

FORUM

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Commentary

Treating Substance Use Disorders in the Same Way We Treat Other Chronic Diseases

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According to the U.S. Surgeon General's Report, *Facing Addiction in America*, illicit drug use, risky alcohol use, and substance use disorders (SUDs) cost over \$400 billion in the United States annually in the form of health care costs, lost productivity, associated crime, and premature death; these costs significantly outpace those associated with other chronic illnesses like diabetes, which is estimated to cost \$245 billion annually.¹ In 2017 alone, over 70,000 individuals died from a drug overdose. Substance use and associated mental health and medical problems are the primary drivers of the recent decrease in life expectancy in the United States. Evidence-based SUD prevention and treatment, including medications, improve health and save lives yet are rarely integrated into healthcare settings.

In the Veterans Health Administration (VHA), the nation's largest integrated healthcare system, SUD care is included in the uniform medical benefits for each enrolled Veteran—making VHA the largest SUD provider in the United States. Among the 6 million Veterans treated in fiscal year (FY) 2019, more than 550,000 were treated for SUDs, with 170,000 receiving care in SUD specialty care settings.

Pathophysiology of SUDs

SUDs are caused by repeated exposure of the brain to addictive substances. The requisite exposure to induce SUD varies according to the characteristics of the substance (e.g., higher potency substances and frequent use confer higher risk) and the individual (e.g.,

posttraumatic stress disorder or younger age at first use confer higher risk). Addictive substances are able to activate primitive brain pathways that mediate split-second decisions necessary for survival.² This circuit activation can impair decision-making, falsely conveying that the substance is more important for survival than food or water. Repeated substance exposure induces enduring changes in neural circuits that disrupt emotion regulation and motivation, and manifest as signs and symptoms of SUD. Limiting exposure to addictive substances can prevent negative personal and public health impacts of SUDs. For those who have developed SUDs, treatment reduces symptoms such as craving, withdrawal, and impaired decision-making regarding continued drug use. However, vulnerability to relapse persists. The Surgeon General recommends a continuum of care for SUD, including primary prevention, early intervention, treatment, and long-term recovery support.

VHA's Public Health Approach

VHA's public health approach to SUD care is guided by the VA and Department of Defense Clinical Practice Guideline for the Management of Substance Use Disorders (SUD CPG) and facilitated by the integration of SUD care throughout the VA healthcare system.³ The SUD CPG contains evidence-based recommendations for prevention, stabilization of withdrawal, and treatment of specific SUDs. The National SUD Program within the Office of Mental Health and Suicide Prevention develops policy to promote access

to guideline-recommended care and partners with the Center of Excellence in Substance Addiction Treatment and Education (CESATE), the Program Evaluation and Resource Center, Pharmacy Benefits Management, Primary Care, the VHA Enterprise Opioid Strategy Team, and others to facilitate national policy implementation and address emerging challenges in SUD treatment.

Primary Prevention. In parallel with a rise in opioid analgesic sales, overdose deaths have risen dramatically in the United States, from 5,990 in 1999 to 47,600 in 2017. Many patients exposed to opioids for pain management have developed opioid use disorder (OUD) and many others have developed OUD through misuse and diversion of prescribed medications. Prescription drug use often precedes illicit use. For example, 45 percent of those using heroin began with prescription opioid use. Reducing population exposure to opioid analgesics remains a top priority to prevent opioid overdose deaths and OUD.

The VHA Opioid Safety Initiative has reduced opioid prescribing for Veterans who receive care in VHA by more than 56 percent over the past five years. Seventy-five percent of this reduction is attributed to not starting Veterans with chronic, non-cancer pain on long-term opioid therapy, and instead utilizing multimodal strategies that manage pain more effectively long-term. The Whole Health system of care, including complementary and integrative treatments (such as massage

DIRECTOR'S LETTER



Mental health (MH) services are a persistent strength of VA care.¹ Not only are services more available and comprehensive than outside VA, they have been integrated with primary care services as part of a decade-old national strategy.² As a result, quality of MH care in VA regularly outpaces that provided in the private sector.³ Nonetheless, as outlined in

this issue of FORUM, there is still progress to be made in substance use treatment, and research that is needed to get us there. One issue is how to better integrate specialty and primary care services when it comes to substance use and abuse, as outlined by Drexler and Burden. The opioid crisis has revealed the need to rethink our reliance on specialty addiction services, and to conduct the necessary research to help primary care teams take on a more expanded role in helping dependent patients. The State of the Art Conference on Opioid Use and Abuse last year highlighted the need to study a number of important questions, including how best to taper Veterans off of potentially dangerous doses of opioids, and how to increase the prescription of opioid agonists such as buprenorphine for patients with opioid use disorder. Both of these challenges will place PACT teams at the center. We hope a new research solicitation later this summer will kick start a new generation of research to keep VA ahead in the campaign to help patients with addictions. At the same time, we need to remember that despite the scourge of opioids, the legal drugs alcohol and tobacco still kill many more Veterans, and that the country is undergoing a large national ex-

periment in marijuana legalization with a general lack of good data on the potential risks of marijuana for Veterans.⁴ One doesn't need to oppose legalization to acknowledge that marijuana is likely to become a problem for some Veterans and to observe that we don't know much about how to detect harms of marijuana nor how best to intervene. The good news is that steady incremental progress against alcohol and tobacco has been a success story for VA and can continue to be a success story going forward. This success will require a close partnership among researchers and operational partners, combining research on what works best, implementation studies to tell us how to spread successful programs, and committed clinical leaders to build support and execute on their vision.

David Atkins, MD, MPH, Director, HSR&D

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therapy, yoga, Tai Chi, etc.), is an important component of primary OUD prevention in VHA. In the first two years of implementing Whole Health, Veterans with chronic pain who used VHA's Whole Health services realized a three-fold reduction in pain compared to those who did not.

Early Intervention. VHA provides universal annual screening, brief intervention, and treatment for at-risk alcohol use and alcohol use disorder (AUD). Risky alcohol use claims over 88,000 lives each year in the United States. Many of the lives lost are individuals without a diagnosis of AUD. For such individuals, screening and brief intervention involving feedback and advice by a health care

professional reduces alcohol consumption and its negative health impacts. The Surgeon General's Report indicates that only about one in six adults reports being asked about alcohol use, and less than 10 percent of health plans verify that screening is performed. VA Health Services Research & Development (HSR&D)-supported research demonstrates that the consumption questions of the Alcohol Use Disorders Identification Test (AUDIT-C) are an effective alcohol screening tool. VA policy and clinical reminders in the electronic health record support annual AUDIT-C screening and brief intervention, and in contrast to the broader population, in FY 2019, 96 percent of VHA-treated Veterans were screened for at-

risk alcohol use, and 84 percent of those with a positive screen received brief counseling.

Treatment. SUD treatment reduces healthcare costs and saves lives. Every VA facility provides SUD CPG-concordant care including medication and psychosocial treatments for alcohol, cannabis, opioid, stimulant, and tobacco use disorders. VA offers a continuum of care, from screening, brief counseling, and medications in primary care to outpatient, intensive outpatient, and residential SUD specialty care. SUD specialty care includes mental health evaluation and treatment of co-occurring medical and mental health concerns as well as co-occurring psychosocial needs as indicated to sustain recovery. In 2018, VHA took initial

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The Cascade of Care Can Help Tailor Substance Use Disorder Interventions

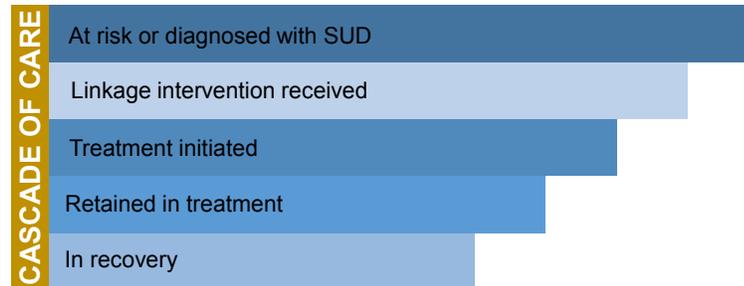
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In their lead commentary article, Dr. Drexler and Dr. Burden state the need to treat substance use disorders (SUDs) in the same manner as other chronic diseases by providing a comprehensive management approach that encompasses prevention, identification, early intervention, treatment, and recovery. In agreement, substance use researchers have suggested using the “cascade of care” framework to identify gaps along the continuum of care and to tailor interventions that improve the quality and outcomes of care (Figure 1). The cascade of care has been shown as a useful tool to monitor system-wide effectiveness and performance across the continuum of care for chronic diseases such as HIV and diabetes. Identifying where major gaps occur along the care continuum helps clinicians and researchers design intervention strategies to address them.

The most prevalent substance use problems among Veterans are heavy episodic drinking and cigarette smoking. In nationally-representative samples, 15.1 percent of Veterans had past-year alcohol use disorder (AUD) and 23.1 percent had past-year tobacco use disorder.¹ In contrast, 3.3 percent of Veterans had past-year cannabis use disorder, and ≤1 percent had an opioid, cocaine, sedative, or stimulant use disorder.¹ Only 28.7 percent of Veterans with a past-year SUD received treatment.¹ Of more than 300,000 VHA patients with AUD annually, only about one-third receive treatment in VHA specialty addiction programs.

VHA mandates that all Veterans presenting at primary care clinics receive annual alcohol screening, and that those with a positive screen receive brief counseling. Patients with a positive alcohol screen should be referred to specialty SUD care in those cases when they either have not reduced drinking in response to previous brief counseling, have an AUD diagnosis or a screening score indicating probable AUD, or have co-occurring mental health or medical conditions that can be worsened by alcohol use. As Dr. Drexler and

Figure 1. Cascade of SUD Care (adapted from NIDA)



Dr. Burden report, 96 percent of VHA-treated Veterans are screened for at-risk alcohol use, and 84 percent of those with a positive screen receive brief counseling. Brief counseling may be associated with reduced drinking.² However, among VHA primary care patients identified as engaging in high-risk alcohol use, only about one-third receive advice on alcohol-related treatment options or are offered a psychosocial intervention within 30 days after identification.² Even lower percentages of Veterans initiate and are retained in AUD treatment when it is offered to them.² For example, among VHA patients with documented AUD, only 8.5 percent receive any type of approved AUD pharmacotherapy. Significant gaps exist such that more should be done to increase access to and utilization of SUD treatments.

Different care delivery models are needed to offer treatment to Veterans with SUD and increase treatment initiation and retention.³ Substantial barriers exist to linking patients with SUD to treatment, and understanding these barriers is critical to helping clinics and providers identify strategies that may improve linkage. Barriers are well-documented and can be categorized as pertaining to the patient, provider, or care system. Patient-level barriers include not perceiving a need for services, difficulties accessing inconvenient treatments (long wait times, travel distances, inflexible hours), stigma associated with help-seeking, and lack of self-efficacy, motivation, and social support. Provider-level barriers include lack of cultural competence and knowledge about available treatment options, beliefs that addiction treatment is ineffective, and

lack of training in SUD treatment. System-level barriers include limited collaboration between care sites.

Research shows that components of referral to treatment (e.g., brief discussions of treatment options, encouraging or prescribing appointment-making, booster sessions) are insufficient in helping patients link to SUD treatment. More intensive yet feasible interventions need adoption to effectively connect patients with SUD to the next care setting.³ Ongoing, supportive contact over time may be needed for patients to recognize and agree that their substance use is problematic and requires behavior change that may be more likely to occur with treatment. An example of such contact delivery is telephone monitoring, which has been shown to decrease repeat detoxifications among Veterans. Another example is delivery of 12-step facilitation interventions that increase Veterans’ involvement in 12-step groups after SUD outpatient treatment, improve patients’ drinking outcomes, and save health care costs. Brief case management also has promise for overcoming potential barriers that interfere with linking patients to SUD treatment, and may be feasible for medical settings such as primary care, pain clinics, or emergency departments with limited time, staffing, and other resources. Brief case management consisting of assessment, planning, monitoring, and advocacy, and teaching patients how to leverage existing skills and strengths to promote treatment linkage, improve initiation of SUD treatment more than motivational interviewing or standard referral. Although possibly requiring more resources to implement, brief case management may help primary care and other settings to overcome patient- and system-level barriers to SUD care.

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Implementing Medication Treatment for Opioid Use Disorder in VA Facilities

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Despite reductions in opioid prescribing, opioid use disorders (OUD) and overdose deaths among Veterans have continued to rise. Use of efficacious and cost-effective medications for the treatment of opioid use disorder (MOUD), including methadone, buprenorphine, and naltrexone, is associated with reduced opioid use and mortality. Historically, MOUD in VA has been prescribed through substance use disorder specialty care clinics and therefore has not reached Veterans who do not visit these clinics.

To expand access to MOUD, VA's Office of Mental Health and Suicide Prevention (OMHSP) launched the Stepped Care for Opioid Use Disorder Train-the-Trainer (SCOUTT) Initiative. SCOUTT aims to improve access to MOUD in primary care, pain management, and mental health clinics (hereafter Level-1 clinics) at 18 VA facilities nationwide in Phase 1, followed by an additional 18 facilities in Phase 2. Because methadone is available only in licensed opioid treatment programs, SCOUTT is focused on increasing prescribing of buprenorphine and injectable naltrexone.

A Stepped Care, Population-Based Approach

SCOUTT uses a stepped care, population-based approach that promotes screening, assessment, and management of health conditions with the most effective, yet least intensive, intervention first, stepping up intensity of care as needed. SCOUTT launched in August 2018, with an in-person two-day meeting to train implementation teams to deliver MOUD using two proven treatment models for OUD: medication management and collaborative care. Facility-based implementation teams are cross-disciplinary and include Veterans Integrated Service Networks (VISN) leaders and four to five providers representing clinic leadership, prescribers, medical staff, behavioral experts, and pharmacists. Implementation teams assist with the spread of MOUD treatment using a train-the-trainer model, in which team members

receive training to deliver intervention content and then train others to do the same to spread the intervention. Two Health Services Research & Development (HSR&D) Partnered Evaluation Centers received funding to deliver implementation facilitation and to evaluate, quantitatively and qualitatively, the success of the SCOUTT initiative. We summarize findings related to SCOUTT's external facilitation approach and prescribers' attitudes on prescribing MOUD in the initial year of SCOUTT implementation.

SCOUTT employs an ongoing, external approach to implementation facilitation that includes conference calls with implementation teams to identify and address implementation barriers, monthly all-site conference calls to promote community-building, webinars to address gaps in providers' knowledge, and expert consultation and/or site visits. External facilitation strategies were designed to address barriers commonly reported by clinicians, including stigma and/or discomfort around providing MOUD treatment, concerns about being overwhelmed by requests to prescribe buprenorphine, and gaps in providers' knowledge about OUD and its treatment. While prior studies have examined primary care physicians' attitudes regarding MOUD, few have been conducted in VA outpatient settings, included non-MD prescribers or prescribers from a variety of settings, or examined changes in attitudes over time.

To inform ongoing external facilitation and evaluate SCOUTT implementation, we conducted a longitudinal survey during the first year of the initiative to understand factors associated with successful implementation, including providers' attitudes about MOUD—assessed by the Drug and Drug Problems Perceptions Questionnaire (DDPPQ) subscales—and barriers and facilitators to delivering MOUD in non-traditional settings. We hypothesized that providers' perceptions of MOUD and the feasibility of delivering MOUD care would improve over time. All prescribers, MDs,

Key Points

- Opioid use disorders (OUD) and overdose deaths among Veterans continue to rise.
- VA's Office of Mental Health and Suicide Prevention launched the Stepped Care for Opioid Use Disorder Train-the-Trainer (SCOUTT) Initiative to improve access to medications for the treatment of opioid use disorder (MOUD) in primary care, pain management, and mental health clinics.
- SCOUTT uses a stepped care, population-based approach that promotes screening, assessment, and management of health conditions.
- VA has prioritized expanding the reach of MOUD; results from the SCOUTT Initiative can guide changes needed to improve access to MOUD in non-traditional settings.

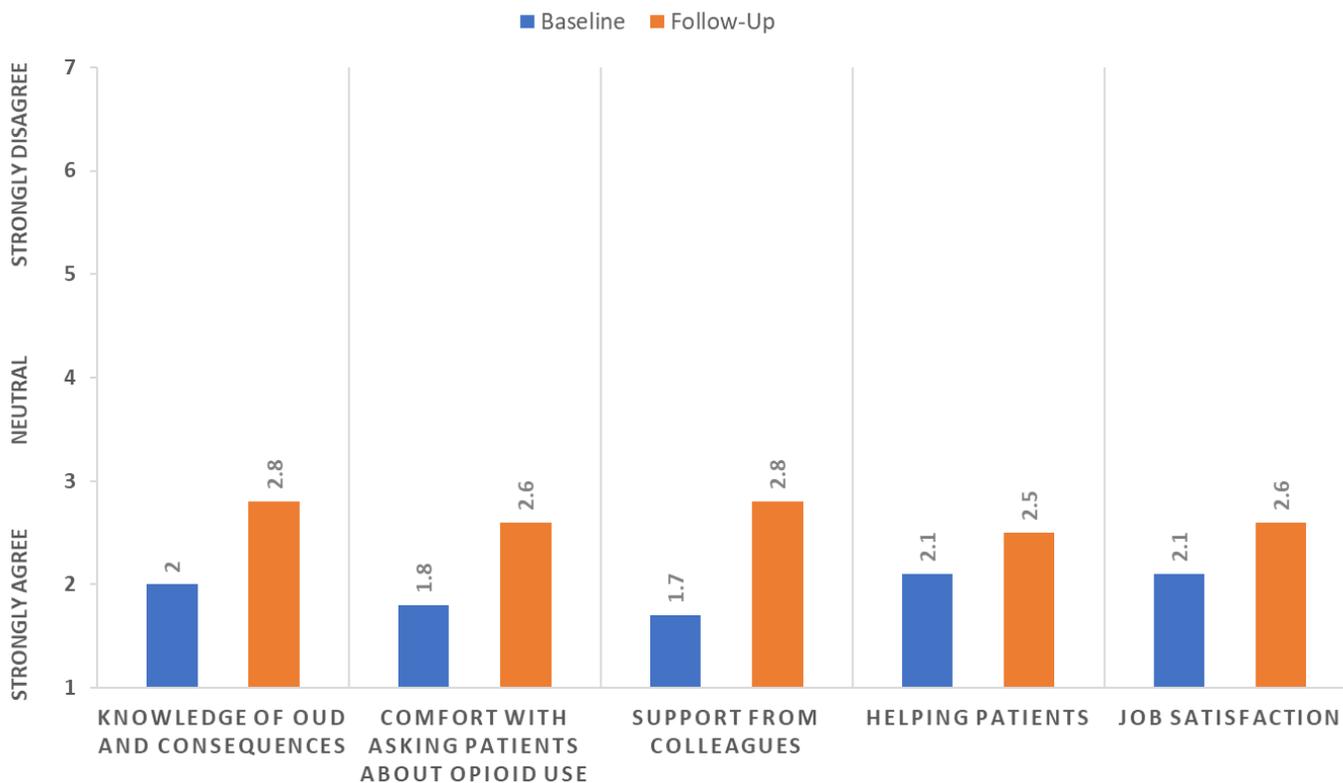
and ARNPs, on the implementation teams were eligible to participate. We summarized responses and compared them using descriptive statistics. We used regression models adjusted for gender and clustered on facility to compare changes in subscale scores over time.

SCOUTT Initiative Results

SCOUTT implementation facilitators created a SharePoint site to serve as a resource hub, produced two monthly webinars to educate teams and address barriers, visited 10 SCOUTT facilities, and provided training in MOUD prescribing to over 100 clinicians. Overall, the SCOUTT Initiative was implemented in Level-1 clinics at 18 facilities to a varying degree of fidelity. By the end of 12 months, all 18 facilities increased MOUD prescribing. Implementation models vary widely and include medical management, collaborative care, and pharmacy-led and telemedicine approaches to expand care to VA Community-Based Outpatient

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Figure 1. Prescriber Attitudes



Clinics (CBOCs). Implementation barriers included credentialing and privileging delays, knowledge gaps, and provider and patient-related stigma. Facilitators included clinician champions at facilities, leadership buy-in, existing robust SUD resources, and close coordination with OMHSP.

Overall, 26 of 41 (63.4 percent) and 29 of 56 (51.8 percent) implementation team prescribers responded to the survey at baseline and follow-up, respectively. Approximately 65.4 percent of respondents at baseline and 81.4 percent at follow-up were 45 years or older; 57.7 percent at baseline and 42.9 percent at follow-up were women. Most prescribers were white and waived to prescribe buprenorphine by the Drug Enforcement Administration.

With regard to perspectives on MOUD prescribing, no differences were found between responses at baseline and follow-up.

Most prescribers strongly agreed/agreed at baseline and follow-up that MOUD is evidence-based (96.2 percent vs. 88.9 percent), important (100.0 percent vs. 92.6 percent), and life-saving (100.0 percent vs. 92.6 percent), and can be integrated into their clinic’s procedures and workflow (80.8 percent vs. 85.2 percent). Few providers at baseline and follow-up reported MOUD as detracting from clinical responsibilities (19.2 percent vs. 14.8 percent) or risky in terms of patients diverting medications (7.7 percent vs. 7.1 percent). However, 38.5 percent of providers at baseline and 48.2 percent at follow-up reported that MOUD delivery is time-consuming.

Prescriber attitudes assessed by the DDPPQ are shown in Figure 1, with lower scores indicating more favorable responses. Providers’ ratings of knowledge about OUD, comfort with asking patients about opioid misuse and related consequences, and job satisfaction did not improve over the initial

year. Likewise, providers’ confidence in their professional ability to help patients with an OUD and perceived support from colleagues in addressing issues with providing OUD treatment showed no improvement at follow-up, relative to baseline.

Although implementation team prescribers reported consistently favorable views about MOUD delivery over the initial year, strategies that improve knowledge of and comfort with treating OUD may be necessary to scale up MOUD in non-traditional VA settings. Phase 2 efforts will include regional conferences to train 18 additional implementation teams and consultation/mentoring with existing addiction treatment experts to address provider knowledge gaps. VA has prioritized expanding the reach of MOUD. Early results from the SCOUTT Initiative serve as a guide to address key barriers and implement system-wide changes to improve access to MOUD in non-traditional settings.

Substance Use and Suicide Risks in Veterans—Challenges and Opportunities for Intervention

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Reducing risk of death by suicide among U.S. service members and Veterans continues to be a national priority, with many initiatives focused on developing and disseminating effective treatments to those in need. Among Veterans Health Administration (VHA) patients, substance use disorders (SUDs) are strongly linked with increased risk for suicide. Consequently, VHA SUD treatment programs contain large numbers of Veterans who are at high risk for future suicidal behaviors. Implementing suicide prevention interventions in these treatment programs has the potential to play a vital role in our nation's efforts to reduce suicide among Veterans.

SUDs are common among service members and Veterans and, when present, SUDs can complicate other conditions such as chronic pain, depression, and post-traumatic stress disorder (PTSD). The research topic area of addiction has received increased attention in recent years due to the rise in opioid use and opioid-related adverse events in Veterans and the rest of the U.S. population.

Substance Risk in Veterans and Active Duty Military Personnel

According to the 2019 National Veteran Suicide Prevention Annual Report issued by the Office of Mental Health and Suicide Prevention, 45,390 Americans died by suicide in 2017. Of those suicide deaths, 6,139 were Veterans, which equates to an average of 16.8 Veteran lives lost per day to suicide. Within active-duty military personnel, suicide is the second leading cause of death, surpassing both death by illness or injury and being killed in action. The Department of Defense (DoD) Task Force on the Prevention of Suicide by Members of the Armed Forces estimates that more than 1,100 members of the Armed Forces died by suicide from 2005-2009, which is an average of one soldier's life lost by suicide every 36 hours. In addition to suicide mortality, data from the 2014 Health Related Behaviors Survey of Active

Duty Personnel All Services Report indicate that over 2 percent of active duty personnel reported making a suicide attempt in the past year, which is nearly four times higher than the corresponding estimate in the general U.S. population. Almost 5 percent of active duty personnel reported seriously considering suicide within the past year.

Substance Use and Suicide Risk—A Deadly Combination

Growing evidence highlights the intersection of substance use and suicidal behaviors in military personnel and Veterans. Of the psychiatric disorders that have been linked to suicide in VHA patients, SUDs represent one of the strongest risk factors for suicide death. The rate of suicide for VHA patients with SUDs was 75.6 per 100,000 compared to a rate of 34.7 per 100,000 in the overall population of VHA patients. For an examination of how specific SUDs relate to suicide risk in VHA patients, see Figure 1. The 2019 National Veteran Suicide Prevention Annual Report also indicates that suicide rates were highest among VHA patients diagnosed with an opioid use disorder (OUD). Taken together, these results highlight the important role that SUDs play in increasing suicide risk in Veterans.

A significant portion of the association between substance use and suicidal behaviors is likely due to the fact that certain substances can be highly lethal when used in larger quantities or in combination with other substances. In examinations of suicide mortality data, use of alcohol and other drugs prior to death is relatively common; the National Institute of Drug Abuse cites that substance use was involved in 30 percent of suicide deaths among members of the Army from 2003 to 2009. This pattern is more striking for non-fatal suicide attempts. According to the DoD Suicide Event Report (DoDSER) for 2017, drug and alcohol overdose was the most common method of

Key Points

- Among VHA patients, SUDs are strongly linked with an increased risk for suicide.
- Implementing suicide prevention interventions in VHA SUD treatment programs has the potential to reduce suicide among Veterans.
- VA/DoD has developed Clinical Practice Guidelines for managing SUDs and assessing patients at risk for suicide.
- Strategies are needed to identify Veterans with SUDs and intervene to help reduce suicide risk in this uniquely at-risk patient population.

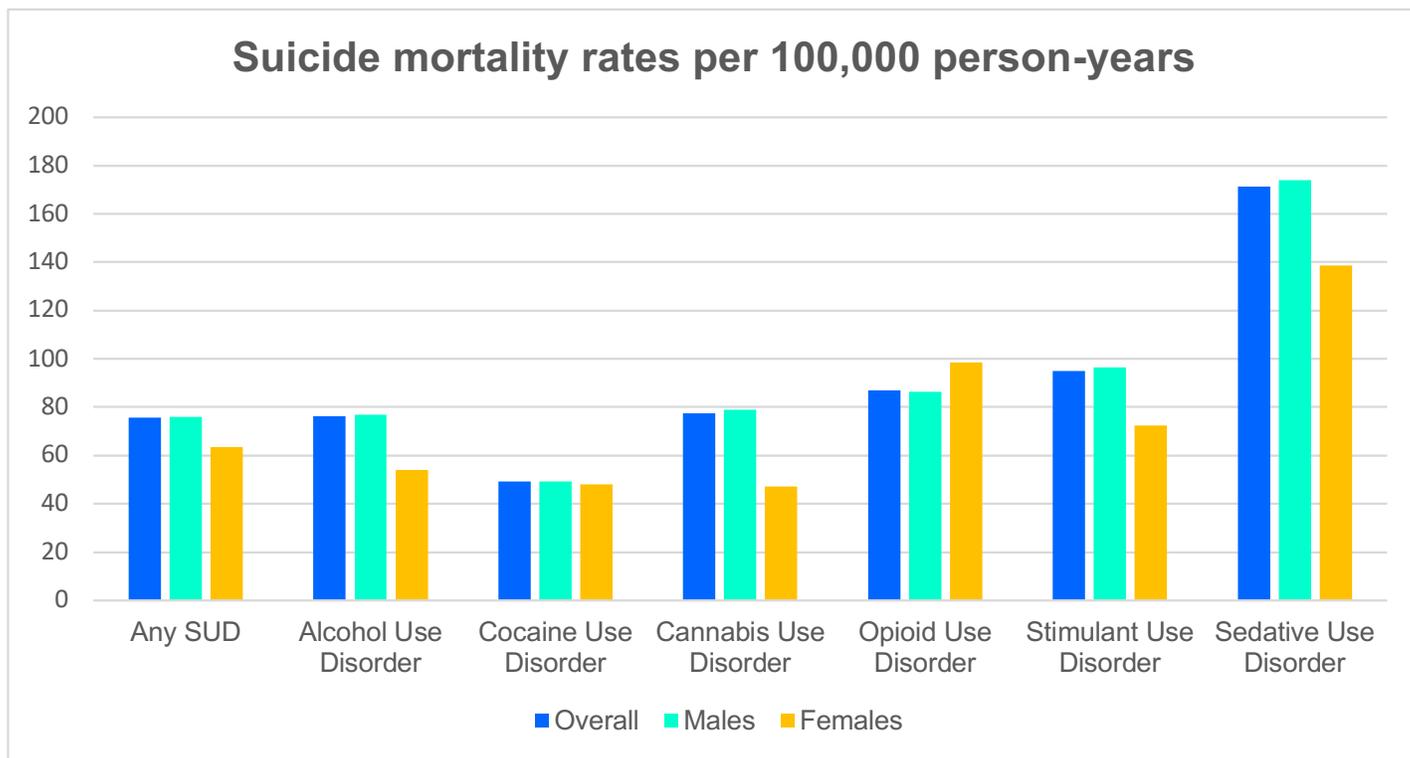
attempted suicide during the reporting period, accounting for 55.5 percent of recorded suicide attempts that year. Due to the inherent difficulty in differentiating between unintentional and intentional overdose events, the incidence rate of utilization of alcohol and drugs as a means to end one's life may be even higher than these rates suggest. For context, according to the Centers for Disease Control and Prevention, if the numbers of deaths from suicide and unintentional overdose were combined, that number would exceed the number of deaths from diabetes.

Emerging Evidence-Based Treatments

Given that individuals at significantly elevated risk for suicide are overrepresented in SUD treatment, integrating suicide prevention treatment services into SUD treatment could be particularly beneficial. Existing data indicate that approximately one-third of SUD patients who died by suicide were seen in SUD specialty

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Figure 1. Substance use disorder (SUD)-specific suicide mortality and rates among the Veterans Health Affairs (VHA) patient cohort, total and by sex (n = 4,863,086)



Note: Adapted with permission from “Substance Use Disorders and the Risk of Suicide Mortality among Men and Women in the US Veterans Health Administration,” by K.M. Bohnert, *Addiction* 2017; 112(7), 1193-201.

treatment programs in the year prior to suicide. Maximizing the positive impact of SUD treatment on suicide risk likely involves a mixture of optimizing the efficacy of SUD services while also addressing suicide risk. Relevant to both of these domains, VA/DoD has developed Clinical Practice Guidelines for SUD management and assessment and management of patients at risk for suicide. These guidelines provide recommendations to providers, outlining evidence-based treatment options for the treatment of each condition. For SUDs—primarily Alcohol Use Disorders and OUDs specifically—pharmacotherapy is strongly recommended as an effective form of treatment, in addition to the use of behavioral or psychotherapeutic treatment approaches. Specifically, for those with OUDs, these recommendations align with the growing body of literature suggesting that the most effective treatment for OUD is Medication-Assisted Treatment (MAT) with opioid agonists buprenorphine or methadone.

Although several evidence-based treatments exist for SUDs, the Clinical Practice Guideline for addressing suicide risk provides fewer

treatment recommendations, largely due to a lack of large-scale randomized controlled trials that examine treatments for suicide prevention. Researchers in the field of suicide prevention have attempted to close this gap in recent years, and have identified newer treatments that have been shown to be effective in reducing suicidal attempts. These include Cognitive Behavioral Therapy for Suicide Prevention (CBT-SP). Prior trials of this intervention in the civilian population and a brief version of CBT-SP in military personnel have found that individuals randomized to CBT-SP have rates of re-attempt of suicide that are approximately half those seen in the control condition. However, delivery of suicide-focused interventions in low-intensity outpatient healthcare settings to individuals currently using alcohol and/or drugs is challenging because ongoing substance use can interfere with treatment adherence. Providing CBT-SP during an episode of SUD treatment is appealing as a way to reach patients during a period of relative stability. One large-scale multi-site randomized trial of CBT-SP is currently underway in VA, funded by DoD and conducted by our re-

search team to examine whether CBT-SP can reduce suicide risk for Veterans receiving SUD treatment. More broadly, newer strategies are needed to identify Veterans with SUDs in other settings and intervene to help reduce suicide risk in this sizable and uniquely at-risk patient population.

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Cannabis Use Among Veterans: Research Needs Come into Focus

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Cannabis is one of the most commonly consumed psychoactive drugs in the United States, and use among adults has steadily increased over the past decade. According to data from the National Survey on Drug Use and Health (NSDUH), the percentage of adults ages 18-25 who reported past-year (i.e., recent) cannabis use rose from 27.8 percent in 2008 to 34.8 percent in 2018.¹ The corresponding estimate among adults ages 26 or older nearly doubled over the same period, from 7.0 percent to 13.3 percent. These documented increases coincide with the growing acceptability of and access to cannabis across the country. Although cannabis remains a Schedule I controlled substance and illegal under U.S. federal law, 33 states and the District of Columbia (D.C.) have legalized cannabis use for those with qualifying medical conditions, beginning with California in 1996. In addition, 11 states and D.C. have legalized recreational cannabis use.

Compared with the U.S. civilian population, relatively little is known about cannabis use and health outcomes among U.S. Veterans. In 2018, Davis et al. published one of the first nationally-representative studies examining the prevalence and correlates of recent recreational and medical cannabis use among U.S. Veterans.² The authors found that approximately 1 in 11 (~9 percent) U.S. Veterans used cannabis in the past year. Further, in states where medical cannabis was legal, nearly 41 percent of the Veterans who used cannabis in the past year reported medical use. Compared with findings from general U.S. population-based studies, the prevalence of recent cannabis use was similar or slightly lower among Veterans; however, among those with past-year use, the percentage of Veterans using medically was more than double that of the general population, highlighting the salience of medical use among Veterans.

In states with medical cannabis laws, many of the qualifying conditions for medical use (e.g., chronic pain and posttraumatic stress disorder [PTSD]) are particularly relevant to Veteran populations. Although there is potential for some individuals with these conditions to derive therapeutic benefit from cannabis, empirical evidence regarding such benefit is largely unavailable, of low quality, or inconclusive at this time. Additional rigorous and longer-term studies are needed in this topic area. Conversely, the negative consequences associated with cannabis use are relatively well-documented. Consistent evidence links frequent or heavy cannabis use with an increased risk for several adverse health and psychosocial outcomes, including psychosis, chronic bronchitis, lower life satisfaction and achievement, and the psychiatric syndrome of cannabis use disorder.³ Such harms associated with use may be even more pronounced among certain population subgroups with preexisting physical and mental health conditions, which tend to be overrepresented among Veterans Health Administration (VHA) patients, and using cannabis may negatively affect the course of illness and treatment outcomes in these subgroups. Nonetheless, it is important to note that the evidence base regarding adverse consequences associated with cannabis use has generally not distinguished between non-medical and medical use or has exclusively examined recreational use. Consequently, there is a need for further research that studies the potential harms associated with medical versus non-medical cannabis use.

In addition to examining the average harms and benefits of use, it is vital to study the demographic, substance use, and health correlates and outcomes of both non-medical and medical cannabis use among Veterans

Key Points

- Cannabis use among adults has increased steadily over the past decade, yet relatively little is known about cannabis use among Veterans.
- A 2018 study found that Veteran cannabis use was similar to or slightly lower than that of the general population, but among those who used cannabis, the percentage of Veterans with medical cannabis use was more than double that of the general population.
- Further research is needed to examine the potential associations of both medical and non-medical cannabis use with demographic, substance use, and other health outcomes among Veterans.

using VHA services. One of the very few published studies on this topic found that cannabis use disorder diagnoses among VHA patients increased by about 50 percent from 2002 to 2009 (from 0.66 percent to 1.05 percent).⁴ Moreover, the percentage of patients with diagnosed cannabis use disorder was greater in states with medical cannabis laws than in states without such laws during this time period. The study also identified greater psychiatric comorbidity, including PTSD, among patients with cannabis use disorder as compared to those with another diagnosed substance use disorder. Additional research is required to better understand the implications for the broader spectrum of cannabis-using patients (not only those diagnosed with a cannabis use disorder in VHA), including the relationship between level of cannabis use and physical health, mental health, and other health services outcomes.

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The relatively large and growing number of Veterans using cannabis has important potential implications for Veteran health and the VHA system. We have an ongoing project to characterize and understand patterns of cannabis use and how they relate to health, functioning, and service utilization among VHA primary care patients. Our study screens Veterans receiving primary care at three VA Medical Centers in the Midwest to identify a large cohort of patients with regular cannabis use. Eligible patients who enroll in the cohort complete in-depth assessments at baseline and at 6- and 12-month intervals to identify

cannabis use and cannabis use disorder symptom trajectories, as well as other health, functioning, and service utilization outcomes. Findings from this study will have important implications for VHA patients, providers, and policymakers. More broadly, this work, combined with expanded data on Veteran cannabis use from other sources, is needed to better understand the potential consequences of medical and non-medical cannabis use among Veterans, identify patients for whom additional services may be indicated to address cannabis use, and inform VHA clinical practice guidelines regarding cannabis use.

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Innovation Update

Stand Down: Think Before You Drink—A Mobile App for Veterans Engaging in Hazardous Drinking

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One in four Veteran primary care patients screens positive for hazardous drinking, yet the vast majority do not engage in treatment.¹ Stigma related to treatment-seeking and the costs of traveling to VA are key barriers to accessing alcohol-related care. Mobile apps can bypass these barriers; however, the evidence base supporting the efficacy of apps for reducing hazardous drinking in Veterans is limited. *Step Away* is an evidence-based mobile app for self-management of hazardous drinking.² The app provides assessment of and personalized feedback on users' drinking patterns, allows users to track progress towards drinking goals, and includes in-the-moment tools to manage cravings. However, *Step Away* was not designed for Veterans per se, and low patient uptake is the Achilles' heel of mobile apps for hazardous drinking.³

In a VA Health Services Research & Development-funded pilot study, we used community-based participatory research methods to repurpose *Step Away* to fit the needs and preferences of the Veteran primary care population. Using feedback from patients and a steering committee of key stakeholders, we created a Veteran version of the app, *Stand Down: Think Before You Drink*.⁴ In a single-arm, pre-post design over four weeks, we tested the feasibility and acceptability of using peer specialists to facilitate engagement with the *Stand Down* app with 31 Veterans who screened positive for hazardous drinking in primary care but were not engaged in treatment. In the phone-based protocol, peers provided supportive accountability and instruction and encouragement for app use. *A priori* benchmarks for app usage and satisfaction with care were surpassed and patients significantly reduced their drinking pre-to-post. These data provide a strong foundation for a full-scale randomized controlled trial of this intervention, in which we will test if peer-supported *Stand Down* is superior to the app alone in enhancing app usage and improving outcomes, as well as clarify for whom phone support is most beneficial.

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Research Highlight

Helping Veterans Quit the Expanding Continuum of Tobacco Products

Tobacco use remains the number one cause of mortality and morbidity among adults in the United States and contributes to more than 480,000 deaths every year. Tobacco use among Veterans remains higher than in the non-Veteran U.S. population, with 21.6 percent of Veterans reporting current cigarette use and 29.2 percent reporting current use of any tobacco product.¹ Veterans with Posttraumatic Stress Disorder (PTSD), a prevalent mental health disorder among Veterans, have a more complicated path to quitting as evidenced by lower quit rates than those of Veterans without PTSD. Smoking continues to contribute to high morbidity and mortality rates among Veterans receiving care at the Veterans Health Administration (VHA). In the VHA alone, tobacco-related conditions are estimated to cost approximately \$2.7 billion.¹

We tested the effectiveness of a home telehealth care management program on smoking cessation rates in 175 Veterans with PTSD enrolled in the Eastern Colorado Health Care System in a two-arm study.² Both arms received the PTSD home telehealth care management program, which was designed to help Veterans with PTSD self-monitor and self-manage. Both groups also had access to smoking cessation treatments offered by VHA, such as medications, tobacco cessation clinic, support groups, and classes. We designed the intervention to take place over 12 weeks, with daily sessions over 90 days, and we followed Veterans for six months after the intervention ended. Veterans had the option of continuing to use the PTSD home telemonitoring system during the follow-up period. This pragmatic randomized controlled study did not show a significant difference in 24-hour quit attempts, seven-day point prevalence, or progression along the stages of change. Favorable smoking cessation rates were seen in both groups without negatively impacting PTSD symptoms and suicidal ideations. Depression

symptoms improved in the intervention group during intervention and follow-up periods.

Rise in Use of Alternative Forms of Tobacco

As cigarette smoking declines, alternative forms of tobacco use, such as electronic nicotine delivery devices (e-cigarettes) and waterpipes, are on the rise. The current literature on the use of these tobacco products is limited. We used data from The Attitudes and Behaviors Survey (TABS) on Health conducted in 2015³ to investigate the prevalence of different forms of tobacco use among adults in Colorado. Results showed a lifetime prevalence of cigarette-only use was 25.8 percent, compared to 10.8 percent ever waterpipe use, 7 percent for dual users (traditional and e-cigarettes), and 12.6 percent for anything else (any tobacco product except cigarettes).

Based on the TABS data, we wanted to learn about Veterans' experiences with a variety of tobacco products. We conducted a survey among Veterans seeking care at the Rocky Mountain Regional VA Medical Center to learn about their use, perceptions, and knowledge of the hazards linked to alternative tobacco products.¹ Of the 200 respondents, 76 percent had ever tried cigarettes, 63 percent were lifetime cigarette smokers (smoked more than 100 cigarettes in their lifetime), 23.5 percent were current daily cigarette smokers, and 12.5 percent smoked on some days during the week. Fifteen percent of respondents reported ever vaping, and 13 percent reported ever using a waterpipe. Results revealed that 1 percent of the respondents were current waterpipe users while 2 percent were current vape users. Among those reporting ever using cigarettes, 27.5 percent reported ever vaping and/or using waterpipe. Among current cigarette smokers, 15.5 percent had tried vaping and/or waterpipe. Although 40 percent of respondents stated both vaping and waterpipe were very harmful, 42.5 percent of respondents did not know the level of

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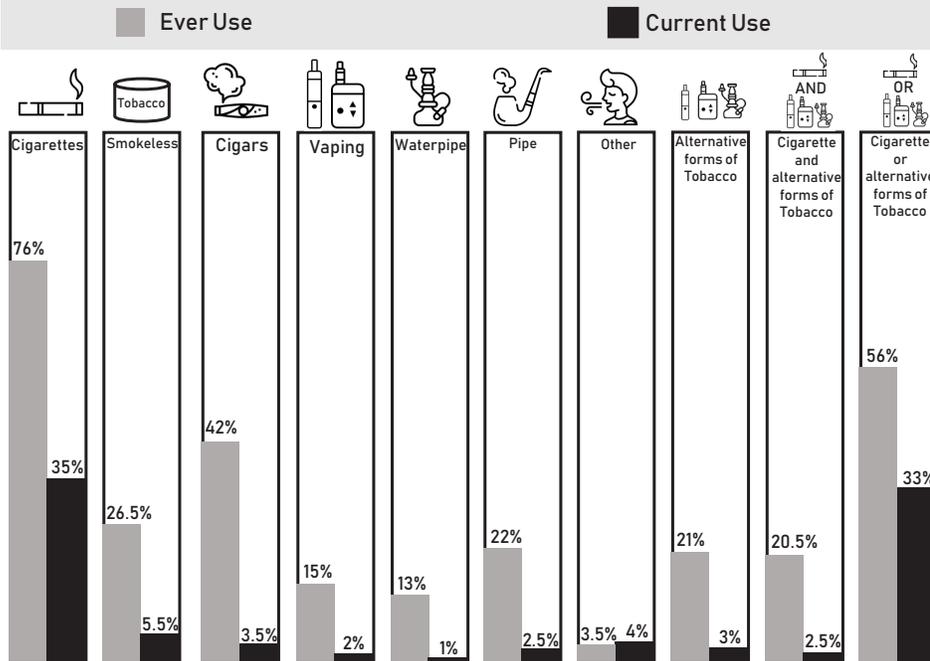
Key Points

- Cigarette smoking remains the most common form of tobacco use among Veterans, but vaping and use of other alternative tobacco products are on the rise.
- Many Veterans are unaware of the risks associated with vaping and other alternative tobacco products.
- The literature on the health effects of alternative tobacco products and use rates among the Veteran population is gradually growing and attracting more investigators in the field.
- Future research should focus on highlighting the potential risks of alternative tobacco products and developing effective methods for quitting.

harm from waterpipe use. Moreover, 12.5 percent of respondents believed vaping would help them quit using cigarettes.

Cessation efforts in VA have primarily focused on more traditional forms of tobacco use such as cigarettes, cigars, pipes, and chewing tobacco. According to VA Directive 1056, the VA provides a Smoking and Tobacco Use Cessation Program that delivers care according to the U.S. Preventive Services Task Force and the U.S. Public Health Service Clinical Practice Guidelines. VA Directive 1056 requires primary and other clinical care settings to provide brief counseling and smoking cessation medications to all Veterans interested in quitting smoking, regardless of whether they attend a tobacco use treatment program. In accordance with current VA and non-VA quality of care measures for

Ever Use and Current Use of Tobacco Products (N=200)



tobacco use treatment, all Veterans are screened for current tobacco use; current tobacco users receive advice to quit and are offered behavioral counseling and medications. However, standard reminders may not capture all the different forms of tobacco use that are prevalent today among younger Veterans.

Focus Cessation on Alternative Tobacco Products

Given all of the efforts to reduce traditional forms of tobacco use, it is time to focus our cessation efforts on alternative forms of tobacco. These forms of tobacco are not approved by the FDA to help in tobacco cessation, despite some users' perception. There are no specific guidelines to assist patients who want to quit these types of tobacco use. The

literature lacks adequate information on the use of vaping and other alternative tobacco products among Veterans and the science on the hazards of vaping and alternative tobacco products is not conclusive, though there is evidence that these products might be gateway drugs to cigarette use. The Centers for Disease Control and Prevention is investigating the association between vaping and lung disease. Future research should investigate the prevalence and specific health hazards of alternative forms of tobacco use among Veterans. We plan to conduct an educational awareness campaign aimed at stopping the use of these alternative forms of tobacco.

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steps through the Stepped Care for Opioid Use Disorder Train the Trainer initiative to increase availability of medications for OUD in settings outside of SUD specialty care. In collaboration with multiple complementary initiatives including the Medication Addiction Treatment in VA, the Psychotropic Drug Safety Initiative, and Academic Detailing, VHA has seen a steady increase in access to life-saving medications, with over 26,000 Veterans receiving medication for OUD in FY 2019. While this reflects a three-fold increase from FY 2004, only about 40 percent of those clinically diagnosed with OUD received medication; this gap reflects a need to continue efforts to increase access to these life-saving medications.

Ongoing and Emerging Challenges

Despite the recent progress in SUD prevention and treatment, multiple challenges remain. HSR&D's State of the Art Conference on opioid

safety and OUD in September 2019 highlighted the need for more research to define essential elements of chronic OUD management and to overcome barriers to its implementation outside of SUD specialty care settings; research needs to directly address the stigma that remains a significant barrier to care. Methamphetamine overdose deaths and demand for stimulant and cannabis use disorder treatment are rising. Improving access to evidence-based psychosocial interventions such as Contingency Management and Cognitive Behavioral Therapy for SUD will be important to reduce the public health impact of these emerging threats.

We have provided select examples of VHA's comprehensive approach to management of substance use disorders that encompasses primary and secondary prevention, early intervention, and treatment. Ongoing and emerging challenges will require that VHA

continue efforts to identify evidence-based practices in SUD treatment that 1) go beyond specialty SUD settings; 2) are responsive to emerging and evolving threats; and 3) integrate directly with prevention and early intervention efforts that often occur in settings such as primary care, general mental health, emergency departments, and pain management clinics.

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Two special populations within the SUD cascade of care are women Veterans and Veterans with co-occurring mental health conditions. Although alcohol and drug use disorders are less common among female than male Veterans, between 6 percent to 25 percent of women Veterans screen positive for unhealthy alcohol use (depending on how screening is conducted). Delivering high-quality care to women Veterans requires understanding their specific patterns of substance use and their co-occurring conditions. Most VHA facilities (85 percent) provide women Veterans with SUD-specific individual psychotherapy, but only 30 percent provide SUD-specific women-only groups, and only 14 percent provide SUD-PTSD women-only groups in specialty SUD treatment. At-risk alcohol use and AUD among Veterans are associated with high rates of co-occurring PTSD and depression. Veterans with at-risk alcohol use and co-occurring PTSD or depression are at greater risk for suicide attempts and death, and have greater healthcare utilization and costs, than

Veterans without these comorbidities. Alcohol treatment reduces risk of alcohol relapse, hospital admission, and death.

The cascade of care has the potential to help VHA tailor interventions for substance use, evaluate outcomes, and reduce mortality. It provides a basis for accountability and improving individual and population health. Additional research efforts are vital for continued success to fill in gaps along the cascade.

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