-based suicide prevention intervention that involves sending patients at risk for suicide brief, non-demanding expressions of care over a year. Find out more at: [www.queri.research.va.gov/centers/CaringContacts.pdf](http://www.queri.research.va.gov/centers/CaringContacts.pdf)



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- VHA, in collaboration with the Department of Defense (DoD) have developed Clinical Practice Guidelines (CPGs). CPGs are research informed recommendations on how to diagnose and treat medical or psychiatric conditions including suicide risk, substance use disorders, and opioid therapy for chronic pain patients. Find out more at: [www.healthquality.va.gov/](http://www.healthquality.va.gov/)
- Substances are often used in response to stress, anxiety, depression, and other mental health challenges. Despite the temporary relief a substance may seem to provide, increased substance use can lead to long-term consequences. VA has information on the signs and symptoms of SUD and how to screen for SUD. Find out more at: <https://www.mentalhealth.va.gov/substance-use/index.asp>
- Opioid therapy is not recommended for Veterans with acute suicide attempt risk or psychiatric instability unless closely monitored. VA provides an Opioid Taper Decision tool on offering patients safer drug and nondrug pain treatments, how to provide frequent follow-up, and how to discontinue opioids among high-risk patients as appropriate\*. Find out more at: [www.va.gov/PAINMANAGEMENT/Opioid\\_Safety/Clinical\\_Tools.asp](http://www.va.gov/PAINMANAGEMENT/Opioid_Safety/Clinical_Tools.asp)\*Discontinuing without proper safeguards can increase suicide risk.
- VA offers guidance on developing a safety plan and follow-up assessment for Veterans who screen positive for suicidal intent or behavior. Find out more at: <https://www.mentalhealth.va.gov/docs/vasafetyplancolor.pdf>

***There is no single cause of suicide. It is often the result of a complex interaction of risk and protective factors at the individual, interpersonal, community, and societal levels. To prevent Veteran suicide, we must maximize protective factors and minimize risk factors at all of these levels.***

## References

- 1 Poorolajal, J., Haghtalab, T., Farhadi, M., & Darvishi, N. (2016). Substance use disorder and risk of suicidal ideation, suicide attempt and suicide death: A meta-analysis. *Journal of Public Health*, 38(3), e282–e291.
- 2 Hoggatt, K. J., Harris, A., Washington, D. L., & Williams, E. C. (2021). Prevalence of substance use and substance-related disorders among us veterans health administration patients. *Drug and Alcohol Dependence*, 225, 108791.
- 3 Ilgen, M. A., Harris, A. H., Moos, R. H., & Tiet, Q. Q. (2007). Predictors of a suicide attempt one year after entry into substance use disorder treatment. *Alcoholism, Clinical and Experimental Research*, 31(4), 635–642.
- 4 Hoggatt, K. J., Lehavot, K., Krenke, M., Schweizer, C. A., & Simpson, T. (2017). Prevalence of substance misuse among us veterans in the general population. *The American Journal on Addictions*, 26(4), 357–365.
- 5 Seal, K. H., Cohen, G., Waldrop, A., Cohen, B. E., Maguen, S., & Ren, L. (2011). Substance use disorders in iraq and afghanistan veterans in va healthcare, 2001–2010: Implications for screening, diagnosis and treatment. *Drug and Alcohol Dependence*, 116(1–3), 93–101.
- 6 Fuehrlein, B. S., Mota, N., Arias, A. J., Trevisan, L. A., Kachadourian, L. K., Krystal, J. H., Southwick, S. M., & Pietrzak, R. H. (2016). The burden of alcohol use disorders in us military veterans: Results from the national health and resilience in veterans study. *Addiction*, 111(10), 1786–1794.
- 7 Livingston, N. A., Farmer, S. L., Mahoney, C. T., Marx, B. P., & Keane, T. M. (2021). The role of ptsd symptom clusters and criterion in predicting future high-risk drug and alcohol use among returning veteran men and women. *Psychological Services*.
- 8 Bohnert, K. M., Ilgen, M. A., Louzon, S., McCarthy, J. F., & Katz, I. R. (2017). Substance use disorders and the risk of suicide mortality among men and women in the us veterans health administration. *Addiction*, 112(7), 1193–1201.
- 9 Simonetti, J. A., Piegari, R., Maynard, C., Brenner, L. A., Mori, A., Post, E. P., Nelson, K., & Trivedi, R. (2020). Characteristics and injury mechanisms of veteran primary care suicide decedents with and without diagnosed mental illness. *Journal of General Internal Medicine*.
- 10 Office of Mental Health and Suicide Prevention. (2020). National veteran suicide prevention annual report. U.S. Department of Veterans Affairs.
- 11 Logan, J., A. Bohnert, A., Spies, E., & Jannausch, M. (2016). Suicidal ideation among young afghanistan/ iraq war veterans and civilians: Individual, social, and environmental risk factors and perception of unmet mental healthcare needs, United States, 2013. *Psychiatry Research*, 245, 398–405.
- 12 Hill, M. L., Nichter, B. M., Norman, S. B., Loflin, M., & Pietrzak, R. H. (2021). Burden of cannabis use and disorder in the u.s. veteran population: Psychiatric comorbidity, suicidality, and service utilization. *Journal of Affective Disorders*, 278, 528–535.
- 13 Edwards, E. R., Barnes, S., Govindarajulu, U., Geraci, J., & Tsai, J. (2021). Mental health and substance use patterns associated with lifetime suicide attempt, incarceration, and homelessness: A latent class analysis of a nationally representative sample of u.s. veterans. *Psychological Services*, 18(4), 619–631.
- 14 Wilcox, H. C., Conner, K. R., & Caine, E. D. (2004). Association of alcohol and drug use disorders and completed suicide: An empirical review of cohort studies. *Drug and Alcohol Dependence*, 76, S11–S19.
- 15 Baser, O., L. Xie, L., Mardekian, J., Schaaf, D., Wang, L., & Joshi, A. V. (2014). Prevalence of diagnosed opioid abuse and its economic burden in the veterans health administration. *Pain Practice*, 14(5), 437–445.
- 16 Ashrafioun, L., Zerbo, K., Bishop, T. M., & Britton, P. C. (2020). Opioid use disorders, psychiatric comorbidities, and risk for suicide attempts among veterans seeking pain care. *Psychological Medicine*, 50(12), 2107–2112.
- 17 Cleland, C. M., Bennett, A. S., Elliott, L., Rosenblum, A., Britton, P. C., & Wolfson-Stofko, B. (2020). Between- and within-person associations between opioid overdose risk and depression, suicidal ideation, pain severity, and pain interference. *Drug and Alcohol Dependence*, 206, 107734.
- 18 Brennan, P. L., Del Re, A. C., Henderson, P. T., & Trafton, J. A. (2016). Healthcare system-wide implementation of opioid-safety guideline recommendations: The case of urine drug screening and opioid-patient suicide- and overdose-related events in the veterans health administration. *Translational Behavioral Medicine*, 6(4), 605–612.
- 19 Gradus, J. L., Leatherman, S., Curreri, A., Myers, L. G., Ferguson, R., & Miller, M. (2017). Gender differences in substance abuse, PTSD and intentional self-harm among veterans health administration patients. *Drug and Alcohol Dependence*, 171, 66–69.
- 20 Livingston, N. A., Lee, D. J., Mahoney, C. T., Farmer, S. L., Cole, T., Marx, B. P., & Keane, T. M. (2021). Longitudinal assessment of ptsd and illicit drug use among male and female oef-oif veterans. *Addictive Behaviors*, 118, 106870.



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