# Smoking, Smoking-Related Conditions, and Suicide Risk

From Science to Practice

*Using Research to Promote Safety and Prevent Suicide*

## Overview

***In the United States, smoking accounts for more than 480,000 deaths annually (about 1 in 5 deaths), making it the leading cause of preventable deaths as well as disease and disability.[1] In 2021, approximately 28.3 million U.S. adults (11.5% of the population) aged 18 or older were current cigarette smokers[2] and more than 16 million had a smoking-related condition.[1] Military Service members and Veterans are more likely to smoke than civilians,[3,4,5] particularly those who have been deployed.[4] Smokers are at increased risk for suicidal ideation, [6,7,8] suicide plan,[7,8] suicide attempt,[7,8] and suicide death [7,8] compared to those who have quit smoking or have never smoked. A combination of behavioral counseling and cessation medication is the most effective way clinicians can help Veterans to quit smoking.***

## Key Findings

### *General Population*

- According to the Centers for Disease Control and Prevention (CDC), nearly 40% of all cigarettes smoked by U.S. adults were consumed by those who have been diagnosed with a mental health or substance use disorder.[9] In 2022, 14.1% of U.S. adults without a mental health disorder smoked cigarettes in the past month compared to 21.9% and 26% who had been diagnosed with any mental health disorder or a serious mental health disorder, respectively.[10]
- A meta-analysis (k=20) with a sample of over 2 million participants found that both former and current smokers were at risk for suicidal ideation, suicide attempt, and death by suicide compared to non-smokers, including those diagnosed with a mental health disorder. Risk of suicidal ideation and behaviors was greater among current smokers when compared to former smokers. [7]
- Smoking conventional cigarettes, electronic cigarettes, or exposure to second-hand smoke had a dose-dependent association with suicide.[11] A systematic review (k=19) found that nicotine uptake into the brain through inhalation can lead to increased impulsivity. Likewise, impulsivity or immediate action regulation that is impaired may predispose one to smoking and suicide. The relationship between smoking and impulsivity may be strengthened by stress.[11]
- While current male smokers had twice the risk for death by suicide compared to male non-smokers, current female smokers were at even greater risk for death by suicide than their male counterparts as well as compared to female non-smokers.[7] Among women aged 18 to 65 who were hospitalized for suicide or self-inflicted injuries (n=1,031,693), being a current smoker was found to be a risk factor, particularly among those aged 31 to 45.[12]
- Smoking may increase the risk for suicidal behavior, as well as anxiety, depression, schizophrenia, and dementia.[13]
- Pharmacotherapies such as bupropion, varenicline, nicotine replacement and cognitive behavioral therapy (CBT) interventions may help reduce smoking rates and promote and sustain abstinence. While suicide risk may be present when trying to quit smoking, there does not seem to be a significant increase in such risk due to the use of smoking cessation interventions.[14]
- Among individuals diagnosed with a serious mental illness (n=235) who participated in a Healthy Lifestyles intervention, smoking reduction was associated with reduced suicidal ideation at 12 months after baseline. The Healthy Lifestyles intervention aimed to encourage smoking cessation and improvements in diet and physical activity by using a combination of motivational interviewing and CBT.[15]
- A systematic review found that mental health does not worsen due to quitting smoking. Rather, smoking cessation was associated with improved symptoms of anxiety and depression. Furthermore, smoking cessation improved symptoms of stress, positive affect, and psychological quality of life.[16]

## Veteran Population

- Analysis of data from the 2015-2017 National Survey on Drug Use and Health showed that tobacco use was significantly higher among all Veteran age and sex subgroups than their civilian counterparts except among males aged 50 years or older.[17]
- The 2023 Survey of Veteran Enrollees' Health and Use of Health Care, which surveyed over 41,000 Veterans enrolled in VA's health care system, found that over half (55%) of Veterans had a history of smoking. An increasing number of Veterans have successfully quit smoking, with about 2% reaching this milestone.[18] Overall, the rate of current smokers has decreased over time, from about 15% in 2019 to 11% in 2023.[18]
- Electronic cigarette (e-cigarette) use has become increasingly prevalent among Veteran enrollees, as e-cigarette use jumped from 3.8% to nearly 5% from 2021 to 2023.[18] Veterans younger than 45 years of age had higher rates of using smokeless tobacco (7%) and e-cigarettes (13%) within the overall enrollee population.[18] Male Veterans' use of smokeless tobacco products (5%) surpassed that of female Veterans (1%) whereas a higher e-cigarette use was evident in female Veterans (9% vs 5% in males).[18]
- Several military-specific factors associated with smoking among Veterans included service era, duration of service, exposure to wounded, dying, or dead soldiers, having a service-connected disability, and enrollment in VA care.[19]
- A study examining cigarette smoking among Service members (n=67,029) during and after transitioning from military service found that smoking is more prevalent among Veterans than among active duty Service members.[20] Service members tended to smoke more the closer they got to separation from service. Among this sample, the most influential predictor of current smoking was baseline smoking. Other risk factors included alcohol use, stress, and mental health conditions.[20]

## Mental Health Among Veterans Who Smoke

- A study of over 4.8 million Veterans Health Administration (VHA) users who accessed care within a single fiscal year assessed suicide deaths over a 3-year follow-up period. Of the Veterans included in the cohort, 15.5% were diagnosed with tobacco use disorder. During the follow-up period, 4,823 Veterans died by suicide. Of those, 1,237 had tobacco use disorder. Even after adjusting for possible confounders including psychiatric conditions, tobacco use disorder was associated with an increased risk of suicide.[21]
- A study of Veterans (n=224,193) who received outpatient care from the VHA sought to examine rates of smoking among patients with mental health disorders. Almost 19% of the participants were current smokers. Of those, over half had a substance use disorder.[22] Data from the 2016-2017 Vietnam Era Health Retrospective Observational Study found that, among Veterans who were ever smokers, the odds of current substance use were approximately 1.5 to 3.5 times those of non-smokers.[23]
- Other common mental health diagnoses among smokers were schizophrenia and bipolar disorder.[22] Veterans with a mental health disorder were more likely to smoke than those without a mental health disorder.[22] Regardless of mental health disorder type, most Veterans received cessation services.[22]
- One study found that Veterans with psychotic disorders like schizophrenia were less likely to receive pharmacotherapy for tobacco cessation, while those with psychiatric disorders such as depression were more likely to receive such treatment.[24]
- Smoking is associated with high suicide risk among Veterans.[25] In a study that utilized a trans-diagnostic community sample of Veterans, three suicide risk groups were identified. First, those with a previous suicide attempt or suicide ideation/plan that required hospitalization (n= 1,269). Second, those with suicidal ideation alone (n= 109,876). Third, those with no history of suicidal ideation or behavior (n=242,872). Veterans who smoked were twice as likely to have a history of suicide attempts than suicidal ideation. And high suicide risk was more strongly associated with smoking than with major depression.[25]
- Smoking is a known cause of chronic obstructive pulmonary disease (COPD), a chronic hypoxic condition, which may increase suicide risk in Veterans. A large VA health care cohort study analyzed patients for three markers of hypoxia (smoking, altitude, and COPD) in relation to completed suicides.[26] Veterans with two hypoxic conditions, such as smoking and COPD, had 2.62 higher odds of dying by suicide compared to those with no conditions.[26]
- In a nationally representative sample of U.S. Veterans (n=3,157), co-occurring smoking and obesity was

associated with mental and physical health issues. Compared to Veterans who were obese, Veterans with co-occurring smoking and obesity had higher rates of suicidal ideation and suicide attempts.[27] These Veterans also had higher rates of alcohol use disorders and nicotine dependence.[27]

- A longitudinal study examined smoking and its relationship with depression and posttraumatic stress disorder (PTSD) among Veterans (n=1,230) over 18 months across 5 time points (baseline, 6 months, 9 months, 12 months, and 18 months).[28] At baseline, more frequent smoking was associated with greater increases in depression symptom severity, while greater depression severity at baseline was, over time, associated with a less steep decrease in smoking frequency. At baseline, PTSD was associated with less smoking, but more frequent smoking was observed at 6, 9, and 12 months.[28]
- Among U.S. Veterans with co-use of tobacco products (e.g., cigarettes and nicotine vaping products) and cannabis (n=1,230) in the past 30 days, significantly higher levels of anxiety, depression, PTSD, and stress were endorsed when compared to Veterans who only used tobacco.[29]

# Ways You Can Help

- Smoking is harmful to one's overall health and can increase suicide risk. Discuss the risks of smoking with Veterans and emphasize the health benefits of quitting or reducing smoking. Ask all Veterans about their tobacco use. Advise them to quit using strong, personalized language. And provide them with evidence-based treatment – ideally a combination of behavioral counseling and pharmacotherapy.
- Smoking affects everyone differently. VA offers ***specialized resources***, tailored for different people facing different challenges.
- Review the ***VA/DoD Clinical Practice Guideline for the Assessment and Management of Patients at Risk for Suicide*** and develop a safety plan with Veterans, including their families and caregivers when possible.
- Consider the use of FDA-approved medications to help Veterans manage nicotine withdrawal symptoms and cope with the urge to smoke. Combination nicotine replacement therapy and varenicline are the most recommended options for medication treatment.
- Provide tobacco cessation counseling to Veterans in person or remotely. Discuss their tobacco use with them, ways to remove tobacco from their life, how to cope with triggers, and aid them in making a lifestyle change to stay tobacco-free.
- VA's free telephone quitline, 1-855-QUIT-VET (1-855-784-8838), offers tobacco cessation counseling to any Veteran who receives their health care through VA. Veterans can call between 9am and 9pm ET Monday – Friday to speak with a quit coach in English or Spanish.
- Equip Veterans with mobile health (mHealth) programs, which may enhance treatment through increased reach and engagement.[30] ***VA's SmokefreeVET*** sends daily text messages that provide support, encouragement, and tips for quitting tobacco products like cigarettes and chew. SmokefreeVET works on any mobile phone with texting capabilities and is available in English and Spanish.
- The ***Stay Quit Coach mobile app*** can be used to develop a customized plan. It provides information, motivational messages, interactive tools for dealing with urges, and support to help Veterans stay smoke-free.
- Visit ***VHA TRAIN*** for free continuing medical education courses, including courses on smoking, smoking-related conditions, and smoking cessation.
- Hear from the experts about evidence-based tobacco treatment. ***VA's Tobacco Unfiltered***: Conversations with Clinicians podcast shares strategies for offering and providing tobacco treatment, how to build a tobacco treatment program, and understanding the health impacts of tobacco use. The podcast is geared to provide actionable clinical takeaways for front-line providers.

# Smoking, Smoking-Related Conditions, and Suicide Risk

***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.***

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