IMPROVING SUBSTANCE USE CARE

Addressing Barriers to Expanding Integrated Treatment Options for Post-9/11 Veterans

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Preface

Veterans who have served in the military since September 11, 2001, are at particularly high risk for co-occurring substance use disorders (SUDs) and mental health disorders, such as posttraumatic stress disorder and depression. Veterans with co-occurring SUDs and mental health disorders may have poor functioning in multiple areas of their lives, such as in their relationships, and are likely to have other behavioral health problems and physical health complaints. These veterans often do not seek behavioral health care, and, when they do, they have poorer treatment outcomes than those with single disorders.

To help improve access to effective treatment for these veterans, this report reviews the literature on efficacious approaches to treating SUDs alone and alongside mental health disorders. It also presents findings from an analysis of the availability of treatment centers that offer SUD care for veterans and from a series of interviews and site visits with treatment providers. This report provides guidance and recommendations to support the delivery of quality care for veterans with SUDs and, ultimately, to help expand and enhance treatment opportunities for veterans with co-occurring SUDs and mental health disorders.

This study was funded by the Wounded Warrior Project and carried out within the Quality Measurement and Improvement program in RAND Health Care. Information about the Wounded Warrior Project, a nonprofit organization established to support veterans of the post 9/11 era with significant injuries, can be found at www.woundedwarriorproject.org.

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Summary

Veterans who have served in the U.S. military in the era since September 11, 2001, face particularly high risk of co-occurring substance use disorders (SUDs) and mental health disorders, such as posttraumatic stress disorder (PTSD) and depression. This co-occurrence has important implications for treatment decisions and for the outcomes and well-being of these post-9/11 veterans.

Veterans with co-occurring SUDs and mental health disorders often face barriers to accessing care, and, when they do receive care, they have poorer treatment outcomes than veterans with single disorders. Substance use itself is often a barrier to entering mental health treatment and can interfere with care. Many treatment facilities require abstinence from substances prior to admission for mental health care. Veterans who use substances to alleviate symptoms of a mental health disorder may resist giving up substances out of a fear of intensified symptoms, leading them to forgo treatment when facilities are not equipped to address both disorders. Even if abstinence is not required and veterans are accepted into a program, substance use can disrupt treatment for both the patient and others. Conversely, veterans who enter substance use treatment before receiving care for co-occurring mental health disorders may fail to achieve sobriety if they have not yet received treatment to address their mental health symptoms. In this way, traditional models of care that separate treatment for substance use and treatment for PTSD or depression can ultimately cause veterans to oscillate between treatment for their mental health problem and for their SUD, if they agree to treatment at all.

The Wounded Warrior Project (WWP), a nonprofit organization established to support veterans (whom WWP refers to as *alumni* or *warriors*) who incurred a physical or mental injury, illness, or wound while serving in the military on or after September 11, 2001. WWP also serves the families of their warriors. WWP has a robust continuum of programs to address the mental and brain health needs of veterans and families to meet them where they are in their journey of recovery. In 2019, WWP partnered with the RAND Corporation to help improve access to effective treatment for post-9/11 veterans with SUDs—with a particular focus on alcohol use disorder (AUD), cannabis use disorder, and opioid use disorder (OUD)—and SUDs co-occurring with the mental health disorders of PTSD and depression.

This report, a result of that partnership, presents insights from a set of comprehensive literature reviews of established and promising approaches to treating SUDs and SUDs with co-occurring mental health disorders, an analysis of data on treatment facilities that offer SUD and mental health care for veterans, and a series of interviews and site visits to explore in greater detail the care that these facilities offer to veterans with SUDs, mental health disorders, and co-occurring SUDs and mental health disorders. The study's goal was to provide guidance and recommendations to help WWP (and other organizations) identify and assess treatment approaches and facilities that might meet the needs of veterans with co-occurring disorders—and, ultimately, to help expand and enhance treatment opportunities for post-9/11 veterans with co-occurring SUDs and mental health disorders.

Veterans with Co-Occurring Mental Health and Substance Use Disorders Require Evidence-Based Treatment for Both Types of Disorders

Data provided by WWP, in combination with findings from the literature on SUDs and mental health disorders in veteran populations, revealed the high level of need for both substance use and mental health care among post-9/11 veterans. This population is particularly vulnerable to symptoms of PTSD, perhaps because of prolonged and frequent exposure to potentially traumatic events, such as combat, childhood trauma, or military sexual trauma (MST). SUDs are also prevalent among these veterans, and they are at risk for heavy and problematic substance use that negatively affects functioning and may eventually reach a diagnostic threshold.

Rates of PTSD and SUD co-occurrence range from 34 percent to 88 percent in veteran populations (Stahre et al., 2009; Cerdá et al., 2014; Polusny et al., 2011). Among veterans, AUD is the most common SUD that co-occurs with both PTSD and depression, with estimated rates ranging from 16 percent to 69 percent (Seal et al., 2011; McDevitt-Murphy et al., 2010; Seal et al., 2010). Notably, the co-occurrence of PTSD and depression is associated with higher rates of alcohol misuse (Brooks Holliday, Pedersen, and Leventhal, 2016).

Psychology research offers several theories to explain why co-occurring behavioral health problems are so common among veteran populations. One prominent theory suggests that veterans—especially those with diagnoses of PTSD or depression *and* SUDs—use substances to avoid or numb themselves from the symptoms of either (Burnett-Zeigler et al., 2011; Jakupcak et al., 2010). In other words, these veterans "self-medicate" with alcohol, cannabis, opioids, or other substances; at times to numb symptoms but likely also to avoid the perceived stigma from others for seeking help from available resources (i.e., preference to handle it on their own).

Evidence-Based Approaches to Treating Veterans with Co-Occurring Disorders

With the goal of identifying existing and promising evidence-based treatments for veterans, we conducted two comprehensive literature reviews to identify effective treatments targeting SUDs and co-occurring SUDs and mental health disorders.

Most of the studies of SUDs among veterans focused on alcohol use, which is the most-used substance by post-9/11 veterans. There was demonstrated evidence of efficacy for several treatments in research that specifically examined veteran populations, including 12-step programs, alone or in combination with other treatments (e.g., cognitive behavioral therapy or motivational enhancement therapy, both of which also showed promise for treating veterans with AUD and other SUDs, though more evidence is needed to determine their effectiveness). Pharmacological interventions also had a large evidence base, with most studies focusing on naltrexone to treat AUD. A handful of other treatments need further testing in more-rigorous trials with veterans, including work therapy, contingency management approaches, exercise, and interventions delivered in primary care settings (e.g., collaborative care involving multidisciplinary teams).

There has been a great deal of research on treatments for SUDs and co-occurring mental health disorders among both veterans and nonveterans, particularly SUDs and PTSD. Integrated treatments, in which both SUDs and co-occurring mental health disorders are addressed concurrently, had more-consistent evidence than approaches that focused on a single disorder or treated problems sequentially. Most integrated treatment studies targeted SUDs with co-occurring PTSD specifically, with the most promising being Concurrent Treatment of PTSD and Substance Use Disorder Using Prolonged Exposure; Seeking Safety; and integrated cognitive behavioral therapy. There was less evidence for other approaches, including treatments that combine recreation, exercise, or other activities with more traditional protocols. However, more research is needed to determine the efficacy of these and other options.

Although most of the integrated treatment literature is psychotherapy-focused, the literature shows promise for certain medications, such as naltrexone and antidepressants. Studies examining medication-assisted therapy for OUD and co-occurring mental health disorders among veterans are limited. There is also a need for more research on SUDs and other types of co-occurring mental health disorders beyond PTSD, such as anxiety and severe mental illness. In general, providers should select treatments based on the strength of supportive evidence whenever possible and continually renew their knowledge as new studies identify innovative ways of treating SUDs and co-occurring mental health disorders.

It is also essential that treatment facilities specializing in either mental health or substance use treatment also offer programs to meet the needs of veterans with co-occurring mental health disorders and SUDs. This requires a thorough assessment to determine which symptoms a veteran is experiencing and tailoring a treatment plan to address those symptoms concurrently. It may also include detoxification services for

those that need such services; housing detoxification and follow-up treatments in the same setting may prevent veterans from being lost in the continuum of care process as they no longer need to transfer between multiple facilities. Treatment facilities should recognize that some symptoms may be underreported or not revealed until the veteran is comfortable (e.g., substance use problems, experiences with MST). Thus, mental health symptoms and substance use behaviors should be continuously assessed with validated self-report and diagnostic measures, and treatment plans should be modified if needed.

Finally, transitions across the therapy continuum can be precarious for veterans with co-occurring disorders. It is imperative that aftercare programs that continue to support veterans with SUDs after intensive treatment concludes also focus on mental health. Although there is some support for specific types of aftercare for specific types of disorders—veterans with less severe alcohol use problems experienced better outcomes with telephone therapy, and those with more severe symptoms did better with standard therapy—this is an area that would benefit from additional research.

Access to Facilities Offering Treatment to Veterans with Co-Occurring Disorders

We used two databases from the Substance Abuse and Mental Health Services Administration (SAMHSA), part of the U.S. Department of Health and Human Services, to assess the availability of licensed mental health and substance use treatment facilities nationwide with (1) specialized programs for veterans or (2) specialized programs for veterans with SUDs and co-occurring mental health disorders—specifically, PTSD and depression.

Using data on WWP alumni zip codes, we were able to create detailed heat maps showing the average drive time from where veterans resided to mental health and substance use treatment facilities, rating accessibility according to the U.S. Department of Veterans Affairs (VA) access standard of a 60-minute drive time for specialty care. We also conducted a similar analysis using a 30-minute drive time.

We found that the average five-digit zip code was well within a 60-minute drive time from the nearest mental health or substance use treatment facility with a specialized treatment program for co-occurring disorders that also served veterans and within a 30-minute drive time to a mental health provider. VA medical centers (VAMCs) and VA-affiliated facilities were substantially farther away; however, these facilities nonetheless played an important role in ensuring access to care for veterans with co-occurring PTSD, depression, and SUDs.

Our analysis had some limitations, however. For example, the SAMHSA data may not have been comprehensive; we were not able to obtain data on veterans' locations below the three- or five-digit zip code level; and we did not have information on the specific types of treatment offered (such as evidence-based treatments) or quality of care provided by the treatment facilities in our sample. That said, our findings suggest that WWP veterans have relatively convenient access to mental health and substance

use treatment facilities with specialized programs for co-occurring disorders and that also offer specialty programs for veterans.

Provider Perspectives on Meeting the Mental Health and Substance Use Treatment Needs of Post-9/11 Veterans

We conducted in-person site visits and telephone interviews with representatives from a sample of facilities that were included in our accessibility analysis. The goal of this qualitative research was to collect firsthand experiences and perspectives on how treatment approaches are enacted in practice and to illuminate how providers and directors navigate the on-the-ground realities of providing care to veterans with co-occurring disorders.

Themes from these discussions, which followed a semistructured protocol, mapped to key conclusions from our literature reviews. Interviewees spoke about the benefits and drawbacks of different mixes of group therapy participants, barriers to care among veterans, and the importance of provider familiarity with military and veteran culture. They also shared information about their facilities' treatment approaches and their perspectives on various evidence-based treatments.

We learned that evidence-based practices and data-driven decisionmaking were not standardized across facilities. In other words, although some facilities prioritized innovation, the weight of clinical experience in others perhaps precluded some clinic leaders and providers from implementing novel treatment approaches or adapting current approaches based on the most current evidence. Alternatively, there are inherent risks and shortcomings to implementing novel therapies before the evidence base has been adequately established. Across the board, however, there was a need for more data and systematic tracking of treatment outcomes by treatment providers over time.

Treatment Facilities Can Play a Role in Breaking Down Barriers to Care for Veterans with Mental Health and Substance Use Treatment Needs

Veterans with co-occurring mental health disorders and SUDs may not receive needed care for a variety of reasons, including perceived stigma, fear of repercussions, career harm, or loss of benefits, logistical barriers (e.g., high costs, homelessness, not knowing where to get help), and beliefs that they can handle their problems on their own or that available treatments are not effective (Hoge et al., 2004; Pietrzak et al., 2009; Schell and Marshall, 2008; Garcia et al., 2014; DeViva et al., 2016; Fox, Meyer, and Vogt, 2015). Women veterans may face additional barriers to treatment, such as childcare responsibilities, stigma of violating social norms around care seeking, limited availability of gender-focused treatment at VA, or concerns about harassment at VA facilities (Bergman et al., 2015; Green, 2006). And, as mentioned, treatment programs often require abstinence from substances as a requirement for accessing mental health care,

which can pose a significant barrier to veterans with SUDs and co-occurring mental health disorders. Moreover, some patients who are using substances at high levels require detoxification services, and if these services are not available at the treatment facilities where they are seeking care, it can be an additional barrier to seeking care.

Other barriers associated with treatment seeking may include geographic distance from a treatment facility providing the care that the veteran needs, the provider's lack of familiarity with military or veteran culture, and preferences regarding the composition and focus of group therapy (e.g., whether groups include both veterans and nonveterans, whether they include a mix of genders).

Promoting Cultural Competence and Accommodating Veteran Preferences

We found that the VAMCs and VA-affiliated facilities we talked to offered many of the evidence-based treatments identified in our literature reviews for both SUDs alone and for co-occurring disorders. However, our examination of SAMHSA's mental health and substance use treatment facility databases revealed that although treatment facilities offering co-occurring care for veterans were within about a 15-minute drive, VAMCs and VA-affiliated facilities were much farther away—about a 60-minute drive, on average. We also heard during our interviews concerns about the wait times for VA programs.

If there are no VAMCs or VA-affiliated facilities within time and distance constraints, or if a veteran does not have a strong preference for a particular type of treatment setting, support service providers should recommend facilities that have a strong military cultural competency training component.

The coronavirus (COVID-19) pandemic in the United States has made it clear that telehealth and self-help approaches are a necessary option for mental health and SUD care for veterans when access to in-person care is limited or risky. Although more research is needed on the effectiveness of these approaches in treating veterans with co-occurring disorders, they can help expand capacity and increase access to treatment among those who are difficult to engage or face geographical, transportation, or other barriers, such as lack of childcare.

Prior research also indicates that VA providers are more knowledgeable about military culture and that cultural competence is a component of high-quality of care for veterans (Tanielian et al., 2014). Studies have shown that veterans prefer a clinician who has military cultural competence and understands the military and the veteran experience. They may also have specific preferences regarding their treatment options and, in group therapy settings, the mix of patients with whom they receive treatment. Some veterans in prior research studies expressed a preference for veteran-only groups, while others preferred to receive treatment alongside nonveterans. The literature suggests that specific veteran subpopulations (e.g., women, racial/ethnic minorities, those who have experienced certain types of trauma) often prefer treatment groups that are composed of individuals with similar characteristics. Providers had mixed views on

treatment group composition and the benefits of cohort-specific tracks, such as all men or all women or those with combat-related trauma versus other traumas. We found no compelling evidence to conclude that one mix of group therapy participants leads to better outcomes than another. Our interview findings suggested that there are advantages and disadvantages to heterogeneity within groups. That said, given that veterans may have difficulty engaging with care, it appears important to factor in veteran preferences, if resources are available and accessible.

Addressing the Cost of Treatment

The cost of care is a significant system-level barrier to receiving treatment for veterans who do not have access to care through VA, with some residential programs charging upward of $3,500 per day. In our interviews, we learned that facility staff often modified evidence-based protocols or provided treatment for less-than-ideal durations because of limitations on insurance allowances, staff resources, or facility patient capacity. Payment models that prioritize delivery of evidence-based treatments with fidelity are essential to ensuring that veterans have an opportunity to achieve recovery, decreasing the overall costs to society, and increasing capacity across the treatment community. Recent changes in Medicaid policies allow states to access federal Medicaid funds to enroll patients in residential and inpatient SUD services (Musumeci, Chidambaram, and Orgera, 2019). This could apply to veterans who are eligible for Medicaid. Moreover, if reimbursement mechanisms were sufficient, there may be increased incentives for providers to enter the workforce and for additional facilities to offer high-quality care.

Engaging with Veterans Early to Prevent Symptom Exacerbation and Chronic Problems

Engaging veterans in care soon after discharge from active duty or soon after symptoms manifest is important to preventing heavy alcohol or other substance use from developing into a SUD. Once substance use becomes more severe and chronic, it is more difficult to treat. Evidence-based prevention that reaches veterans outside of intensive treatment programs, such as through screening and brief intervention in primary and specialty care settings, can improve treatment initiation and retention.

Outreach efforts, such as many of the programs offered by WWP, can help veterans identify behavioral health concerns outside of VA and other formal care settings and connect them with providers. Such efforts are important for veterans in general but may be particularly useful for engaging certain veteran populations, such as women and racial/ethnic minority veterans, who may be less likely to receive treatment.

Conclusions and Recommendations

Our findings point to several recommendations to increase the adoption of evidence-based, patient-centered approaches to treating co-occurring disorders and to expand the availability of such approaches for veterans. These recommendations are intended to guide policymakers, clinicians, program directors, and researchers in their work to improve access and quality of care for veterans.

Our research points to the following recommendations for increasing the adoption of evidence-based, patient-centered approaches to providing care for veterans with co-occurring mental health and SUDs by treatment facilities that serve post-9/11 veterans and specialize in either mental health treatment or substance use treatment:

- Screen for co-occurring disorders and offer treatment programs for veterans with SUDs and co-occurring mental health disorders.
- Offer evidence-based integrated treatments that target both SUDs and co-occurring mental health disorders.
- Evaluate both substance use and mental health outcomes regularly throughout the course of treatment to ensure that both are being addressed adequately.
- Incorporate and accommodate veterans' treatment preferences into treatment decisions.
- Provide patients with a clear aftercare plan focused on relapse prevention.

We also highlight several recommendations for expanding treatment availability and accessibility:

- Consider policies to expand the capacity of VAMCs and VA-affiliated facilities, and enhance access to facilities offering co-occurring programs for veterans.
- Implement policies to decrease barriers to accessing care and provide incentives for treatment facilities to offer evidence-based treatments.
- Support further research on the effectiveness of telehealth programs that address SUDs and co-occurring mental health problems; these are potentially promising approaches for reducing barriers to care for veterans.
- Increase early prevention efforts by providers, including outreach to engage veterans outside of treatment settings, and address substance use issues early to help veterans avoid developing chronic mental health or substance use problems.

Building on these recommendations, we also created guidance for WWP (and other organizations) to use in identifying and assessing treatment approaches and facilities that might meet the needs of veterans with co-occurring disorders. This guidance highlights important treatment, provider, and system factors to consider, as shown in Table S.1.

Table S.1
Guidance for Selecting Treatment Facilities for Veterans with Co-Occurring Disorders

Category	Factors
Treatment factors	• Evidence-based integrated care • Measurement-based approaches • Services for veterans • Services that match a veteran's preferences • Clear plan for evidence-based aftercare • Involvement of family and caregivers in therapeutic approaches • Inclusion of recreational and occupational therapy
Provider factors	• Strong theoretical basis for provider's philosophy regarding abstinence versus harm reduction • Military cultural competency • Dedication to serving veterans • Willingness to seek additional competencies • Adequate skills and capacity
System factors	• Co-located facilities for SUD and mental health treatment • Continual monitoring of progress of patients • Ease of access to services • Offer duration and type of care that is sufficient and flexible • Utilize telehealth • Support for providers • Clear line of connection and communication with VA and TRICARE • Collect and report data on treatment • Transparency about facility capacity

Despite federal and community efforts to improve the quality and availability of care for veterans, veterans remain at high risk of developing both mental health disorders and SUDs, and their treatment outcomes are poorer when these types of disorders co-occur. However, there is no one-size-fits-all approach to treating this population. Although there are several evidence-based treatments for addressing co-occurring disorders along with strong consensus that integrated approaches are critical to addressing the needs of post-9/11 veterans, it remains unclear to what extent treatment facilities make use of these approaches. Future research is needed to explore in more detail not only the quality of care available to these high-risk veterans but also their ability to access it and their treatment outcomes over the short and long terms.

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Abbreviations

ACT	acceptance and commitment therapy
AUD	alcohol use disorder
AUDIT-C	Alcohol Use Disorders Identification Test for Consumption
BTSAS	Behavioral Treatment for Substance Abuse in Serious and Persistent Mental Illness
CBSA	core-based statistical area
CBT	cognitive behavioral therapy
COPE	Concurrent Treatment of PTSD and Substance Use Disorder Using Prolonged Exposure
CPT	cognitive processing therapy
CUD	cannabis use disorder
DBT	dialectical behavior therapy
DoD	U.S. Department of Defense
EMDR	eye movement desensitization and reprocessing
ICBT	integrated cognitive behavioral therapy
LGBTQ	lesbian, gay, bisexual, transgender, queer/questioning
MAT	medication-assisted treatment
MDMA	methylenedioxymethamphetamine
MET	motivational enhancement therapy
MISSION	Maintaining Independence and Sobriety Through Systems Integration, Outreach, and Networking
MST	military sexual trauma
N-MHSS	National Mental Health Services Survey
N-SSATS	National Survey of Substance Abuse Treatment Services
OCD	obsessive-compulsive disorder
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom

OUD	opioid use disorder
PCL	PTSD Checklist
PE	prolonged exposure therapy
PHQ	Patient Health Questionnaire
PTSD	posttraumatic stress disorder
RCT	randomized controlled trial
SAMHSA	Substance Abuse and Mental Health Services Administration
SD	standard deviation
SDPT	Substance Dependence Posttraumatic Stress Disorder Therapy
SMART	Self-Management and Recovery Training
SMI	serious mental illness
STAR	Supportive Treatment for Addiction Recovery
SUD	substance use disorder
TBI	traumatic brain injury
TICS	Two-Item Conjoint Screen
TLC	time-limited care coordination
VA	U.S. Department of Veterans Affairs
VAMC	U.S. Department of Veterans Affairs medical center
VHA	Veterans Health Administration
VISN	Veterans Integrated Service Network
WCN	Warrior Care Network
WWP	Wounded Warrior Project

CHAPTER ONE

Introduction

Despite federal and community efforts to improve the quality and availability of behavioral health care for veterans, many who have served in the military since September 11, 2001, continue to experience behavioral health problems. These post-9/11 veterans face a particularly high risk of co-occurring substance use disorders (SUDs) and mental health disorders, such as posttraumatic stress disorder (PTSD) and depression. Veterans with co-occurring SUDs and mental health disorders often have poor functioning in multiple areas of their lives, such as in their relationships, and are more likely to have other behavioral health problems and physical health complaints. Veterans with co-occurring SUDs and mental health disorders often face barriers to accessing behavioral health care, and, when they do receive care, they have poorer treatment outcomes than those with single disorders.

The Wounded Warrior Project (WWP), a nonprofit organization established to support veterans (whom WWP refers to as *alumni* or *warriors*) who incurred a physical or mental injury, illness, or wound while serving in the military on or after September 11, 2001. WWP also serves the families of their warriors. WWP has a robust continuum of programs to address the mental and brain health needs of veterans and families. Through its continuum of Mental Health Support, WWP provides a number of direct internal programs, extensive externally funded programs, and also through multiple partnerships, to ensure they are able to meet their warriors and families where they are in their individual journeys of recovery. Through the use of this integration strategy, WWP does not try to dictate a prescriptive path to recovery, but rather aims to address the individual needs and psychological well-being of each warrior to determine the order and appropriate levels of clinical treatment and complimentary programmatic engagement. This fluid model and comprehensive approach to mental and brain health care is intended to allow for warriors to experience continuity of care across a continuum of supportive programs and treatment interventions.

Accessing mental health care can be difficult for veterans with a co-occurring SUD, however. These veterans are often required to complete SUD treatment before they are eligible for mental health care, such as treatment for PTSD or depression. Yet, these veterans may use substances to manage their mental health symptoms (e.g.,

drinking alcohol to numb emotions or using cannabis to help fall asleep), and discontinuing their substance use may exacerbate their mental health symptoms.

In 2019, WWP partnered with RAND to help improve access to effective treatment for post-9/11 veterans with SUDs—with a particular focus on alcohol use disorder (AUD), cannabis use disorder (CUD), and opioid use disorder (OUD)—and the co-occurring mental health disorders of PTSD and depression. The study involved literature reviews of established and promising approaches to treating SUDs and SUDs with co-occurring mental health disorders, an analysis of data on treatment facilities that offer SUD and mental health care for veterans, and a series of interviews and site visits with treatment providers. This report provides guidance and recommendations to help WWP evaluate and select treatment facilities that are best serving the needs of post-9/11 veterans and, ultimately, to help expand and enhance treatment opportunities for veterans with co-occurring SUDs and mental health disorders. It should be noted that while this study primarily highlights findings about the need for these treatments among post-9/11 veterans, our findings about evidence-based treatments for co-occurring behavioral health disorders and the recommendations for improving access to and adoption of these approaches would likely apply to veterans of all service eras.

Study Overview

We undertook three primary tasks to inform recommendations about how best to increase access to evidence-based care for veterans with co-occurring SUDs and mental health problems and to help WWP identify effective and high-quality treatments for veterans. First, we examined the unique characteristics of veterans with SUDs and veterans with SUDs and co-occurring mental health disorders, and then we documented the evidence for treatment approaches designed to address these disorders. We then assessed the availability of treatment facilities for veterans with SUDs and co-occurring mental health disorders and, finally, developed guidance for evaluating and selecting treatment facilities that are best serving the needs of veterans with co-occurring disorders.

In this report, we use the umbrella term *behavioral health* to refer collectively to mental health (e.g., PTSD, depression) and substance use (e.g., heavy alcohol use, CUD) problems. We also use the terms *misuse*, *problematic use*, *hazardous use*, and *heavy use* when discussing substance use that does not reach a diagnosable threshold for a disorder. When we refer to a *disorder*, such as AUD or CUD, we are referencing a diagnosed condition.

What Are the Characteristics and Needs of Veterans with Substance Use Disorders and Co-Occurring Mental Health Disorders, and What Evidence-Based Treatment Approaches Are Available?

We examined data collected by WWP, conducted qualitative interviews with WWP staff, and undertook comprehensive literature reviews to identify the unique characteristics of veterans with co-occurring SUDs and mental health disorders and their specific needs for treatment, as well as barriers to receiving care. We also documented the current research on evidence-based treatment approaches for SUDs, with a particular focus on those that have been shown to be efficacious for veterans with SUDs alone and for veterans with SUDs with co-occurring mental health problems, particularly PTSD and depression.

We considered treatments that require the patient to meet in person with a provider and stand-alone treatment options, such as online and self-help programs, and telehealth "face-to-face" treatments. Our review also included behavioral and pharmacological treatments, group-based and individual treatments, and treatments that are offered exclusively to veteran patients (e.g., care provided through the U.S. Department of Veterans Affairs [VA]) or to both veterans and nonveterans through community-based mental health centers and other non-VA providers. Although this report focuses on post-9/11 veterans, our review included literature on active-duty and reserve-component service members when relevant. Although we did not focus on populations similar to veterans, such as law enforcement and first responders, providers and researchers working with these groups may find this work useful, with the caveat that not all material will apply to nonveterans.

What Is the Availability of Care for Veterans with Substance Use Disorders and Co-Occurring Mental Health Disorders?

Using two databases from the Substance Abuse and Mental Health Services Administration (SAMHSA), part of the U.S. Department of Health and Human Services, we assessed the availability of licensed mental health treatment facilities and substance use treatment facilities in the United States that have (1) specialized programs for veterans or (2) specialized programs for veterans with SUDs and co-occurring mental health disorders—specifically PTSD or depression, given the high prevalence of PTSD and depression among veterans with SUDs.

What Are Key Criteria to Consider When Selecting Treatments for Veterans with Substance Use Disorders and Co-Occurring Disorders?

Using the data collected on evidence-based treatment options and treatment availability, we identified providers from mental health and substance use treatment facilities and conducted a series of in-person and phone interviews and site visits with personnel at 16 facilities to learn more about the kinds of care available to veterans, including whether facilities are delivering evidence-based treatments and whether they offer

specialized care for veterans. These interviews and site visits, combined with findings from our literature reviews and analysis, informed recommendations and guidance for WWP to use when evaluating and selecting treatment facilities that best serve the needs of veterans with co-occurring disorders.

The Wounded Warrior Project's Alumni Population

To learn about the WWP population, we conducted in-person interviews with several WWP staff, including staff members that represented leadership, mental health specialists, metrics/stats personnel, and directors and support staff from each of the five WWP services we describe in greater detail below. These initial interviews and subsequent discussions were guided by staff's insights from multiple sources, including discussions with the veterans they serve, responses collected from a large-scale annual survey conducted by WWP, triage discussions among providers, and other direct observations of their population. WWP serves veterans and service members—whom WWP refers to as *warriors* or *alumni*—who incurred a physical or mental injury, illness, or wound while serving in the military on or after September 11, 2001. As of March 2020, the WWP member population numbered approximately 175,964: 140,016 veterans and service members (i.e., alumni) and 35,948 family members.

WWP alumni have access to a range of internal and external WWP services to support their physical and mental health needs, which are free-of-charge to alumni and include the following:

- **Warrior Care Network (WCN):** Through partnerships with four academic medical centers, the WCN offers intensive outpatient programs designed to improve the psychological health of WWP alumni with PTSD, traumatic brain injury (TBI), and related disorders. The network includes the Road Home Program at Rush Medical Center in Chicago; Home Base, a program operated by the Red Sox Foundation and Massachusetts General Hospital in Boston; Operation Mend, a program at the University of California, Los Angeles; and Emory Healthcare's Veterans Program in Atlanta. For two to three weeks, WWP alumni participate in an intensive outpatient program of evidence-based treatments and alternative therapies. These programs involve family members in treatment process and also offer case management and follow-on care coordination.
- **WWP Resource Center for Veterans:** This call-in center is staffed by 35 employees, 30 of whom are trained to answer calls and connect callers with WWP resources. The Resource Center helps callers register as WWP alumni or WWP-affiliated family members, sign up for WWP programs, manage VA or military benefit claims, access one-time emergency financial assistance, connect with a career counselor or other WWP Warriors to Work services, and find other ways

to get involved with WWP. Resource Center staff also provide referrals for legal services, marriage and family counseling, and help acquiring a service dog. For many veterans and service members, the Resource Center is the first-line connection to WWP, making it an important gateway to services. It has two locations at the main WWP offices in San Antonio, Texas, and Jacksonville, Florida. The office in San Antonio offers additional "walk-in" services for local veterans who prefer to talk with a staff member face-to-face.

- **WWP Talk:** This is a free mental health support line through which WWP alumni, family members, and caregivers participate in 20-minute calls every week. It serves those who are not experiencing a crisis but want to discuss emotional issues and set goals for improved mental health. It also serves as a gateway to other treatment offerings at WWP, as well as referrals.
- **Combat Stress Recovery Program (Project Odyssey):** Project Odyssey is a series of counselor- and peer-led outdoor, rehabilitative retreats for those recovering from PTSD, TBI, combat stress, or other mental health disorders. Activities include horseback riding, canoeing, whitewater rafting, kayaking, rock climbing, a high ropes course, fishing, skeet shooting, sled hockey, and skiing, and retreats are held at locations across the country. Participants build new skills, connect with peers, and find veteran support groups for combat stress through WWP staff and trained counselors. Project Odyssey offers three types of retreats: all men, all women, or couples.
- **Warriors to Work:** Through this program, WWP provides assistance with goal setting, job searches, resume review, and nationwide job placement in a variety of industries. The program also provides educational materials and resources for employers to help create a more supportive environment and provide accommodations for those with combat-related physical and emotional needs.

Each year, WWP surveys its alumni to learn more about the population. Between March 26 and May 22, 2019, WWP collected completed online surveys from 35,908 of its then 109,968 eligible[1] service member and veteran members, for a 32.7 percent response rate. The 2019 Annual Alumni Survey data were weighted on a variety of characteristics to produce estimates representative of the 2019 WWP population (Westat, 2019).

Among WWP alumni, most identified as men (82.7 percent), with white being the most-represented race/ethnicity (64.1 percent), followed by 19.6 percent Hispanic and 16.0 percent black or African American. Most WWP alumni were married (65.9 percent), and the mean age was 42 years. About one-third (37.1 percent) had a bachelor's degree or higher. More than half of alumni lived in the South (54.0 percent),

[1] Approximately 90 percent of the WWP population in March 2019 was eligible to participate in the survey. Ineligible alumni included those who opted out of receiving surveys, those who had no email address on file, and those who had an invalid email address on file.

with 23.8 percent in the West, 12.6 percent in the Midwest, and 9.6 percent in the Northeast. Most WWP alumni were currently or previously enlisted service members (91.6 percent). Almost all had deployed at least once since 2001 (92.5 percent), and almost half (47.3 percent) had deployed three or more times during their career.

The survey revealed that the WWP population experiences many mental and physical health challenges. Most respondents (90.9 percent) reported experiencing three or more service-connected injuries or health problems, with the most common being sleep problems (87.5 percent); PTSD (82.8 percent); anxiety (80.7 percent); back, neck, or shoulder problems (76.8 percent); and depression (76.5 percent). Nationwide, the unemployment rate among WWP alumni was 11.5 percent, and 5.3 percent were homeless or living in a homeless shelter during the previous 24 months.

It should be noted that the WWP alumni population is a unique subset of the U.S. veteran population. First, the population includes only a subset of those that may experience physical and mental health problems. The eligibility criteria to become a WWP alumni indicate that such problems must have developed while or be in relation to serving in the military. Many other veterans may experience physical and mental health problems unrelated to their military service. Second, the WWP alumni population served in the military after September 11, 2001, which makes them younger, on average, than other veteran groups (e.g., Vietnam-era veterans). Third, joining WWP requires that an individual register and submit documentation of military service and indicate a physical or mental health–related concern. Thus, this is a help-seeking group of veterans (or their family members), and their level of need may be higher than others who did not choose to join WWP. Given these distinctions, care should be taken when interpreting how the findings related to the WWP alumni presented below are generalizable to other veterans who served pre-9/11 and other post-9/11 veterans who have not sought assistance from WWP.

Posttraumatic Stress Disorder, Depression, and Substance Use

PTSD, depression, and substance misuse symptoms were commonly reported by 2019 WWP Alumni Survey participants. For example, 57.0 percent of respondents screened positive for PTSD, using a cutoff score of 33 on the 20-item PTSD Checklist (PCL).[2] About two-fifths (38.8 percent) screened positive for severe or moderately severe depression, with a score of 10 on the nine-item Patient Health Questionnaire (PHQ-9).[3] And about one-third of respondents reported that in the previous two weeks they were bothered by thoughts that they would be better off dead.

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[2] For more on the PCL, see Bovin et al., 2016, and Blevins et al., 2015. The stressful experience(s) assessed by the PCL were not limited to military combat only ("Below is a list of problems that people sometimes have in response to a very stressful experience").

[3] For more on the PHQ-9, see Kroenke, Spitzer, and Williams, 2001.

The survey also poses questions about alcohol and substance use, with responses indicating heavy and problematic substance use among many WWP alumni. Although 25.0 percent stated that they never drink alcohol, about one-quarter (26.0 percent) reported drinking two or more times per week, and 11.7 percent reported drinking four or more times per week. About one in five (19.0 percent) reported consuming five or more drinks on days when they drink. According to the Alcohol Use Disorders Identification Test for Consumption scale (AUDIT-C), a screening tool for alcohol misuse, about one-third of both male (36.6 percent) and female (31.5 percent) WWP survey respondents met criteria for risky or hazardous drinking, using a cutoff score of 4 for women and 5 for men.[4] The most prevalent drugs used by alumni over the prior 12 months were cannabis (e.g., marijuana, hashish; 19.7 percent), barbiturates (e.g., sedatives, sleeping pills; 14.4 percent), and opiates (e.g., prescription opioids used in excess of instructions or without a prescription; 10.5 percent). About one in ten cannabis users (10.1 percent) reported using more than twice per week, and 7.6 percent of barbiturate users and 3.7 percent of opiate users reported using more than twice per week. Using the Two-Item Conjoint Screen (TICS), a screener for a potential SUD, 29.7 percent of alumni answered affirmatively to at least one of the screening items.

The Needs of the Wounded Warrior Project Alumni Population

The 2019 survey confirmed what past-year surveys had indicated: The WWP alumni population is experiencing significant behavioral health problems, notably PTSD, depression, and hazardous substance use. Moreover, our own review of the unweighted survey data found substantial overlap in behavioral health symptoms among alumni. Using an analytic approach similar to that used by WWP to describe the prevalence of mental health problems (i.e., not factoring in data from those who did not respond to items on the survey), we found that 52.1 percent of survey respondents screened positive for both PTSD (PCL) and depression (PHQ-9).[5] Moreover, respondents who screened positive for PTSD were substantially more likely to also screen positive for depression (82.5 percent of those who screened positive for PTSD had positive screens for depression).

We also examined the overlap of PTSD, depression, and substance use problems. We found that 44.6 percent of survey respondents screened positive for hazardous alcohol use on the AUDIT-C or positive for a potential SUD on the TICS. Moreover, screening positive for PTSD or depression was associated with being almost 20 percent more likely (52.4 percent versus 33.1 percent) to also screen positive for hazardous alcohol use or a potential SUD; about half of those who screened positive for

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4 For more on the AUDIT-C, see Bush et al., 1998; Bradley et al., 2007; and Dawson et al., 2005.

5 When we cite the share of respondents with positive screens for more than one disorder, such as PTSD and depression, the figure includes only respondents with complete screening data for all the disorders.

PTSD or depression also screened positive for hazardous alcohol use or a potential SUD (Table 1.1).

The first step for WWP alumni who are interested in receiving services is to call the WWP Resource Center for Veterans. Resource Center staff report that between 10 and 15 percent of the approximately 3,000 calls they receive each month are specifically requests for help with connecting them to a behavioral health care service. However, behavioral health concerns underlie most calls, such as requests for assistance with housing, job placement, or navigating VA benefits. Our review of WWP Resource Center data confirmed what staff reported (see Table 1.2). We reviewed notes from all 21,303 calls made to the Resource Center over a one-year period and found that approximately 7 percent referred specifically to PTSD. These calls represented 15,602 unique individual callers (8 percent of all callers, 91 percent of whom were WWP alumni, and 9 percent of whom were WWP-affiliated family members calling for a loved one who was a WWP alumni). Calls related to depression were seen less frequently (1 percent of calls and 1 percent of all individual callers), although this represented more than 200 callers.

Table 1.1
Overlap Between Mental Health Disorders and Alcohol or Substance Use Problems Among 2019 WWP Survey Respondents

Positive Screen for Disorder	Hazardous Alcohol Use or Potential SUD (%)
PTSD	51.4
Depression	50.3

Table 1.2
WWP Resource Center Calls Received September 16, 2018–September 16, 2019

Problem Area Referenced by Caller	Total Calls (n = 21,303)	Total Individuals (n = 15,602)
PTSD	6.5% (1,386)	8.4% (1,302)
Substance use	4.3% (906)	5.3% (832)
Both PTSD and substance use	0.8% (174)	1.2% (188)
Depression	1.1% (224)	1.4% (214)
Both depression and substance use	0.2% (40)	0.3% (42)

NOTE: We searched for the following PTSD-related terms in the notes: "PTSD," "posttraumatic stress disorder," "post-traumatic stress disorder," "post traumatic stress," and "PTSD." Substance use terms were "alcohol," "drinking," "cannabis," "marijuana," "opioid," "opiate," "rehab," "drunk," "under the influence," "DUI," "DWI," "detox," "while intoxicated," "substance," and "drug." Depression terms were "depressed," "depressive," "hopeless," "dysphoric," "dysphoria," and "MDD" (major depressive disorder).

Discussions with Resource Center staff and our analyses of the call logs revealed that PTSD is the main mental health concern among the WWP population. Many callers identified as potentially meeting the criteria for PTSD are referred to VA medical centers (VAMCs), community clinics, or to the WCN. Established in 2015, the WCN includes four academic medical centers that have developed innovative and intensive outpatient treatment programs for veterans (Harvey et al., 2017). These programs typically run two to three weeks and include an array of wraparound services to support veterans before, during, and after their treatment episode. Each of the centers in the WCN offers other services, including traditional outpatient care. The intensive outpatient programs have achieved high rates of completion and participant satisfaction. As veterans are screened at intake before beginning one of these programs, trained program staff conduct a comprehensive assessment. We learned from discussions with staff at WCN-affiliated programs that some veterans who were referred for mental health treatment also had substance use problems, such as having been diagnosed with a SUD or reporting hazardous and problematic substance use. This aligned with our review of the WWP Resource Center calls, in which we found that about 1 percent of all callers referenced both PTSD *and* substance use issues (see Table 1.2). Moreover, 14 percent of callers inquiring about PTSD care also described needing help for substance use.

However, substance use is often a barrier to entering treatment and can interfere with mental health care. Many treatment facilities, including many VAMCs, other VA facilities, and some WCN sites, require abstinence prior to admission, making many WWP alumni ineligible for services. Even if abstinence is not required and alumni are accepted into a program, substance use can disrupt treatment for both the patient and others in treatment—for example, by increasing the risk of missed appointments or attendance at group treatment sessions while intoxicated. Preliminary discussions with WWP program directors revealed that alumni who had been referred to PTSD treatment programs through the WCN or other WWP resources, such as Project Odyssey, were unable to complete treatment because of a SUD, raising the question of what types of treatment *are* available for those with co-occurring disorders, and, importantly, what kinds of treatment would be appropriate for this unique population. Moreover, WWP staff told us that, even at the time of initial contact with the Resource Center, it was difficult to ascertain whether a caller was experiencing a SUD in addition to the targeted reason for the call (often because of underreporting or a belief that substance use was not a problem), making it unclear what services would best serve that particular veteran. Thus, WWP turned to RAND for assistance to help it meet the needs of its alumni with substance use problems, especially the substantial portion with co-occurring substance use problems and PTSD.

Organization of This Report

This chapter provided an overview of WWP's mission, our study's purpose and methods, and the characteristics and needs of WWP's alumni population. In Chapter Two, we discuss the prevalence of behavioral health problems among veterans and outline the barriers and challenges to addressing the needs of those with co-occurring mental health disorders, such as PTSD and depression, and SUDs. In Chapter Three, we document the evidence for treatment approaches that address SUDs alone and that address SUDs with co-occurring mental health disorders, with an eye toward treatments with evidence for veterans. In Chapter Four, we describe the current availability of treatment facilities for veterans with SUDs and for those with co-occurring mental health disorders, including treatment facilities serving veterans with these co-occurring problems. Chapter Five provides insights from a series of interviews and site visits to treatment facilities. Chapter Six concludes with a synthesis of the findings, as well as recommendations and guidance to consider when selecting treatments for veterans with co-occurring mental health disorders and SUDs.

CHAPTER TWO

Prevalence of Behavioral Health Problems Among Veterans and Barriers to Care

Veterans are at risk for a range of behavioral health problems, including PTSD, depression, and SUDs (Trivedi et al., 2015; Ramchand et al., 2015). This chapter begins by exploring the prevalence of these behavioral health disorders—including co-occurring disorders—with a focus on post-9/11 veterans. We then examine common barriers to care, such as perceived stigma and attitudes toward mental health care, logistical barriers, demographic characteristics, and the role that co-occurring substance use plays in making access to treatment challenging.

It is important to note that WWP alumni may appear to have higher rates of behavioral health problems than the general post-9/11 veteran population because this group has reached out to WWP in search of support.

Prevalence of Posttraumatic Stress Disorder

PTSD is a mental health disorder marked by the exposure to one or more traumatic events and subsequent symptoms related to distressing cognitive intrusions (e.g., memories, flashbacks), persistent avoidance of event-related stimuli (e.g., avoidance of memories, avoidance of people or places), negative thoughts and moods (e.g., feeling detached from others, self-blame for the event), and alternations in arousal and reactivity (e.g., hypervigilance, problems concentrating). PTSD affects approximately 8 million Americans in a given year, but rates are especially high among U.S. veterans (Reisman, 2016; Gradus, 2014).

The exact prevalence of PTSD among veterans is difficult to estimate, given variation in how studies define PTSD. Differences in the measures used to assess the disorder and its symptoms also likely contribute to variation across estimates (Ramchand et al., 2010). Studies conducted prior to the publication of the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* (American Psychiatric Association, 2013) used different diagnostic criteria and assessments than studies conducted using the DSM-5 criteria. Also, as many as one in five veterans may experience subclinical PTSD that does not reach diagnostic thresholds (Bergman et al., 2017).

Still, VA's National Center for PTSD reports that about 11–20 out of every 100 veterans (11–20 percent) who served in Operation Enduring Freedom (OEF) or Operation Iraqi Freedom (OIF) have been diagnosed with PTSD (Gradus, 2014). One study of Iraq and Afghanistan veterans found that 13.5 percent of deployed and nondeployed veterans had been diagnosed with PTSD (Dursa et al., 2014). However, other studies have found rates as high as 30 percent (Lapierre, Schwegler, and LaBauve, 2007). A large-population study of service members and veterans who had deployed to OEF/OIF found rates of probable PTSD of approximately 14 percent, based on self-reported measures (Tanielian and Jaycox, 2008). Rates of diagnosed PTSD among veterans seeking treatment have increased substantially in recent years, with prevalence estimates of 23 percent for OEF/OIF veterans (Fulton et al., 2015). Researchers have also found that veterans living outside the United States who served in Iraq and Afghanistan have reported higher rates of PTSD than nonveteran populations (Rhead et al., 2019; Fear et al., 2010; Fear et al., 2007; Dworkin et al., 2018).

Types of Traumatic Experiences Among Veterans

Combat exposure, including witnessing individuals being killed or wounded, discharging a weapon in defense, or otherwise engaging in direct combat, plays a role in the onset of PTSD. A study of veterans found that 80 percent of OIF veterans who screened positive for PTSD also reported witnessing someone being wounded, killed, or engaging in direct combat, compared with only 48 percent of veterans who screened negative for PTSD (Hoge, Auchterlonie, and Milliken, 2006). A 2019 Pew Research Center study found that 77 percent of post-9/11 veterans had deployed at least once (compared with 58 percent of pre-9/11 veterans), and 47 percent of all post-9/11 veterans had experienced an emotionally traumatic or distressing event (compared with 25 percent of pre-9/11 veterans) (Parker et al., 2019). Although more men than women are exposed to combat in the course of military service, there may be gender-based differences in the impact of combat exposure on PTSD rates. A study focusing on female post-9/11 veterans found that combat exposure was a stronger predictor of postdeployment PTSD symptoms for women than for men (Luxton, Skopp, and Maguen, 2010).

Military sexual trauma (MST) is also associated with PTSD among veterans. MST includes sexual harassment or assault that occurs during active military service (Mondragon et al., 2015). Between 20 and 40 percent of women veterans report experiencing MST and higher rates of trauma exposure in general than the civilian population (Kelly et al., 2011; Zinzow et al., 2007). Only 1 percent of male veterans screen positive for MST, but the high percentage of men in the U.S. armed forces means that the number of men and women who have experienced MST is about equal (Suris and Lind, 2008). Still, underreporting of MST by both men and women suggests that the prevalence is likely higher than what is reported in the literature (O'Brien, Keith, and Shoemaker, 2015). Research suggests that PTSD is highly correlated with screening positive for MST and that this association is three times stronger among women than

men (Kimerling et al., 2007). Women veterans are twice as likely to commit suicide as nonveteran women, and those who have experienced trauma, including MST, intimate partner violence, or PTSD are at greater risk for developing eating disorders (Disabled American Veterans, 2019).

Adverse childhood experiences, such as sexual or physical abuse, are another common type of trauma among veterans. For example, one study reviewed the charts of 603 patients admitted to the psychiatric ward of a VAMC between 2004 and 2005 and found that 19 percent of the inpatient clinical population had experienced childhood physical or sexual abuse (Koola et al., 2013). Trauma was more prevalent among female than male veterans, with 22.6 percent of women and 12.0 percent of men in the sample experiencing childhood physical abuse and 33.3 percent of women and 7.7 percent of men experiencing childhood sexual abuse. Examining a ten-year period, a more recent study found a prevalence rate of 26.0 percent for childhood physical or sexual abuse among 4,709 veterans admitted to the inpatient psychiatric ward at the same VAMC (Koola et al., 2018). Another earlier study found comparable rates of childhood sexual abuse among female veterans and nonveterans (Schultz et al., 2006).

Prevalence of Depression

Depression, or the formal diagnosis of major depressive disorder, is marked by periods of depressed mood and taking little interest or pleasure in activities that one used to enjoy. Like PTSD, depression is common among OEF/OIF veterans. Between 13 and 15 percent of veterans returned from these conflicts with depressive symptoms (Stecker et al., 2010; Seal et al., 2007). Rates of depression have been found to be higher among veterans than nonveterans (Boakye et al. 2017). Like PTSD, depression is linked to other concerning health outcomes, such as higher rates of suicide, especially in the presence of a co-occurring SUD (Price et al., 2004; Bullman and Kang, 1996).

Depression and PTSD often co-occur, compounding the effect of each. Research indicates that 16.7 percent of OEF/OIF veterans experience both depression and PTSD (Knowles et al., 2019). Evidence suggests that nonveterans with both depression and PTSD may have more severe PTSD symptoms and more functional impairment (Hruska et al., 2014; Momartin et al., 2004; Spinhoven et al., 2014). Veterans fare similarly, facing more acute PTSD symptoms when depression is present than when diagnosed with PTSD alone (Gros et al., 2012).

Prevalence of Substance Use Disorders

SUDs are also common among veterans. A 2019 U.S. Government Accountability Office study found that, out of the 6.2 million veterans who received any type of care

through VA in fiscal year 2018, 8.4 percent (or 518,570) of veterans were treated for a SUD, excluding tobacco (U.S. Government Accountability Office, 2019). Previous VA studies found that 24 percent of the OEF/OIF veterans who received VA care presented with a SUD (VHA, 2008). According to one large study of veterans, 11 percent who sought VA care for the first time met the criteria for a SUD diagnosis (Seal et al., 2011). On the 2013 National Survey on Drug Use and Health, nearly 13 percent of post-9/11 veterans reported a past-year SUD (SAMHSA, 2015). In addition to diagnosed SUDs, veterans are at risk for heavy and problematic substance use that negatively affects functioning but may not reach a diagnostic threshold. In this report, we focus on the top three most common SUDs among veterans: AUD, CUD, and OUD (Teeters et al., 2017; Hoggatt et al., 2017).[1]

Alcohol Use Disorder

Estimates of high-risk alcohol use among veterans range from 12 percent to 40 percent, or upward of 1 million veterans (Hawkins et al., 2010; Seal et al., 2007; Seal et al., 2009; Calhoun et al., 2008; Eisen et al., 2012; Schell and Marshall, 2008). Veterans who drink heavily are at risk of developing other SUDs and face greater problems transitioning to civilian life (e.g., unemployment, family problems) (Koenen et al., 2008; Zatzick et al., 1997; Carter, Capone, and Short, 2011). AUD diagnostic criteria include withdrawal symptoms, needing more of the substance to achieve the same effect (tolerance), cravings, unsuccessful attempts to cut down or stop use, and time spent obtaining or recovering from the substance. Research indicates that around 10 percent of OEF/OIF veterans who seek care through VA meet the criteria for AUD (Seal et al., 2011).

Heavy episodic drinking—defined as five or more drinks for men and four or more drinks for women in a single episode of drinking—is also common among veterans. Survey data from 2007 to 2012 reveal that 19 percent of female veterans and 24 percent of male veterans engaged in heavy episodic drinking (Hoggatt et al., 2017). In a recent Pew Research Center study of 1,284 veterans, one in five reported heavy alcohol use or other substance use problems (Pew Research Center, 2019). Although such behavior may not rise to the level of an AUD diagnosis, heavy episodic drinking is associated with negative physical health outcomes, including alcohol poisoning, injuries, pancreatitis, hypertension, ischemic heart disease, and cerebrovascular disease (Courtney and Polich, 2009; World Health Organization, 2019; Chikritzhs et al., 2001).

Cannabis Use Disorder

Cannabis is one of the most commonly used and misused substances in the United States (SAMHSA, 2015). This is also true among the veteran population. Nationally representative data from the 2014 National Survey on Drug Use and Health found past-

[1] We acknowledge that tobacco and nicotine use is also prevalent in the veteran population.

year rates of any cannabis use of 9 percent among veterans (Davis et al., 2018). CUD diagnoses, which mirror those of AUD (e.g., withdrawal symptoms, tolerance, cravings, unsuccessful attempts to cut down or stop use, time spent obtaining or recovering from the substance), at VA facilities increased by 59 percent between 2002 and 2009, from 0.66 percent to 1.05 percent (Bonn-Miller et al., 2012). Recent research indicates that CUD has been significantly underdiagnosed by VA (Bonn-Miller, Bucossi, and Trafton, 2012), and rates of cannabis use and CUD among veterans may be higher than historically reported. Problematic cannabis use, which is defined as heavy use and consequences that may or may not reach CUD diagnostic levels, is a significant problem among veterans (Kevorkian et al., 2015; Goldman et al., 2010). Rates of problematic cannabis use were estimated at 10 percent in one large community sample of veterans (Pedersen, Marshall, and Kurz, 2017).

Opioid Use Disorder

Opioid misuse is also a concern among veterans and can include the use of prescription opioids in a nonprescribed manner or use of illicit opioids, such as heroin. A study of a regional subset of VA outpatient prescription records and electronic medical records found that rates of chronic opioid use among young veterans (ages 18–30) increased from 3 percent in 2003 to 4.5 percent in 2007. Nearly 80 percent of these opioids were prescribed by primary care providers, and less than 1 percent were prescribed by pain specialists (Wu et al., 2010). Veterans with PTSD and other mental health issues are at greater risk of being prescribed opioids as pain treatment and, consequently, are at greater risk for opioid misuse (Seal et al., 2012).

The evidence further suggests that the growing prevalence of illicit opioids and dangerous synthetic opioids, such as fentanyl, led to a 65-percent increase in rates of opioid-related deaths among veterans between 2010 and 2016 (Lin et al., 2019). However, the percentage of veterans who overdosed within a year of being prescribed an opioid pain prescription dropped substantially over the same time period. These results suggest that veterans are facing a growing risk from nonprescription opioids, especially synthetic opioids, which can be far stronger than heroin (Lin et al., 2019). Our review of the literature also looked at studies of prescription drug misuse beyond prescription opioids, including tranquilizers, stimulants, and sedatives. One study found that 5 percent of female veterans and 3 percent of male veterans engaged in some type of prescription drug misuse at least once over the course of a year (Hoggatt et al., 2017).

After increasing from 2001 to 2009 (Bohnert et al., 2014), rates of prescription opioid use within VA have declined in more recent years, a trend driven primarily by decreases in long-term use (Hadlandsmyth et al., 2018). According to the National Survey on Drug Use and Health, the prevalence of nonmedical use of prescription opioids was 2.4 percent among veterans between 2002 and 2012, with higher rates among younger veterans age 18–25 (Pemberton et al., 2016). Lifetime and past-year rates of opioid use disorder, which include illicit use of heroin, were 2.3 percent and 1.0 percent,

respectively, among veterans who participated in the National Epidemiologic Survey on Alcohol and Related Conditions in 2012 and 2013 (Boden and Hoggatt, 2018).

Other Substance Use Disorders

Although not as common, veterans misuse other substances beyond alcohol, cannabis, and opioids. For example, some veterans engage in nonmedical use of psychotherapeutics, such as prescription tranquilizers, stimulants, or sedatives, as well as hallucinogens and methamphetamine. In general, surveys suggest that, in a given year, 10.5 percent of female veterans and 5.7 percent of male veterans used nonmedical cannabis, hallucinogens, inhalants, tranquilizers, cocaine, heroin, pain relievers, stimulants, or sedatives (Hoggatt et al., 2017). However, the data do not separate out different types of substances and, given high rates of cannabis use among veterans, it is difficult to tell which substances beyond cannabis are driving these statistics.

Another study of veteran substance use between 2002 and 2012 focused more specifically on psychotherapeutics and hallucinogens. The researchers found that 3.1 percent of veterans used psychotherapeutics for nonmedical purposes, with greatest rates among veterans age 18–25 (17 percent) (Pemberton et al., 2016). Only 0.5 percent of veterans in the same study reported using hallucinogens, while 0.4 percent reported methamphetamine use. Again, rates were higher among younger veterans, with 7.5 percent admitting to using hallucinogens and 2.3 percent stating that they had used methamphetamine (Pemberton et al., 2016).

Other Behavioral Health Issues

Although PTSD, depression, and SUDs are the most common behavioral health problems among veterans, this population is also diagnosed with a range of other disorders, such as anxiety disorders and serious mental illness (SMI), the latter of which encompasses schizophrenia and bipolar disorder. Anxiety disorders and SMI were found to be the most prevalent mental health disorders—behind depression, PTSD, and SUDs—among the more than 4.4 million veterans enrolled in an integrated VA primary care clinic with co-located mental health care services. For this population, the co-occurrence of disorders was the norm rather than the exception (Trivedi et al., 2015).

Generalized anxiety disorder (GAD), characterized by persistent and overpowering anxiety and worry (Milanak et al., 2013), is one of the more common of the anxiety disorders in the general population (Barlow, 2004). Research shows that 15 percent of OEF/OIF veterans report symptoms consistent with GAD (Hoge et al., 2004).

SMI is defined as a disorder resulting in functional impairment and disruption of major activities; SMI patients often receive limited physical and mental health care (Gill et al., 2017). Rates of SMI have been estimated at around 3 percent in VA and community samples (Pemberton et al., 2016; Trivedi et al., 2015). SMI is associated

with a range of negative outcomes for veterans. A study of clinical outcomes associated with SMI among veterans who had at least one primary care visit at a Veterans Health Administration's (VHA) patient-centered medical home (Patient Allied Care Teams) in 2010 and 2011 found that 22 percent required hospitalization and 41 percent required an emergency department visit in the year after their initial visit (Trivedi et al., 2015). Reflecting the additional risk faced by veterans compared with the general population, SMI can lead to violent tendencies, especially when it co-occurs with PTSD, SUDs, and homelessness (Elbogen et al., 2008). Individuals with SMI are also more likely than those in the general population to be victims of violence (Teplin et al., 2005).

Another mental health disorder seen among veterans is obsessive-compulsive disorder (OCD). OCD is an impairing mental health disorder characterized by recurrent obsessive thoughts and compulsive thoughts or behaviors. The rate among veterans who receive primary care at VAMCs is 1.9 percent (Gros, Magruder, and Frueh, 2013).

Though less common than substance-related addictions, behavioral addictions are seen among veterans, as well. Examples include at-risk/problem gambling (Stefanovics, Potenza, and Pietrzak, 2017) and compulsive sexual behaviors (Smith et al., 2014). Veterans with PTSD, depression, and other mental health disorders are at increased risk for co-occurring behavioral addictions (Freeman, Volberg, and Zorn, 2020; Edens and Rosenheck, 2012).

Co-Occurring Behavioral Health Problems

It is common for veterans to receive diagnoses for more than one of the behavioral health problems discussed here. Depression is the most frequently co-occurring mental health disorder for both veterans and nonveterans with PTSD (Kessler et al., 1995; Rytwinski et al., 2013; Maes et al., 2000). Estimates of co-occurring PTSD and depression range from 48 percent to 60 percent across studies of military and veteran populations, and rates of PTSD and SUD co-occurrence range from 34 percent to 88 percent (Stahre et al., 2009; Cerdá et al., 2014; Polusny et al., 2011). Among veterans, AUD is the most common SUD that co-occurs with both PTSD and depression (Norman et al., 2018; Seal et al., 2011). The presence of co-occurring problems has important implications for treatment, as the mix of symptoms can exacerbate the consequences of each individual problem area and treatment of one, without targeting the other(s), could result in an increase in distressing symptoms for the untreated disorder(s) (Kessler et al., 1995; Rytwinski et al., 2013; Seal et al., 2011).

Posttraumatic Stress Disorder, Depression, and Alcohol Use Disorder

Rates of co-occurring PTSD and AUD among veterans range from 16 percent to 69 percent (Seal et al., 2011; McDevitt-Murphy et al., 2010; Seal et al., 2010). Veterans who seek treatment through VA are more likely to be diagnosed with co-occurring

PTSD and AUD than other veterans. Among OEF/OIF veterans who sought care at a VA facility between 2001 and 2010, 63 percent met criteria for both AUD and PTSD (Seal et al., 2011). In contrast, only 20 percent of veterans over age 21 who participated in the National Health and Resilience in Veterans Study (Fuehrlein et al., 2016) reported symptoms consistent with an AUD diagnosis and also met criteria for co-occurring PTSD (Fuehrlein et al., 2016; Norman et al., 2018). Veterans with PTSD and AUD report poorer functioning than those with single disorders in several areas, such as relationship health, tendency to develop other SUDs, other mental health symptoms (such as depression and anxiety), and physical health complaints (Koenen et al., 2008; Zatzick et al., 1997; Carter, Capone, and Short, 2011; Norman et al., 2018; Bowe and Rosenheck, 2015). Individuals with co-occurring PTSD and AUD are also able to abstain from alcohol use for briefer periods than those with AUD alone. Likewise, they face a greater risk of suicidality and homelessness and have more medical, legal, and psychosocial problems than those with either disorder alone (Tate et al., 2007; Calabrese et al., 2011; Driessen et al., 2008; Norman et al., 2018).

The combination of PTSD, depression, and AUD also appears to be particularly problematic for veterans. The co-occurrence of PTSD and depression is associated with higher rates of alcohol misuse (Brooks Holliday, Pedersen, and Leventhal, 2016). One study found that 19 percent of OEF/OIF veterans who were referred to a VA facility screened positive for depression, PTSD, and alcohol misuse (Seal et al., 2008). In a large community sample of veterans, the rate of a probable depression diagnosis was 37 percent, compared with 2 percent for veterans with AUD alone (Norman et al., 2018).

Posttraumatic Stress Disorder, Depression, and Cannabis Use Disorder

PTSD is the most prevalent co-occurring mental health disorder among veterans with CUD. Nearly 30 percent of VA patients who met the criteria for CUD also presented with PTSD (Bonn-Miller, Harris, and Trafton, 2012). Co-occurrence of problematic cannabis use and PTSD is associated with greater PTSD symptom severity, decreased likelihood of cannabis cessation, worse clinical outcomes for PTSD and cannabis use, and increased use of emergency services (Bonn-Miller et al., 2015; Bonn-Miller, Vujanovic, and Drescher, 2011; Ouimette, Finney, and Moos, 1999; Saladin et al., 1995; Tate et al., 2004; Watkins et al., 2001). Moreover, veterans with CUD are generally younger and have higher rates of PTSD than those with AUD or another SUD (Bonn-Miller et al., 2012). There is also evidence that veterans who use cannabis have higher rates of depression (Goldman et al., 2010). In a review of VA administrative and clinical records from 2010 to 2016, researchers found that 79 percent of veterans with a CUD diagnosis also met criteria for another behavioral health diagnosis, the most prevalent being another SUD (77 percent of those with a CUD diagnosis), depression (67 percent), and PTSD (39 percent).

Posttraumatic Stress Disorder, Depression, and Opioid Use Disorders

Another related concern is the risk of prescription opioid misuse among those with mental health diagnoses. Hydrocodone, oxycodone, and other opioids may be prescribed to veterans with chronic or acute pain (Dobscha et al., 2013; Edlund et al., 2014; Macey et al., 2011). Studies suggest that mental health diagnoses can increase the likelihood of receiving an opioid prescription for physical pain, which can lead to substance misuse. For example, a 2012 study found that 18 percent of veterans with a diagnosis of PTSD and 12 percent of veterans with another mental health disorder received an opioid prescription, compared with only 6.5 percent of those without mental health diagnoses (Seal et al., 2012). Furthermore, among those prescribed pain medication, veterans who had been diagnosed with PTSD were more likely to receive a stronger opioid dosage than those without a mental health disorder (23 percent versus 16 percent). In general, receiving an opioid prescription—regardless of PTSD or another mental health diagnosis—was correlated with a greater risk of adverse outcomes, though these negative outcomes were more pronounced in veterans with PTSD (Seal et al., 2012).

Theories of Co-Occurring Behavioral Health Problems

Psychology research offers several theories to explain why co-occurring behavioral health problems are so common among veteran populations. The theory of self-medication suggests that veterans—especially those with diagnoses of PTSD or depression *and* SUDs—use substances to avoid or numb themselves from the symptoms of either (Burnett-Zeigler et al., 2011; Jakupcak et al., 2010). In other words, these veterans "self-medicate" with alcohol, cannabis, opioids, or other substances. As an example, an individual with PTSD may find that drinking heavily prior to bedtime limits the likelihood of distressing dreams. However, self-medication with substances can become a self-perpetuating cycle, referred to as the *mutual maintenance model* in the health care field—for example, to describe the relationship between PTSD and chronic pain (Sharp and Harvey, 2001). Substance use can exacerbate the symptoms of PTSD or depression and, in doing so, make the person more likely to increase their use of the substance to manage their worsening symptoms. For example, an individual who drinks heavily before bed may find that they do not have as many distressing dreams, but their depression, anxiety, and paranoia symptoms (i.e., symptoms of alcohol withdrawal) become worse during waking hours. Therefore, they begin to use alcohol during the day to avoid these exacerbated symptoms. This cycle may explain why some veterans with PTSD or depression continue to misuse substances.

Two other theories may also explain co-occurring behaviors. First, substance misuse may increase trauma exposure. This theory suggests that individuals who use substances may place themselves in situations that exacerbate their traumatic experiences, which, in turn, can exacerbate and contribute to their PTSD or depression (Begle et al., 2011). Second, an individual's PTSD or depression symptoms *and* sub-

stance misuse may have shared triggers and both PTSD and SUDs can alter the brain's chemistry (Goodman, 2008; Nutt and Malizia, 2004). Some studies have suggested that genetic or personality factors can exacerbate both types of disorders (Fu et al., 2002; Xian et al., 2000). A study using data from the Vietnam Era Twin Registry found that shared genetic risk for major depression, alcohol dependence, and marijuana dependence was explained by the underlying impact of antisocial personality disorder (Fu et al., 2002). Another study using the same data set found significant genetic overlap among PTSD, alcohol dependence, and drug dependence (Xian et al., 2000).

Barriers to Care for Veterans with Co-Occurring Behavioral Health Problems

In connecting with WWP, veterans acknowledge their need for support. However, WWP alumni, like other veterans, still may face a variety of barriers to treatment. Indeed, despite high rates of behavioral health problems among those who served in the military, many do not receive adequate care. A large population-based survey of veterans who had deployed as part of OEF/OIF found that only 30 percent of those with probable PTSD or depression had received minimally adequate psychotherapy and that 22 percent had received a minimally adequate course of pharmacotherapy (Tanielian and Jaycox, 2008). In a 2017 study of veterans age 19–34 recruited online, only one-third who screened positive for depression, anxiety, PTSD, or hazardous cannabis use and about one-fifth of those who screened positive for hazardous alcohol use reported receiving minimally adequate care in the previous year (Pedersen, Marshall, and Kurz, 2017).

Veterans may not receive needed care for a variety of reasons. Barriers include perceived stigma (e.g., belief that colleagues would respect them less), fear of repercussions or career harm (e.g., fear their career would not progress if they seek treatment), logistical barriers (e.g., high costs, not knowing where to get help), and beliefs that they can handle their problems on their own or that available treatments are not effective (Hoge et al., 2004; Pietrzak et al., 2009; Schell and Marshall, 2008; Garcia et al., 2014; DeViva et al., 2016; Fox, Meyer, and Vogt, 2015). Women veterans struggle with similar barriers to care as men, but they may have unique barriers that preclude treatment seeking and eventual receipt of care, such as childcare responsibilities and apprehension about using male-dominated VA facilities (VA, 2015). Moreover, medical treatment settings often require abstinence from substances as a requirement for accessing care, which means that veterans with co-occurring behavioral health issues can have difficulty accessing care (Priester et al., 2016). In this section, we describe these barriers in more detail.

Attitudes About Behavioral Health Care

Concerns related to stigma present a formidable barrier to help-seeking for behavioral health problems (Mason et al., 2013; SAMHSA, 2006). A 2014 report concluded that, despite consistent efforts to reduce stigma in the military and minimize barriers to care, perceived stigma associated with being a part of a group of people with a mental health disorder continues to prevent individuals in need from accessing behavioral health care (Acosta et al., 2014). About 43 percent of military personnel across studies reported fearing that others would see them as weak if they sought care (Sharp et al., 2015). Veterans with PTSD and other mental health disorders may be more likely to report concerns about seeking mental health care, such as beliefs that peers may view them negatively if they were to pursue care (Sharp et al., 2015; Williamson et al., 2019).

Stigma can undermine veterans' decisions to access care. Research has found that veterans with the greatest need for care may be disproportionately influenced by fears of stigma. For example, in OEF/OIF veteran populations, researchers found that more-severe PTSD symptoms are associated with greater perceived stigma and barriers to care (Ouimette et al., 2011). However, fear of stigma among veterans appears to be misplaced. Research suggests that although young adult veterans fear public stigma associated with treatment-seeking, young veterans *themselves* would not judge a fellow veteran negatively if in a similar situation (Kulesza et al., 2015).

Fear of Repercussions or Career Harm

Along with fear of stigma, military and veteran populations may also believe that accessing care could have negative consequences for their career. A large survey in 2008 of veterans who had deployed to OEF/OIF found that concerns about confidentiality and discrimination were key barriers to seeking treatment (Schell and Marshall, 2008). In this study, more than 40 percent reported the belief that seeking care could harm one's career, with 44 percent reporting concerns about obtaining a security clearance. The weighted prevalence of endorsement of concerns about negative career repercussions across studies between 2004 and 2014 was about 33 percent (Sharp et al., 2015). Such concerns are prominent in the reserve components as well. One study showed that the most-endorsed barrier to treatment among Army National Guard members who screened positive for mental health disorders was fear that any mental health care they received would appear in their military service record (45 percent reported this barrier) (Gorman et al., 2011). Although these concerns are likely more significant for service members because they are still on active duty, veterans with careers in the national security sector may also fear repercussions from seeking services for an issue that could jeopardize a security clearance, a loss of benefits, or other career advancement (Cheney et al., 2018). However, even veterans who have fully separated from the military and do not hold civilian positions that require a government security clearance still report a fear of repercussions and concerns about confidentiality around notes in

medical charts being used against them, such as by law enforcement (Kulesza et al., 2015; Schell and Marshall, 2008; Cheney et al., 2018).

Logistical Barriers

Logistical barriers to seeking care include eligibility restrictions and cost concerns; long or inconvenient travel distances to the nearest treatment facilities; difficulty attending appointments due to work, childcare, or other responsibilities; and long wait times and care-site workforce capacity issues (Ouimette et al., 2011). Some veterans struggle to access the care they need because of distance between facilities (e.g., they must receive medical care in one location and mental health care in another) or because of a lack of services in their immediate area, something that particularly affects veterans living in rural areas (Ouimette et al., 2011).

Integrating primary care and mental health care seems to increase the number of veterans who screen positive for behavioral health problems and ultimately seek treatment. In April 2007, an integrated, co-located primary care and mental health care clinic was established at a VAMC specifically for OEF/OIF veterans. A study published the following year found that 35 of 42 veterans (83 percent) who sought care at the clinic were seen by a mental health specialist immediately after their primary care visit (Seal et al., 2008). The results suggest that an integrated care model can help overcome barriers to treatment access and encourage follow-up treatment among those diagnosed with behavioral health issues. The authors suggest that, in the future, expanded telephone and online mental health treatment options may help overcome additional barriers to care for these veterans.

Treatment Preferences

Treatment preferences may not seem like a barrier to care, but strong preferences about providers, fellow participants in group treatment, and care settings may influence veterans' decisions about whether and where to seek care.

Veteran or Civilian Providers

Research generally suggests that veterans and service members prefer a clinician who has military cultural competence and understands the military and the veteran experience. Sometimes, this may be in the form of a veteran provider. For example, in a study of 77 active-duty service members, the majority preferred to work with a clinician who is a veteran and potentially more likely to relate to their experiences and understand the type of help they need (Johnson et al., 2018). In a study of 29 veterans participating in a peer-support program to address PTSD, researchers found that veterans appreciated having a group facilitator who was also a veteran and further along in their recovery from PTSD with whom the veteran shared common language, experiences, values, and culture (Kumar et al., 2019). Veterans reported that this connection contributed to a sense of equality and respect, helped them recognize similarities in others' struggles

with trauma and substance use, normalized and validated their experiences, gave them reassurance, and aided their recovery. Thus, the opportunity to receive treatment from a clinician who is a veteran may reduce barriers to treatment and motivate veterans to seek and obtain assistance.

Most VA and community-based providers with whom veterans interact are civilians. However, civilian providers who work in VA or military settings are more likely to provide culturally competent behavioral health care to veterans than civilian providers in community-based settings (Tanielian et al., 2014). For example, a RAND study found that only 20 percent of community healthcare providers in New York State routinely screened new patients for veteran status, which is a necessary first step toward providing quality care for this population (Tanielian et al., 2018). Earlier RAND research found that only 13 percent of civilian mental health providers surveyed met the criteria for military cultural competency (Tanielian et al., 2014).

Group Treatment Participants

Group treatment for veterans in treatment settings may include veterans only or a mix of veterans and nonveterans, such as civilian first responders. Research has not provided conclusive results about optimal group composition for enhancing outcomes.

Several qualitative studies have used interviews to provide insight into veterans' experiences, but they were small studies with only a few participants in single locations, so their generalizability is limited. In interviews with 23 veterans from multiple eras, participants praised veteran-only peer-support groups, especially with a veteran facilitator (Hundt et al., 2015). The most commonly cited benefit was that veterans understand each other, which helped them open up to an extent they did not believe was possible with nonveterans. In another study of 67 participants in peer-support groups with a mix of veterans and nonveterans, veterans described their reluctance to communicate with others, especially nonveterans, and the challenges they encountered in these interactions (Brown et al., 2016).

In a survey of OEF/OIF veterans participating in outpatient PTSD group therapy, 43 percent endorsed the statement "Other group members might not understand me" as a barrier to seeking group therapy, suggesting that some veterans may benefit from the presence of other veterans in group treatment settings. However, two other commonly agreed-to statements were "I don't want to hear other veterans' war stories" (38 percent) and "I might see someone I know in group therapy" (24 percent), indicating potential downsides to participating in group therapy with other veterans (Kracen et al., 2013). Although some veterans may express a preference for veteran-only groups and others prefer to receive treatment alongside nonveterans, there is no compelling evidence to conclude that one mix of group therapy participants leads to better outcomes than another. Indeed, the studies that do discuss veterans' reluctance to participate in group treatment with nonveterans have also revealed not only that veterans tolerate this arrangement but also that it can have a positive impact. Veterans

are exposed to nonveterans in their everyday lives. Perhaps receiving mental health treatment in a controlled, clinical setting with nonveterans can help both groups build a shared understanding of one another's experiences.

Group Treatment Focus

In addition to examining veterans' preferences regarding the mix of veterans and nonveterans in group treatment settings, a study of 23 veterans found that combat veterans often believed that veterans with noncombat trauma (e.g., injuries as a result of accidents) should be in separate treatment groups (Hundt et al., 2015). Most male veterans in that small study advocated for mixed-gender groups, noting that women brought different perspectives and that combat status was more important than gender. However, women veterans strongly preferred to be in separate groups from men; this was particularly true for those with MST, who reported not feeling safe in a mixed group. However, women veterans with MST acknowledged that being in a group with men who had also experienced MST had the potential to be beneficial (Hundt et al., 2015). In a survey of MST survivors, 47 percent requested a female clinician, 1 percent preferred a man, and the remaining expressed no gender preference (Sexton et al., 2020). Within this group, 54 percent of women veterans and 29 percent of men also preferred a female clinician (Sexton et al., 2020). Though preferences are apparent, it should be noted that there is not strong evidence that gender-specific treatment is more or less effective than mixed-gender treatment. Still, in recognition of veterans' wishes, VA recommends that veterans' preferences for provider gender be assessed and accommodated when possible (VHA, 2018).

Overall, the limited amount of research in this area supports the value of veterans-only treatment but also recognizes that mixed groups can be beneficial. Given the current lack of research, an emphasis on honoring veterans' wishes may be important. Across all populations, patients who are involved in decisionmaking about their care report better treatment satisfaction, completion, and outcomes (Lindhiem et al., 2014).

Challenges Addressing the Needs of Minority Populations

Women Veterans

Women veterans face their own unique barriers to care. In 2015, women made up 15.5 percent of active-duty military personnel and 19 percent of the National Guard and reserve forces. Women account for around 10 percent of all veterans and about 12 percent of OEF/OIF veterans, but their presence is projected to grow to 16.3 percent within 25 years (VA, National Center for Veterans Analysis and Statistics, 2017). Currently, only 13.6 percent of women who use VA benefits and services are 65 or older (compared with 50.2 percent of men), but women's numbers among users of VA care increased 80 percent overall from 2003 to 2012 (Disabled American Veterans, 2019),

and 52 percent have needed behavioral health care (VA, 2015)—a rate higher than that for men.

Evidence suggests that women veterans also face many of the *same* barriers to care as their male counterparts, including stigma and logistical barriers (Washington et al., 2007; Washington et al., 2006; VA, 2015; Pietrzak et al., 2009; Garcia et al., 2014; Vogt, 2011; Kulesza et al., 2015). Yet, recent studies suggest that women veterans face more barriers than men related to family responsibilities and relational factors, such as difficulty finding childcare, fear of losing custody of children, and concerns about losing relationships (Agterberg et al., 2020). There is also some evidence of gender differences in patterns of service utilization among veterans. For example, studies of care received through VA suggest that men with mental health disorders have more outpatient encounters than women with such disorders (Frayne et al., 2007), but there is also evidence that women veterans use behavioral health services more than their male counterparts (Haskell et al., 2011; Elbogen et al., 2013), particularly for such mental health disorders as PTSD and depression (Maguen et al., 2012). Women veterans have also reported greater stigma related to seeking care (Agterberg et al., 2020).

Because most of the service utilization research has focused on veterans who seek care through VA, the percentage of women in these samples is often low. There is evidence that women may be more likely than men to seek non-VA care (Elbogen et al., 2013; Haskell et al., 2011; Elhai et al., 2008). Barriers to obtaining VA care include perceived difficulty accessing women-specific needs, problems with VA providers (e.g., lack of knowledge about women's health care needs), and problems related to ease of use (e.g., wait times) (Vogt et al., 2006). Other reasons for a preference for non-VA care among women veterans include having private health insurance, ease of working around logistical barriers (e.g., childcare availability), perceived better quality of non-VA services, and concerns about the male-dominated atmosphere at VAMCs (Washington et al., 2007; Washington et al., 2006; VA, 2015). Although 19 percent of women who used VA care reported avoiding it at some point because of past sexual trauma, women across all demographic categories stated that the safety and comfort of VA facilities were adequate (VA, 2015). Still, of those who used VA services, 42 percent stated that they had a hard or very hard time finding childcare services, and, reflective of that, 62 percent said that on-site childcare would be very helpful (VA, 2015).

Homelessness is a common barrier to mental health treatment among veterans in general. Although women veterans are less likely to be homeless than their male counterparts, research indicates that this is due, in part, to remaining in dangerous relationships or living transiently with friends and family (Disabled American Veterans, 2019).

There is also some question of whether women are less likely to use VA care because they are not aware of their eligibility. For example, in a population-based survey of women veterans conducted by VA, only 43 percent of women veterans were aware of the health services at VA that were available to them; even fewer (33 percent)

were aware that there were services available to women veterans, specifically, at VA (VA, 2015).

Women veterans also place great importance on receiving care from a clinic dedicated to women (60 percent of women who used VA care, 47 percent of non-users), especially those who had previously experienced or been threatened with sexual assault. In fact, in a study of women veterans who used VA care, those who received care in a VA women's clinic reported being the most satisfied with their primary care provider and receiving the highest level of respect from staff. Most women veterans in the study (75 percent) also stated that it was very or somewhat important to have one provider for both primary care and women's services. In addition, 65 percent of women preferred to have a female provider for women's services. However, VA women's clinics often have only one such provider, resulting in delays in getting appointments (VA, 2015). Estimates are that only one in three VA locations has a full-time gynecologist (Disabled American Veterans, 2019). Because VA has difficulty providing gender-specific services to the growing population of women veterans, it has increased coverage by outsourcing some women-specific services (Rissew and MacCammon, 2017). Harassment on VA campuses has also been shown to be correlated with missed and delayed care seeking among women veterans (Klap et al. 2019).

In recent years, VA has made a concerted effort to conduct outreach and investigate the needs of women veterans to ensure that these needs are met. For example, in 2015, the Center for Women Veterans released a study of barriers to VA health care experienced by women veterans, highlighting several recommendations for better connecting with this population (VA, 2015). As another example, VA has been creating patient-centered medical home specifically for women veterans and providing care to women veterans by providers who are proficient in women's health issues (VA, 2010), initiatives that are promising but that could be improved with more gender sensitivity trainings to increase proficiency in women's health needs and reduce barriers to care (Meredith et al., 2017). As VA implements these and other measures, it will be important to continue to consider gender-based variation in patterns of care seeking.

Racial and Ethnic Minority Veterans

Racial and ethnic minority veterans are another large subpopulation with unique barriers to care. Research into the rates of mental health disorders and SUDs among racial/ethnic minority veteran groups reveal several disparities. In a large study of veterans who sought care through VA from 2001 to 2013 (Koo et al., 2015; Koo, Madden, and Maguen, 2015), overall rates of mental health outpatient care, primary care, and emergency service use were similar across all racial/ethnic groups, but veterans of color were admitted to psychiatric inpatient care at lower rates than whites, with the largest differences between black and Hispanic men and their white counterparts. Black men were more likely than white men to use mental health outpatient services, but no such difference was found among women veterans. Overall, Asian American/Pacific

Islander veterans had lower rates of mental health disorder diagnoses and accessed emergency services less frequently than whites. American Indian/Alaska Native male veterans had higher rates of PTSD, depression, and SUDs than white male veterans, and American Indian/Alaska Native women veterans were more likely to be diagnosed with AUD than their white counterparts. Native American and Hispanic women used mental health outpatient services less than white women, but Native American men and Hispanic men used them more.

Underlying these disparities in diagnosis rates and access of services are barriers to care that vary by race/ethnicity. Compared with white veterans, a higher percentage of black and Hispanic veterans cited not feeling welcome at VA facilities as a barrier to seeking VA care (Koo et al., 2015; Koo, Madden, and Maguen, 2015). In addition, black veterans were more likely to state that they were not aware of or did not know how to apply for VA behavioral health care benefits. However, when they received VA care for a behavioral health disorder, black veterans were more satisfied with their care than white veterans and were more likely to report that the treatment they received was helpful (National Academies of Sciences, Engineering, and Medicine, 2018). In a survey of veterans with a mental health disorder or SUD who received care from patient-centered medical homes, black, Hispanic, American Indian/Alaska Native, and Asian American/Pacific Islander veterans reported worse experiences than white veterans with respect to accessing timely appointments, and Hispanic, American Indian/Alaska Native, and Asian American/Pacific Islander veterans indicated worse interactions with office staff than white veterans (Jones et al., 2016).

Studies of the general U.S. adult population have shown that black Americans' concerns about stigma can lead them to avoid or delay mental health treatment, and they frequently experience further stigmatizing reactions from family and community members (Alvidrez, Snowden, and Kaiser, 2008). Mental health professionals' microaggressions (indirect, subtle, or unintentional discrimination against members of a marginalized group; Sue, Capodilupo, and Holder, 2008) can also alienate black clients seeking or in treatment (Gómez, 2015). Furthermore, a legacy of racism in U.S. health care—in the forms of exploitation and misdiagnosis—has fostered mistrust and negatively affected black Americans' utilization and experiences with the health care system (Suite et al., 2007). As a result, it has been suggested that black veterans may benefit from working with black clinicians (Saha et al., 2008).

Hispanic veterans have a higher rate of PTSD and greater symptom severity than their white counterparts, but research suggests that they may not pursue VA care because of cultural norms that value stoicism, downplay distress, and emphasize seeking the help of family members in addressing challenges. These veterans have also reported that VA staff lack the cultural competency to work effectively with them, while VA staff have indicated that Latino patients often have difficulty discussing personal matters (Duke, Moore, and Ames, 2011). In a study of the general U.S. adult population, Latinos expressed greater self-stigma than whites (e.g., feeling embarrassed,

ashamed, or not understood due to a mental health problem) and were more likely to state that they would conceal a potential mental health problem (Wong et al., 2016). In general, veterans who live in rural areas report a higher degree of stigma than those in urban areas, a barrier that is compounded by logistical challenges to accessing care (e.g., long travel distances and unmet transportation needs).

Nearly half of all native (Native American, Native Hawaiian, Alaskan Native) veterans live in rural areas on tribal or Alaskan Native lands. Their challenges are particularly acute, with lifetime and current AUD rates higher than estimates for their nonveteran peers (Brave Heart et al., 2016). Native veterans also have a higher number of overall diagnoses and higher average disability ratings than other veterans, and they use primary care and mental health outpatient services more often. A 2015 study found that native women veterans were more likely to report MST than other women veterans, a factor that was associated with increased mental health service use (Brooks et al., 2015). Native American and Alaska Native veterans have also reported barriers related to geographical access, underfunded facilities, a lack of culturally competent care, and challenges in recruiting and retaining health care professionals in areas where many of these veterans reside (Kaufman et al., 2010). Native American and Alaska Native veterans were also more likely than their white counterparts to experience delays in care from a lack of a timely appointments, not being able to reach a provider by phone, or transportation challenges (Johnson, Carlson, and Hearst, 2010).

Asian American and Pacific Islander veterans access both VA and non-VA outpatient, inpatient, and emergency services at an equal rate as other racial/ethnic groups, after adjusting for differences in sociodemographic and health characteristics (Tsai, Whealin, and Pietrzak, 2014). A 2012 review found that these veterans experienced poorer mental health but were physically healthier than other racial/ethnic groups and that they used health care services less often than other groups (Tsai and Kong, 2012). Research has not found differences in perceived barriers or stigma regarding health care among Asian American and Pacific Islander veterans compared with other veterans (Tsai, Whealin, and Pietrzak, 2014). However, in a study of the general U.S. adult population (Wong et al., 2016), researchers reported that Asian-Americans had higher levels of self-stigma (feeling inferior to others who had not experienced a mental health problem) and reported greater levels of hopelessness (a symptom of depression) than whites that those with mental health issues could contribute to society. Like members of other racial and ethnic minority groups, Asian Americans and Pacific Islanders experienced microaggressions in everyday life and from providers (Sue et al., 2007). Analyzing Asian American and Pacific Islander veterans separately revealed differences between the groups: Asian Americans had fewer PTSD symptoms and better overall mental health than Pacific Islanders. Meanwhile, Pacific Islander veterans were more likely to live in rural areas, to have been deployed, and to have higher PTSD checklist scores than Asian Americans (Tsai, Whealin, and Pietrzak, 2014).

Overall, VA has not been able to eliminate racial disparities in outcomes that also occur outside the VA system (Saha et al., 2008). Given the challenges that veterans face across racial/ethnic groups, promoting patient-centered care and implementing care strategies that accommodate needs that vary by gender, race, or ethnicity, as well as the challenges faced by rural veterans, could reduce these disparities (Atkins, Kilbourne, and Lipson, 2014).

Post 9/11 Veterans

There is some evidence to suggest that post-9/11 veterans are less likely to utilize VA care than veterans of prior service eras. Data from the American Community Survey in 2015 suggest that post-9/11 veterans enroll in VA health care at similar rates to other veterans (about 50 percent), but the percentage of post-9/11 veterans who enrolled and then utilized that care was lower (about one-quarter, compared with one-third of veterans from other eras) (VA, National Center for Veterans Analysis and Statistics, 2018). However, other survey data have found that post-9/11 veterans have higher rates of VA utilization than the American Community Survey suggests (about 62 percent) (VHA, 2017). Despite the differences across reports, this evidence suggests that between 40 percent and 70 percent of post-9/11 veterans are not utilizing VA care.

There may be several reasons for these differences. Some of the reasons suggested include age and prior experiences with VA. Three-quarters of post-9/11 veterans are under age 45, whereas about 80 percent of all other veterans are 55 and over (VA, National Center for Veterans Analysis and Statistics, 2018). A survey fielded in 2018 found that younger veterans (under 45 years old) were less likely than older age groups to report that it was easy to schedule appointments at VA within a reasonable window of time, VA personnel were welcoming and helpful, there were short wait times upon arriving for an appointment, and providers listened to them or accepted them for who they were (Wang et al., 2019). Such negative experiences may lead to lower utilization among younger veterans.

However, the health care experiences of veterans could vary for other reasons, including demographic differences, socioeconomic status, cultural beliefs about treatments, variation in the conditions of military enlistment at the time they served, exposure to different battle tactics or hazards, or differences in public policies that shape veterans' lives (Adler, 2018). For example, service members' experiences in the wars in Iraq and Afghanistan have been marked by prolonged exposures to combat traumas with little to no rest in between, which could have led to frequency and severity of traumatic exposures different from those serving in prior conflicts. Lower VA care utilization rates among younger veterans could be because their *need* for care is, on average, lower than older veterans. As post-9/11 veterans age, and perhaps when their symptoms worsen or become too difficult to manage on their own, their usage of VA services may also increase. More research is needed to assess whether post-9/11 veterans

face unique barriers to utilizing VA care and whether, over time, usage increases as it does for veterans of other eras.

Substance Use as a Barrier to Care for Veterans with Co-Occurring Behavioral Health Problems

Heavy and problematic use of alcohol and other drugs is a major barrier to care receipt for mental health problems among the general U.S. population, including veterans (Priester et al., 2016). OEF/OIF veterans who report alcohol misuse also report low rates of substance use treatment engagement, with only 3 percent meeting criteria for alcohol misuse receiving substance use treatment services (Burnett-Zeigler et al., 2011; Erbes et al., 2007). In one large sample of veterans, only 32 percent who met criteria for problematic cannabis use reported receiving any care for mental health or substance use problems, either through VA or another provider, in the previous year (Pedersen, Marshall, and Kurz, 2017). Findings from focus groups with active-duty service members provide some insight into why those with substance use problems may avoid treatment. In one study, Army personnel suggested that resistance to seeking substance use care stemmed from perceived negative attitudes among both commanding officers and peers and, hence, fears of career repercussions and stigma in seeking care (Gibbs et al., 2011).

In addition, avoidance of care can exacerbate symptoms to a point that they become more difficult to treat. Many veterans also believe that they can handle their alcohol or drug use problems on their own (Britt et al., 2011; Stecker et al., 2007). In addition, veterans with co-occurring disorders may be particularly resistant to care, especially when they report high levels of avoidance behaviors (Ouimette et al., 2011), such as a tendency to use substances to cope with PTSD symptoms (Jakupcak et al., 2010; Kehle et al., 2012; Boden et al., 2013; Elliott et al., 2015; Grant, Pedersen, and Neighbors, 2016).

In part, veterans who use substances to self-medicate their PTSD symptoms may be hesitant to seek treatment because many facilities demand abstinence from substances prior to receiving care (Bernhardt, 2009). Veterans may resist giving up alcohol and other substances out of a fear of intensified PTSD symptoms, leading them to forgo treatment when facilities are not equipped to address both problem areas. This abstinence requirement may also cause veterans to lie about their misuse of substances so that they can receive mental health treatment. As a result, they may continue to crave the substances they have come to rely on and return to harmful lifestyle choices after mental health treatment (Bernhardt, 2009).

Also, veterans who are using substances at high levels may require detoxification services, which would be necessary to stabilize the veteran medically before any formal psychological treatment could begin. However, detoxification services are often located

in separate facilities from those that offer outpatient psychological treatments. This may make it difficult for veterans to navigate multiple facilities and could lead to drop-off from treatment at some point during transition across facilities.

Traditional Treatment Model Versus Integrated Care

VA had traditionally followed a treatment model that requires cessation of drug and alcohol use prior to entering treatment for other behavioral health issues, such as PTSD and depression. To support sobriety prior to treatment, veterans have typically been referred to intensive outpatient substance use treatment programs. This approach is based on a concern that veterans with PTSD (though this could be extrapolated to other behavior health issues) who are in early stages of recovery may not have the coping skills necessary to avoid a relapse into substance misuse. This concern is especially salient when treating PTSD, as evidence-based treatments often involve exploring traumatic memories (Reisman, 2016; Koven, 2018). However, the separation of treatment for substance misuse and PTSD or depression can ultimately cause veterans—even those who receive some treatment—to oscillate between treatment for their mental health problem and for their SUD, if they agree to treatment at all. Given that veterans with co-occurring disorders are a difficult-to-engage group that is hesitant to start either type of treatment, obstacles to seamless care may lead some to drop out of treatment altogether.

New evidence suggests that integrated treatment—in which mental health symptoms and substance use behaviors are addressed concurrently—may be superior to these traditional sequential approaches. Indeed, it is increasingly common within VA and outside VA to recommend treating substance use and mental health disorders concurrently (VA and U.S. Department of Defense [DoD], 2015; Ouimette, Brown, and Najavits, 1998; Bernhardt, 2009), and this recommendation is echoed in the recent VA/DoD clinical practice guidelines for PTSD and SUD (VA and DoD, 2015, 2017). According to the clinical practice guidelines for PTSD, a co-occurring SUD should not prevent patients from obtaining or participating in other recommended treatment for PTSD. Similarly, the guidelines for SUD advise that patients with a co-occurring behavioral health disorder should be treated according to the recommendations for the co-occurring disorder. Thus, VA is moving toward more-integrated care for co-occurring disorders.

Successful treatment plans combine elements of existing evidence-based therapeutic programs for substance use and mental health problems into one cohesive strategy. Two such strategies are suggested in the research literature. The first is a phased approach, also referred to as an augmented or sequential approach, in which individuals with co-occurring SUDs and mental health disorders are given a series of treatments as part of a broader program of care that addresses both substance misuse and mental health problems. Treatments are given in sequential order; that is, one treatment is delivered and completed and then the other is delivered. However, in these

instances, a discussion of all the symptoms the patient is experiencing (i.e., both SUD and mental health problems) is woven into care. For example, in one study, veterans with PTSD and co-occurring depression and SUDs were first given integrated cognitive behavioral therapy (ICBT) for depression and SUDs, followed by trauma-focused cognitive processing therapy (CPT) (i.e., a treatment that specifically targets PTSD), which was enhanced with treatment to address SUD symptoms (Haller et al., 2016).

The second strategy involves a more integrated approach to care, in which treatments are delivered concurrently during a program of care. For example, participants with PTSD and SUDs received a therapy that combined two evidence-based approaches into one cohesive treatment: motivational enhancement therapy (MET) for SUDs and prolonged exposure therapy (PE) for PTSD (Kehle-Forbes et al., 2019). Research in this area generally suggests that the most effective treatments for patients with a dual diagnosis of SMI and substance misuse are integrated approaches (Drake et al., 2004; Mueser et al., 2003). Integrated treatments for PTSD and SUDs are also promising (Roberts et al., 2015; Simpson, Lehavot, and Petrakis, 2017; Norman et al., 2019), and we review these studies in the next chapter. Given the latest evidence, this type of treatment may be preferable, but it is not always available to veterans.

Summary

Veterans are at high risk for several behavioral health problems. Although estimates of the prevalence of specific disorders, such as PTSD or depression, may vary depending on the population studied (e.g., population-based versus treatment-seeking samples), studies show that between 11 and 20 percent of post-9/11 veterans experience symptoms consistent with either PTSD or depression. Post-9/11 veterans with combat exposure, MST, or a history of adverse childhood events are at even greater risk of experiencing PTSD. National surveys of veterans also reveal higher rates of SUDs than among non-veteran populations. Co-occurring behavioral health problems are common among veterans, especially, co-occurring PTSD, depression, and SUDs. Some veterans may use substances as a means of numbing their mental health symptoms, yet such use can *exacerbate* these symptoms and complicate treatment. Veterans already face many barriers to seeking help for mental health problems. In addition to the well-documented concerns about attitudes toward mental health treatment and potential career repercussions, the use of substances and the expectation regarding abstinence during mental health treatment may further increase these barriers.

CHAPTER THREE

Treatments for Veterans with Substance Use Disorders and Co-Occurring Mental Health Disorders

In this chapter, we document the current research on evidence-based treatment approaches for SUDs and findings from our comprehensive literature reviews. These reviews were designed to answer two key questions: (1) What does the available research conclude about the efficacy of treatments that target SUDs among veterans? and (2) What does it conclude about the efficacy of treatments that target individuals with SUDs who have co-occurring mental health problems (i.e., diagnosed PTSD and major depressive disorder)? In addressing the second question, we also explore common practices in treating both veteran and nonveteran populations.

Methods

We began our literature reviews by developing a tailored set of search terms for four databases that are widely used to index relevant research: PubMed, PsycINFO, PTSDPubs (formerly PILOTS), and Cochrane Systematic Reviews. Our goal was to identify English-language, peer-reviewed literature on the effectiveness of interventions to address substance use disorders, including co-occurring substance use and mental health disorders, published since 1996. Our search criteria allowed us to capture systematic reviews and meta-analyses, but we also included relevant individual studies, especially if they were veteran-focused or published recently and therefore may not have been included in the systematic reviews/meta-analyses. We were interested in exploring the literature specific to SUDs separately from the literature on treatments for co-occurring disorders, and we developed two sets of search terms to correspond to the two types of studies. However, the results overlapped substantially, so we reviewed the research collectively. Our combined search yielded 762 articles. We then conducted two rounds of screening and abstraction.

Treatments That Target Substance Use Disorders Among Veterans

The first round of screening and abstraction focused on identifying reviews, metanalyses, and individual studies of treatments for SUDs in veterans. We began by screen-

ing titles and abstracts, sorting the studies into three categories: (1) studies that clearly met the inclusion criteria, (2) studies for which we did not have enough information to decide on inclusion, and (3) studies that were not relevant to the research questions. To be included, studies needed to evaluate treatments for SUDs, including alcohol, cannabis (marijuana), opioids (including misuse of prescription opioids), and other drugs (e.g., methamphetamine, cocaine). They also had to report substance-related outcomes, such as reductions in use or rates of abstinence, as well as focus on veteran or military populations. Studies were excluded if they reported only process-related outcomes (e.g., treatment engagement), focused on tobacco use only, or featured single case studies. After the first review was complete, two members of the study team who had not participated in the initial screening assessed studies designated for "further review" to identify any additional articles for inclusion.

Through this process, we identified 87 articles that were relevant to the treatment of SUDs among veterans. The next stage was a full-text screening. This review led us to exclude an additional subset of articles because they did not meet our inclusion criteria. However, we also identified a small number of additional relevant articles (for example, by reviewing reference lists in articles that had been selected). From each of these articles, we abstracted relevant information into a spreadsheet, recording the population studied, substance addressed, type of intervention (e.g., pharmacological, psychotherapy-based), study design, and findings. We flagged studies that focused on co-occurring disorders for inclusion in our summary of the literature. A total of 52 articles on treatments targeting SUDs among veterans were included in our final review. Appendix A presents each citation and a brief description of the population, sample size, substance(s) addressed, type of intervention, and study design.

Treatments for Veterans with Substance Use Disorders and Co-Occurring Mental Health Disorders

The second round of screening and abstraction focused on identifying reviews, meta-analyses, and individual studies of integrated treatments for co-occurring SUDs and mental health disorders. We expected the veteran-specific literature related to integrated treatments to be less substantial, so we included research that focused on veterans, nonveterans, or both. As in the first review process, we began by screening titles and abstracts into three categories: (1) studies that clearly met the inclusion criteria, (2) studies for which we did not have enough information to decide on inclusion, and (3) studies that were not relevant to the research questions. We included articles that evaluated treatments that were formally designed to address co-occurring mental health concerns and substance use, evaluations of concurrent therapies for mental health concerns and substance use, and studies of mental health treatments and substance use treatments that examined their effects on both mental health and substance use.

Again, after the first review was complete, two other members of the study team assessed studies in the "further review" folder to identify any additional articles for

inclusion. Through this process, we identified 172 articles that were relevant to the treatment of individuals with co-occurring disorders. The next stage was a full-text screening. During this review, we excluded an additional subset of articles that did not meet our inclusion criteria. Again, we identified a small number of additional relevant articles (for example, by reviewing the reference lists in our selected articles). From each article in the final pool, we abstracted relevant information to create a spreadsheet specifying the population studied, substance addressed, type of intervention (e.g., pharmacological, psychotherapy-based), study design, and findings. A total of 108 articles were included in the final review. Appendix A cites each article citation and provides a brief description of the population, sample size, substance(s) addressed, type of intervention, and study design.

The remainder of this chapter presents major findings from our review of the literature on treatments that target SUDs among veterans and on treatments for SUDs and co-occurring mental health disorders among veterans and nonveterans, with particular attention to the treatment evidence for veterans.

Treatments That Target Substance Use Disorders Among Veterans

We organized the findings from the literature review according to the type of treatment described. Several articles presented results from programs designed to address any type of SUD (n = 18). We also found literature focused on specific substances, such as alcohol (n = 24); opioids, cocaine, or other stimulants (n = 8); or cannabis (n = 2).

12-Step Programs and 12-Step Facilitation

Twelve-step programs, such as Alcoholics Anonymous and Narcotics Anonymous, are common components of substance use treatment programs but can also serve as primary models of care. Twelve-step programs focus on abstinence, seeking help from others in recovery and helping others (e.g., sponsors and attendance at group meetings), and adherence to 12 guiding principles, such as the recognition that a higher power can give strength in recovery. A quasi-experimental study found that VA residential substance use programs based on the principles of 12-step programs resulted in reduced alcohol consumption, reduced rates of alcohol dependence and substance use problems, and increased rates of remission and abstinence. Moreover, participants in these programs had a greater likelihood of abstinence one year after treatment than those in cognitive behavioral therapy (CBT) programs (Ouimette, Finney, and Moos, 1997). In part, this may be due to increased engagement among those in 12-step programs; for example, one study found that veterans in 12-step programs were more likely than those in CBT treatments to continue with follow-up self-help treatment groups after treatment ended (Humphreys et al., 1999). There are also various interventions designed to promote engagement with the philosophy of the 12-step pro-

gram model, such as 12-step facilitation and intensive referrals. A small randomized controlled trial (RCT) involving women veterans found that 12-step facilitation was associated with reduced substance use from baseline to end of treatment, with gains maintained at three-month follow-up (Najavits et al., 2018a). Similarly, an intensive referral intervention, which focused on connecting patients with 12-step meetings (and included current meeting attendees) as well as keeping a journal to record information about the meetings, found that such efforts resulted in higher rates of abstinence than a traditional referral (Timko and DeBenedetti, 2007). A subsequent study adapted the intensive referral for rural communities by including a family education component. Although the intervention group had higher rates of abstinence from alcohol at follow-up, there was no significant effect on the use of drugs (Grant et al., 2018).

Twelve-step programs are also commonly used to supplement care. For example, a patient might attend nightly Alcoholics Anonymous meetings in addition to a weekly outpatient treatment group. We discuss combined treatment approaches involving 12-step programs in the section "Multiple-Component Interventions," later in this chapter.

Cognitive Behavioral Therapy

Another common approach to treatment is CBT, which focuses on modifying negative or maladaptive cognitions and behaviors. In most studies that addressed CBT, the therapy was part of a multiple-component treatment. Ouimette, Finney, and Moos (1997) compared the effectiveness of SUD programs based primarily on cognitive behavioral principles with that of treatments based on 12-step program principles. Cognitive behavioral programs included cognitive and behavioral skills trainings, a focus on adaptive coping, and addressing beliefs regarding substance use. Relapse prevention groups were also a part of these programs. Relapse prevention is a form of CBT for SUDs that focuses on anticipating and effectively coping with thoughts, behaviors, and other triggers that may lead to substance use (Marlatt and Donovan, 2005). Veterans who participated in these programs experienced reduced alcohol consumption, reduced rates of alcohol dependence and substance use problems, and increased rates of remission and abstinence. Although rates of abstinence were higher in the 12-step treatment programs, both approaches resulted in improvements for all other outcomes.

We did not identify any rigorous studies of CBT for veterans with CUD. However, a small feasibility study examined the effectiveness of CBT for insomnia, delivered via mobile app, to address sleep problems in veterans with CUD (Babson et al., 2015). The two participants in the intervention group reported a reduction in cannabis use at the end of two weeks. Additional veteran-specific research on the value of CBT for CUD is needed.

Motivational Enhancement Therapy

MET is a psychosocial intervention that has empirical support primarily for addressing alcohol use. This common approach to treating AUD is predicated on motivational interviewing principles, which aims to build individual motivation to change through a nonjudgmental style of reflective listening (Miller and Rollnick, 2012). An RCT of a brief, four-session MET intervention resulted in more days abstinent in a group of veterans with AUD and hepatitis C compared with a health education intervention of the same length, although it did not have an effect on the number of drinks per week (Dieperink et al., 2014). In addition, a study of a single-session intervention grounded in MET combined with personalized feedback, delivered to U.S. Army personnel, found that participants reported fewer drinks per week at three and six months post-participation (Walker et al., 2017). However, the effect on other outcomes, such as drinking frequency and frequency of heavy drinking, was not significantly different than a psychoeducational session.

Principles of motivational interviewing and MET are also present in other types of interventions. For example, the web-based programs Alcohol Savvy and Drinker's Check-Up target heavy drinking behavior and include elements of motivational interviewing and the stages-of-change model. Though a study of U.S. Air Force personnel found that Drinker's Check-Up was associated with fewer average drinks per drinking occasion at one month post-intervention, Alcohol Savvy had no significant effect (Pemberton et al., 2011).

Multiple-Component Interventions

Multiple-component residential treatment programs are a common approach to providing substance use treatment services, including in VA settings. These approaches most often combine CBT with either MET or 12-step models and can include individual and group treatment and psychoeducation. Although several studies have examined the effectiveness of these programs, they are primarily observational, which means that one cannot definitively attribute changes in behavior directly to the program. That said, there is evidence that these programs are associated with reductions in alcohol- and drug-related outcomes. Gavrysh and colleagues examined a 30- to 80-day residential treatment program that included medical treatment, psychoeducation, group therapy, 12-step programs, and relapse prevention services, as well as such elements as meditation and physical exercise. They found that military veterans experienced a significant decrease in reported drinks per day and days using drugs in the six months following completion of the program (Gavrysh et al., 2016). Ilgen and colleagues conducted an observational study of a randomly selected sample of veterans from various inpatient, intensive outpatient, and outpatient treatment settings across the country. They found that patients who received inpatient care had significantly better outcomes at six months than those in outpatient programs, including higher rates of abstinence (llgen et al., 2005).

There has also been some effort to explore the long-term effects of these types of multiple-component programs. An observational study examined the outcomes of active-duty service members who participated in a 28-day inpatient program that was based on principles from CBT and motivational interviewing (Mooney et al., 2014). Clients had access to behavioral health care, as well as chiropractors, acupuncture, pain medicine, and occupational and recreational therapists. Looking at rates of relapse over time, the study found that 30 days after completing the program, just 15 percent of the cohort examined had experienced a relapse; however, this rate increased to 29 percent at 90 days, 45 percent at 180 days, and 78 percent at 360 days. This suggests that, although these programs seem effective in the short term, their effects decline with time. Another study focused on a 60-day VA residential substance use treatment program that included psychoeducation and small-group and individual treatment (Decker et al., 2017). Some participants received additional treatment after completing the program, including voluntary aftercare at a sober-living transitional house. After five years, 69 percent of those who completed the treatment program had relapsed, compared with 98 percent of those who had not, and there was a lower risk of relapse among those who participated in the transitional housing program upon discharge from treatment.

There is also evidence that multiple-component inpatient, outpatient, and intensive outpatient treatment can be effective for cocaine use disorder, specifically. One study examined the effectiveness of a multiple-component outpatient program that included group treatment, psychoeducation, and case management. The four-week treatment program was provided in two formats: a 12 hour/week intensive outpatient program and a six hour/week outpatient program. Both versions of the program resulted in significant reductions in cocaine use at four months and seven months, with a reduction of approximately 52 percent at seven months (Coviello et al., 2001). Another study examined two approaches to residential substance use treatment in the San Diego VA Healthcare System (Smith et al., 1999). In this program, standard treatment included daily group counseling, introduction to self-help programs, and family outreach. After discharge, patients attended aftercare groups for up to six months, and many also entered recovery houses. A subset of veterans participated in an enhanced treatment program focused on stimulant use, which added interpersonal psychotherapy, psychoeducation, relapse prevention, and homework. The study found that the enhanced treatment program resulted in higher rates of abstinence from both alcohol and stimulants, with effects observed at three- and 12-month follow-up.

Brief Alcohol Interventions

Brief alcohol interventions are defined as interventions that take one or two sessions to implement and include some elements of MET approaches, but also advice and education (e.g., risks of alcohol) and elements of CBT, such as skill training and goal setting (Doherty et al., 2017; Hepner et al., 2018). Brief alcohol interventions often include

personalized feedback, which presents the patient with tailored information for review and insight. For example, personalized feedback often includes a component to address misperceptions about peer drinking behavior. The theory behind normative feedback is that individuals may believe that alcohol misuse is more common among peers than it actually is, so providing feedback about actual drinking behaviors among peers can help recalibrate an individual's perceptions. Some RCTs have found that personalized feedback-based interventions, including stand-alone approaches and those used as part of multiple-component interventions, are associated with reduced alcohol use and alcohol-related consequences in veterans (Brief et al., 2013; Pedersen, Marshall, and Kurz, 2017). However, others have found no significant effects on such outcomes as blood alcohol concentration, alcohol consumption, or alcohol-related problems when compared with basic education about drinking (Cucciare et al., 2013; Martens et al., 2015). A meta-analysis that looked more broadly at brief alcohol interventions (Doherty et al., 2017) found that, although veterans who participated in brief alcohol interventions had a lower number of average weekly drinks, this was largely driven by a single study (Brief et al., 2013), and the effect was not significantly different from that observed in the comparison group.

Aftercare Components

Many substance use treatment programs support veterans after they complete core treatment services by providing relapse prevention and aftercare services. Three studies in our review referenced aftercare approaches. Such approaches as CBT and 12-step facilitation with telephone case monitoring, provided over 24 weeks, have been associated with better substance-related outcomes, as well as increased attendance in outpatient treatment and better mental health outcomes (Ouimette, Moos, and Finney, 1998; McKellar et al., 2012). However, the impact of such programs may decline over time (McKellar et al., 2012). McKay and colleagues examined the effects of three 12-week continuing care groups. One group was telephone-based and consisted of one call per week plus a weekly support group for four weeks; one was based on cognitive behavioral relapse prevention principles and consisted of one individual and one group session per week; and the third included twice-weekly group sessions that included counseling and 12-step recovery practices. The study found that all groups experienced increasing rates of abstinence, although there was no significant effect on outcomes, such as percentage of days without use. The study did find that certain patients may benefit more from particular types of aftercare programs—specifically, veterans with less severe alcohol use problems experienced better outcomes with telephone therapy, and those with more severe symptoms did better with standard therapy (McKay et al., 2005).

Contingency Management

Contingency management is a treatment approach that incentivizes individuals to reduce their substance use and maintain abstinence through "prizes," such as money or vouchers (Petry et al., 2000). We found three studies that discussed the use of contingency management approaches with veterans. One RCT found that contingency management was associated with higher rates of substance use abstinence when provided as an adjunct to a standard intensive outpatient treatment program (with such elements as 12-step programs, skills training, and relapse prevention). More specifically, at the end of treatment, 69 percent of those who participated in contingency management were abstinent, compared with 61 percent in treatment as usual (Petry et al., 2000).

Two studies in our review explored the effect of contingency management on stimulant (e.g., cocaine, methamphetamine) and opioid outcomes specifically. The first was an RCT of contingency management, both in combination with bupropion hydrochloride and alone, in the treatment of individuals who used both cocaine and opioids (Poling et al., 2006). During the six-month treatment program, all groups experienced a significant decrease in opioid use, with no significant between-group differences. Regarding cocaine use, those in the contingency management groups had significantly better outcomes than those who received bupropion without contingency management; those who received both bupropion and contingency management had the best outcomes. The second study was a large, observational study of 94 VA programs that had implemented a contingency management intervention for stimulant use. Researchers found that the intervention resulted in a median of 95 percent negative urine samples during the intervention period (DePhilippis et al., 2018).

Work Therapy

A handful of studies examined work therapy programs as an approach to substance use treatment. Work therapy programs typically include supported work placements that encourage positive work behaviors and aid in participants' transition into a sustainable lifestyle after treatment. An early observational study of a VA residential work therapy program found that participants experienced significant reductions in alcohol-related problems and average alcohol use (Rosenheck and Seibyl, 1997). More recent rigorous studies have also supported work therapy programs as effective for veterans with SUDs. One recent study examined the effects of a part-time transitional work program among veterans participating in a VA SUD program. Participants were required to have been abstinent for at least 30 days. The study explored whether the addition of cognitive remediation therapy increased the effect of the work therapy program. The researchers found that, with or without cognitive remediation therapy, rates of abstinence were high in the first 90 days of the program, and participants were abstinent during most weeks in the six months after enrollment (Bell, Laws, and Petrakis, 2017). Another RCT examined the effect of compensated work therapy, a VA clinical vocational rehabilitation program. In a sample of veterans with SUDs who were expe-

riencing homelessness, participation in a compensated work therapy program resulted in fewer alcohol- and drug-related problems and fewer physical symptoms due to substance use (Kashner et al., 2002).

Other Psychosocial Interventions

Financial Interventions

There has been a small amount of research in support of other types of psychosocial interventions. An RCT examined a financial intervention in which staff served as money managers (Rosen et al., 2009). Staff assisted in storing patient funds, which could also include storing the patient's checkbook or bank card, and trained patients on how to develop and monitor a budget. There was also an effort to link spending to treatment by encouraging patients to "reward" themselves with discretionary funds if they abstained from substances. Patients in the control group received a financial management workbook. Neither group experienced significant decreases in self-reported alcohol or cocaine use, although the intervention group had greater improvements on the Addiction Severity Index.

Peer-Led Interventions

Peer-led interventions are becoming more common in behavioral health settings. For example, the VA requires peer-support providers in its mental health treatment programs, including its programs for veterans with SMI (Chinman et al., 2015). Examining the use of peer-supported interventions for alcohol use, a quasi-experimental study of the Belize Defence Force found that peer-implemented sessions that addressed harmful alcohol use and its connection to sexual risk behaviors were associated with a decreased proportion of individuals screening positive for alcohol dependence and engaging in problematic use, such as drinking alcohol before work (Zablocka et al., 2017).

Gender-Focused Recovery Model Interventions

One study we located examined a gender-focused recovery model intervention for women. This workbook-based intervention was grounded in CBT, interpersonal, and emotive principles and covered such topics as gender differences in addiction and the role of relationships and trauma, with a focus on recovery (Najavits et al., 2018b). The study compared the intervention with 12-step facilitation and found that it decreased substance use and substance-related problems.

Exercise and Physical Activity Interventions

A small single-arm study examined a 12-week exercise intervention and found that participants experienced reduced drug and alcohol use (Linke et al., 2019). Another observational study explored the effect of physical activity on cannabis use among veterans interested in quitting (Irons et al., 2014). Veterans who engaged in moderate to high levels of physical activity during the first week of their quit attempt had a lower

risk of lapse and lower cannabis use during the first four days, although there was no significant effect in days 5–7. It is also important to note that this study did not examine an intervention per se, and it is unclear whether a formal exercise-based intervention would have an effect on cannabis use. Thus, there is a need for more-rigorous research examining whether exercise is an effective approach.

Pharmacological Interventions

The effectiveness of pharmacological treatment options has also been examined in multiple RCTs with veterans. Most of these studies focus on naltrexone, an opioid receptor antagonist that has been used in the treatment of AUD and is often provided alongside a psychosocial intervention, such as 12-step facilitation or psychoeducation (Streeton and Whelan, 2001). Naltrexone has been found to be an effective pharmacological option for veterans when provided orally (in 50 mg daily doses) or as a long-acting injectable (Morris et al., 2001; Garbutt et al., 2005; Busch et al., 2017), resulting in outcomes such as decreases in median number of drinks (Busch et al., 2017), reductions in heavy drinking (Garbutt et al., 2005; Busch et al., 2017), and longer time to relapse (Morris et al., 2001). However, at least one study of oral naltrexone found that it did not have a significant effect compared to placebo and 12-step facilitation (Krystal et al., 2001).

There have been several studies examining pharmacological options for the treatment of cocaine dependence in veterans. Tiagabine, a selective GABA reuptake inhibitor, was demonstrated to reduce cocaine use in veterans when administered daily for 12 weeks in either 12 mg or 24 mg doses (Gonzalez et al., 2003). However, no other medications tested in the literature were found to be superior to placebo, including paroxetine, pentoxifylline, Riluzole, pramipexole, venlafaxine, or d-cycloserine (Ciraulo et al., 2005a; Kennedy et al., 2012).

Fareed and colleagues (Fareed et al., 2010) conducted a retrospective, observational study of a health screening and counseling intervention for veterans receiving methadone maintenance treatment. The intervention was delivered during treatment-planning meetings, which took place every three to six months and focused on attending medical appointments, smoking cessation, nutrition, and exercise. Although the screening and intervention were more focused on chronic medical conditions (e.g., hepatitis, diabetes), the study also reported on substance-related outcomes associated with participation in the methadone maintenance treatment program. It found that participants who were retained in treatment experienced a significant decrease in the percentage of positive screens for opiate and cocaine use. That said, given the observational nature of the results, it is difficult to determine whether the additional screening and intervention services contributed to these outcomes or whether they would have been observed in a more basic methadone maintenance treatment program (i.e., one without a health screening and education component).

Prevention Approaches

The previously described interventions focused largely on populations that had already been identified as engaging in problematic alcohol use, but there are also interventions designed to prevent alcohol misuse in at-risk populations. One psychoeducational prevention approach developed for military use is Battlemind. Although it is focused primarily on mental health concerns in the U.S. military, an adapted version of Battlemind—which included a more explicit focus on alcohol misuse—was tested in an RCT of returning military personnel in the United Kingdom (Mulligan et al., 2012). Study participants received either Battlemind training or a standard postdeployment briefing during a 36-hour decompression period. At four- to six-month follow-up, Battlemind participants were less likely to have engaged in binge drinking.

Primary Care–Based Interventions

The previously described interventions are typically administered in specialty behavioral health settings, such as substance use treatment programs. However, there have also been efforts to address problematic alcohol use in primary care settings, especially in VA settings. One such intervention is Choosing Healthier Drinking Options in Primary Care (CHOICE), which relies on an interdisciplinary team to provide motivational interviewing, support for self-monitoring, pharmacological treatments, and referrals. Though it has been associated with reduced drinking and days abstinent in randomized trials (including one RCT and one randomized encouragement trial), most outcomes have not appeared to be significantly different from those achieved through usual behavioral health management provided in primary care settings (Bradley et al., 2018; Williams et al., 2019).

Treatments for Veterans with Substance Use Disorders and Co-Occurring Mental Health Disorders

In this section, we first describe studies that were formally designed to address *either* mental health *or* substance use problems but that were tested with those who reported *both* mental health *and* substance use problems and examined the effect of the intervention on mental health or substance use outcomes (57 articles; *mental health or substance use interventions not designed as integrated treatments*). For example, these studies could have enrolled participants with co-occurring SUDs and mental health disorders into treatments originally designed to target a single disorder. We then describe studies that tested interventions that were formally designed to concurrently address co-occurring mental health and substance use problems (39 articles; *integrated care studies*). For example, these studies often enrolled participants with co-occurring SUDs and mental health disorders into a treatment that was designed to concurrently treat both disorders. Note that although we attempted to categorize studies into these mean-

ingful categories, there were 12 studies that reported on both integrated and non-integrated treatments. These 12 studies are discussed when relevant.

Studies of Mental Health or Substance Use Interventions Not Designed as Integrated Treatments

Cognitive Processing Therapy

CPT is a cognitive behavioral treatment for PTSD that focuses largely on addressing cognition relevant to the traumas that an individual has experienced (Monson et al., 2006). Although it was not developed as an integrated treatment for individuals with co-occurring PTSD and SUDs, there have been intervention studies testing its effects in dually diagnosed populations. For example, Forbes and colleagues (Forbes et al., 2012) conducted an RCT of CPT for veterans with PTSD. Approximately 45 percent of participants had comorbid SUDs, and alcohol use was common. Forbes et al. found that, compared with treatment as usual, CPT resulted in significantly lower PTSD symptoms and alcohol use. A follow-up analysis found that comorbid alcohol use at baseline did not affect treatment outcomes (Lloyd et al., 2014), suggesting that CPT can be an effective treatment in individuals with co-occurring PTSD and substance use problems. This is consistent with other studies of veterans with comorbid PTSD and SUDs, which have found that veterans with co-occurring SUDs experience similar reductions in PTSD and depressive symptoms as veterans without SUDs (Kaysen et al., 2014; McDowell and Rodriguez, 2013).

Two non-RCT studies also found promising outcomes associated with CPT. A pre-post study examined CPT as part of a treatment program that also included 12-step meetings, family meetings, and a CBT-based group focused on co-occurring PTSD and SUDs. Participants experienced significant decreases in PTSD and depressive symptoms; however, the lack of a comparison group limits any strong conclusions that can be drawn from this study (Peck et al., 2018). A second observational study reported on outcomes among veterans who received CPT and CBT focused on SUDs as part of treatment for PTSD and SUDs. Participants in that study experienced a significant decrease in PTSD symptoms (McGuire et al., 2018).

Prolonged Exposure

PE is an exposure-based treatment for PTSD that uses in vivo and imaginal exposure to allow patients to emotionally process their anxiety and traumatic memories (Foa, 2011). PE was not originally designed as an integrated treatment, but it has been tested in dually diagnosed individuals, sometimes as part of an integrated treatment approach. Foa and colleagues examined the effectiveness of prolonged exposure and naltrexone as an integrated treatment approach for comorbid AUD and PTSD in veterans and nonveterans (Foa et al., 2013). These treatments were compared to supportive counseling and placebo in an RCT. The study found significant reductions in number of days drinking across treatment groups; those assigned to receive naltrexone (regard-

less of whether they received PE or supportive counseling) had better outcomes than those who received placebo. Drinking increased for all groups six months after treatment ended, although those who received PE and naltrexone had the smallest increase in the percentage of days drinking. Regarding PTSD symptoms, all groups experienced significant decreases. This suggests that PE may have similar effects as other supportive treatments for co-occurring disorders in the short term, at least with respect to mental health outcomes, and may contribute to maintenance of gains in substance use outcomes. These findings are somewhat contrary to those reported in a systematic review of psychological interventions for addressing PTSD and problematic substance use among women who experienced interpersonal violence, which found that PE had a significant effect on PTSD but less of an effect on substance use in that population (Bailey, Trevillion, and Gilchrist, 2019).

One study examined the effectiveness of PE and MET as an integrated approach for veterans with co-occurring PTSD and SUDs. Veterans were assigned to receive either phased MET and PE (with the interventions delivered consecutively) or integrated MET and PE, in which the interventions were delivered concurrently (Kehle-Forbes et al., 2019). Both groups experienced a significant reduction in drug use and heavy drinking, as well as significant reductions in PTSD symptoms. The researchers observed continued improvement in substance use outcomes through the six-month follow-up. No significant difference was found between treatments, however, suggesting that they need not be delivered in an integrated manner to have a treatment effect.

A small quasi-experimental study examined the effect of PE among veterans diagnosed with PTSD and SUDs who were in a residential substance use treatment program. PE was associated with greater improvements in PTSD symptoms at the end of treatment. In contrast to the individuals who received psychoeducation related to PTSD, the PE group experienced significant decreases in depression symptoms over time (Norman et al., 2016). SUD outcomes were not assessed in this study, but it is an example of a study that enrolled participants with both PTSD and SUDs to evaluate the effect of a PTSD-focused intervention on mental health symptom outcomes. Often, individuals with co-occurring SUDs would be excluded from studies on mental health–focused treatments intended to address mental health symptoms.

Other Trauma-Focused Approaches

A handful of studies reported on the effect of trauma-focused approaches other than CPT or PE, but these studies were not generally specific to veterans. Eye movement desensitization and reprocessing (EMDR) is a trauma-focused psychotherapy in which patients are instructed to recall distressing memories and images while a therapist directs them to focus on bilateral sensory input. A systematic review of the literature on EMDR identified two studies that explored the treatment's effects in individuals with SUDs who had experienced trauma (Valiente-Gómez et al., 2017). Although EMDR was found to address trauma-related symptoms, its effect on substance use was

less conclusive—and in a study in which initial improvements were found, the initial gains were not maintained at follow-up.

A meta-analysis compared trauma memory processing therapies—that is, treatments that include exposure or discussion of traumatic memories—to psychoeducational approaches to treating complex PTSD (Mahoney, Karatzias, and Hutton, 2019). A small number of studies reported on substance misuse as an outcome, but they did not focus specifically on individuals with co-occurring disorders. They found that group-based trauma processing therapies had a significant effect on PTSD and depression compared with usual care, but these therapies were not significantly more effective than psychoeducational group treatment. Psychoeducation also had a significant effect on PTSD symptoms compared with usual care. It is worth noting that, when substance misuse was examined as an outcome, there was no significant effect of trauma memory processing therapies or psychoeducation.

Cognitive Behavioral Therapy

Two studies we identified focused on the use of CBT for PTSD but also evaluated substance use outcomes. One study explored two CBT group interventions offered as part of an intensive outpatient PTSD program for veterans (Monson, Rodriguez, and Warner, 2005). Veterans took part in either a trauma-focused group therapy or a skills-focused group. There was no significant reduction in PTSD symptoms or alcohol use among participants in either group. Acosta and colleagues (Acosta et al., 2017) conducted an RCT of a web-based CBT intervention for veterans with PTSD who misused substances. Participants were receiving primary care, and the intervention group had access to 24 20-minute CBT sessions over 12 weeks. Results demonstrated that the intervention group had better alcohol-related outcomes, but there was no significant treatment effect on PTSD symptoms.

A systematic review of comorbid anxiety and substance use found that most studies focused on the use of CBT (Hesse, 2009). However, the treatments examined had limited effectiveness. A study of behavior therapy for OCD added to a therapeutic community found that the intervention had a stronger impact on OCD symptoms and abstinence than a progressive muscle relaxation intervention or the therapeutic community alone (Fals-Stewart and Schafer, 1992). Another study explored the effect of CBT for social anxiety disorder added to a treatment for AUD; although both groups had similar anxiety-related outcomes, those who also received CBT had better drinking outcomes (Randall, Thomas, and Thevos, 2001). An integrated treatment combining principles of CBT and relapse prevention resulted in greater reductions in anxiety than relapse prevention alone, but there was no significant effect on alcohol use (Schadé et al., 2005). However, not all treatments held promise. For example, CBT for panic disorder was tested among individuals in a residential addiction-focused treatment program, but there was no significant effect on anxiety or substance use (Bowen et al., 2000).

Regarding other cognitive behavioral options, Martinez-Vispo and colleagues explored the effectiveness of behavioral activation for comorbid substance use and depression in a systematic review (Martinez-Vispo et al., 2018). They found mixed results for the effect of substance use. Although some studies in their review suggested that behavioral activation, a form of CBT that focuses on the behavioral components of the model, resulted in higher rates of abstinence, other studies found no such effect. There was also minimal evidence for an effect on depressive symptoms in this dually diagnosed population.

Personalized Normative Feedback

Personalized normative feedback interventions typically involve the presentation of peer drinking norms to correct overestimations about the drinking patterns of one's peers. The effects of personalized normative feedback interventions for co-occurring disorders are not well established. In a systematic review of technology-based interventions for co-occurring depression and substance use (Holmes, van Agteren, and Dorstyn, 2019), the authors reported that an internet-based personalized normative feedback intervention with college students (Geisner et al., 2015)—whether integrated, alcohol-focused, or depression-focused—did not have a significant effect on substance or depression-related outcomes. The personalized normative feedback approach has also been tested in veterans. One study examined a brief, web-based alcohol intervention that included psychoeducation and personalized normative feedback for veterans who screened positive for alcohol misuse in primary care settings (Cucciare, Boden, and Weingardt, 2013). Participants in both the intervention group and treatment-as-usual group (with the latter receiving primary care provider counseling related to alcohol misuse) experienced improvements in mental health functioning and depressive symptoms at follow-up.

Another study tested personalized normative feedback with and without motivational interviewing, finding that all participants had a significant decrease in the quantity of alcohol used, the frequency of alcohol use, and the frequency of binge drinking (McDevitt-Murphy et al., 2014). There was evidence that veterans who had PTSD and received feedback with motivational interviewing had greater reductions in drinking at follow-up. In a more recent study, Luciano and colleagues explored the effectiveness of a one-session intervention that involved personalized normative feedback and psychoeducation related to alcohol use and PTSD, with or without a motivational interview. Individuals in both groups experienced a significant decrease in PTSD symptom severity; in addition, improvements in alcohol use were related to improvements in PTSD symptoms (Luciano et al., 2019). Together, these studies suggest that personalized normative feedback interventions that include components addressing both alcohol use and PTSD may hold promise for veterans, but there is a need for further examination.

Acceptance and Commitment Therapy

Acceptance and commitment therapy (ACT) is an approach that emphasizes acceptance as an alternative to experiential avoidance, changing the function of thoughts rather than the thoughts themselves, being present and mindful, and exploring values (Hayes et al., 2006). Although it was originally designed to address anxiety and depression, it has been tested as an intervention for veterans for co-occurring PTSD and AUD. That study was observational, but there was evidence for reduced symptoms of PTSD and alcohol-related outcomes, including reductions in total drinks and heavy drinking days (Meyer et al., 2018). Batten and colleagues (2009) conducted a small RCT of ACT in treating co-occurring PTSD and SUDs. They found no significant effect on mental health symptoms, and substance use outcomes were not reported. Together, these mixed findings highlight the need for more studies on the use of ACT, particularly within veteran populations.

Contingency Management

A systematic review explored the effectiveness of treatment programs for individuals with SUDs with and without co-occurring PTSD (Hildebrand, Behrendt, and Hoyer, 2015). The authors found that patients with PTSD who received contingency management–based interventions had better outcomes than those without PTSD; however, it should be noted that contingency management was not designed as an integrated treatment in these studies.

One study reported on the use of contingency management for two veterans with schizophrenia and cocaine dependence. The veterans were paid $25 for each negative drug test received over the course of the two-month study (up to 40 urine screens). Both veterans had lower rates of positive drug screens, and mean urinary concentrations of cocaine metabolites decreased over time (Shaner et al., 1997). However, the very small sample size in this study limits conclusions from these results.

Twelve-Step Programs

A meta-analysis of 12-step program attendance among individuals with AUD and co-occurring mental health disorders found that attendance at Alcoholics Anonymous meetings resulted in higher rates of abstinence from alcohol, suggesting that this can be an effective approach to targeting substance use in individuals with co-occurring disorders (Tonigan et al., 2018). However, the effect on mental health was not reported. There is also evidence that 12-step programs can effectively address alcohol use among individuals with co-occurring social anxiety disorder and may result in longer time to relapse among men with social anxiety disorder compared with CBT (Oliveira et al., 2018).

Multicomponent Residential and Outpatient Treatment

A small number of studies examined the outcomes of VA treatment programs, which often include access to several treatment elements (e.g., group and individual treat-

ment) but are based on treatments tailored for SUDs. Kelly and colleagues (Kelly, McKellar, and Moos, 2003) focused on VA residential substance use treatment programs. They examined outcomes among veterans with co-occurring major depressive disorder and those without. They found no significant difference in substance-related outcomes between the two groups, suggesting that those with major depressive disorder can benefit from the same treatment program. Depression remained significantly higher in the group with co-occurring SUDs and major depressive disorder, however. Another observational study examined whether male veterans with PTSD had different outcomes after participation in VA substance use treatment. They found no significant differences in length of abstinence, days drinking, or average drinks per day for veterans with and without PTSD (Norman et al., 2007). Finally, Boden and Moos (2009) examined outcomes for veterans with dual diagnoses enrolled in VA residential SUD treatment programs. At one-year follow-up, the researchers found that dual-diagnosis patients had higher levels of mental health symptoms than those with AUD only, but they found no significant differences in alcohol consumption, suggesting that dually diagnosed patients benefited from the program similarly to those who did not have dual diagnoses.

Fontana and colleagues examined whether veterans with co-occurring disorders had different outcomes after completing a VA residential PTSD treatment program. They found that participants with co-occurring substance use disorders experienced more improvement of PTSD symptoms, which appeared to be driven by improvements in substance-related outcomes (Fontana, Rosenheck, and Desai, 2012). Steindl and colleagues conducted an observational study of a multidisciplinary treatment program for Australian veterans (Steindl et al., 2003). The intervention was designed for individuals with co-occurring alcohol misuse and PTSD and included components of CBT, MET, social skills, and relapse prevention. Participants experienced significant decreases in alcohol use, and the proportion of veterans classified as hazardous drinkers decreased from 67.9 percent to 59.9 percent. Participants also experienced significant improvements in PTSD symptoms. These improvements were maintained at follow-up. Together, these studies suggest that multicomponent residential and outpatient treatment programs can be effective for veterans with co-occurring disorders, even if they are focused primarily on either addiction or mental health. However, the observational nature of these studies precludes inferences about the causal effect of these programs.

Other Multicomponent Interventions

Behavioral Treatment for Substance Abuse in Serious and Persistent Mental Illness (BTSAS) is a structured social learning program that incorporates techniques from contingency management and motivational interviewing, plus techniques to address issues relevant to drug abuse in patients with severe and persistent mental illness (e.g., social skills training). One study compared BTSAS to Supportive Treatment for Addic-

tion Recovery (STAR), a didactic supportive treatment for substance use, in a sample of veterans with co-occurring serious mental illness and SUD. The results demonstrated that BTSAS was associated with a higher proportion of clean urine test results, more blocks of continuous abstinence, and a greater reduction in inpatient admissions (Bellack et al., 2006).

Self-examination therapy is a treatment approach that combines elements of 12-step programs, assertiveness training, rational emotive therapy, and exercise therapy. Participants receive a workbook and attend twice-weekly groups. The treatment was tested in a sample of veterans receiving substance use treatment at a VA facility, with the goal of addressing depressive symptoms. When the approach was compared with a current-events group, the study found evidence for greater decreases in depression and overall symptom severity (Bowman et al., 1996).

A systematic review of therapeutic communities in civilian settings yielded mixed results on the effectiveness of such programs (Magor-Blatch et al., 2014). Lower-quality studies (i.e., those with no comparison group) tended to demonstrate a significant effect on substance use and mental health outcomes; however, in studies with a control group, the effect on substance use was mixed, and the effect on mental health was limited.

Finally, a systematic review of interventions for alcohol misuse and depression or anxiety found that interpersonal psychotherapy for alcohol misuse and dysthymia had a greater impact on depression-related outcomes than brief supportive psychotherapy (Baker et al., 2012).

Alcohol- and Substance-Focused Pharmacological Treatments

Although they were designed to address SUDs, naltrexone and disulfiram have been examined as options for individuals with co-occurring disorders. One study, which focused on veterans with co-occurring AUD and mental health disorders, randomized patients to receive disulfiram (250mg) or naltrexone (50mg), either alone or in combination (Petrakis et al., 2006). All treatment groups experienced a significant decrease in drinking days per week and more consecutive days abstinent compared with the placebo group, but there did not appear to be an advantage for those receiving both medications rather than a single medication. Across all treatment groups, those with PTSD had significant reductions in symptoms, but those receiving disulfiram alone had the lowest level of symptoms. Of note, individuals who did not use alcohol during the trial had better PTSD outcomes. Another study examined whether the presence of certain genotypes affected the treatment effectiveness of naltrexone and disulfiram for veterans with co-occurring AUD and mental health disorders (Arias et al., 2014). The researchers found some evidence that certain genetic variants affected abstinence-related outcomes in veterans, suggesting that biological factors may contribute to the effectiveness of pharmacological treatments for dual-diagnosed veterans. However, more work is needed to determine how this finding might affect treatment recommen-

dations. Finally, a review study found that naltrexone and disulfiram demonstrated some success in addressing alcohol and PTSD outcomes (Ralevski, Olivera-Figueroa, and Petrakis, 2014). However, naltrexone and disulfiram were most effective for PTSD when individuals abstained from alcohol.

Outside of alcohol, one observational study examined the outcomes of a VA opioid replacement therapy program for veterans with and without PTSD (Trafton, Minkel, and Humphreys, 2006). All patients had a similar reduction in drug use during treatment, suggesting that veterans with PTSD can benefit from the intervention, and small improvements in mental health were observed in both groups.

Mental Health–Focused Pharmacological Treatments

Multiple studies have explored the effectiveness of antidepressants in individuals with co-occurring disorders, including several meta-analytic and review articles, sometimes on combined veteran and nonveteran populations. A meta-analysis of antidepressants for the treatment of depression in individuals with SUDs found that, compared with placebo, antidepressants resulted in a significant decrease in depressive symptoms and a significant, though smaller, effect on abstinence from substances (Nunes and Levin, 2004). Interestingly, medications delivered concurrently with psychosocial interventions were associated with smaller effect sizes. There is also evidence that medication has a stronger effect on substance use outcomes when there is a stronger effect on depressive symptoms (Nunes and Levin, 2008; Hobbs et al., 2011). Some results have suggested that medication is more effective in individuals who are dependent on alcohol, as opposed to other substances (Hobbs et al., 2011). A more recent meta-analysis of antidepressants for co-occurring depression and AUD found similar results: Medication was effective in reducing symptoms of depression, but there was no significant effect on the number of individuals whose depression remitted (Agabio, Trogu, and Pani, 2018). That study also found a significant effect on certain alcohol-related outcomes, including abstinence during treatment and average number of drinks per day, although there was no effect on other outcomes, such as heavy drinking and time to relapse.

Regarding specific antidepressants, in one systematic review, fluoxetine was found to reduce drinking behavior in individuals with depression and AUD (Mann, 2004). In addition, a review of pharmacotherapy for comorbid AUD and PTSD found that sertraline had mixed effects on PTSD symptoms and drinking, with some suggestion that the temporal order of onset of PTSD versus alcohol use affects outcomes, varying effects by treatment type (Ralevski, Olivera-Figueroa, and Petrakis, 2014). Paroxetine and desipramine were found to be effective for reducing PTSD symptoms, although desipramine had a greater effect on alcohol use (Ralevski, Olivera-Figueroa, and Petrakis, 2014). One veteran-specific RCT examined sertraline as a treatment for veterans who recently abstained from cocaine and who also had depressive symptoms. Individu-

als in the sertraline group had significantly longer time to relapse, but both groups had similar depression-related outcomes (Oliveto et al., 2012).

Anticonvulsant medications have also been examined as treatment approaches for co-occurring disorders. A review of pharmacological options for the treatment of comorbid bipolar disorder and SUD concluded that valproate showed promise in addressing symptoms of mania, depression, and substance use. Other options that were suggested as possibly effective in addressing both mental health symptoms and substance use included lamotrigine, aripiprazole, and lithium (Malhi et al., 2012). Topiramate has also demonstrated some success in addressing alcohol and PTSD outcomes; it may be most effective in addressing drinking in high-risk drinkers (Ralevski, Olivera-Figueroa, and Petrakis, 2014). Batki and colleagues (Batki et al., 2014) examined topiramate (300mg) in the treatment of AUD in a population of veterans with PTSD. In their small RCT, they found that veterans assigned to receive topiramate had significant reductions in days drinking compared with those who received the placebo. There were also marginally significant effects on PTSD symptoms, particularly hyperarousal symptoms.

Prazosin has been tested as a pharmacological treatment for co-occurring PTSD and alcohol use disorder, including in veterans (Petrakis et al., 2016; Petrakis and Simpson, 2017). However, these studies have found no significant treatment effect of prazosin compared to placebo for PTSD symptoms, and there have been mixed findings for alcohol outcomes.

Other Pharmacologic Options

Other medications have been tested in treating co-occurring mental health disorders and SUDs. According to a meta-analysis, patients who took baclofen for alcohol misuse (the medication is typically prescribed for back spasms) had no significant impact on days abstinent or heavy drinking; however, individuals who took baclofen were more likely to be abstinent at the end of treatment (Rose and Jones, 2018). The studies in the meta-analysis did not focus specifically on individuals with co-occurring disorders, but baclofen was found to have non-significant effects on depression and anxiety symptoms. The antioxidant n-acetylcysteine was tested as an adjunct to CBT among veterans with SUDs and PTSD (Back et al., 2016). Compared with placebo, there was evidence for greater improvements in PTSD and depression for those who received n-acetylcysteine. However, there was no significant treatment effect on substance use outcomes.

Integrated Care Studies

Concurrent Treatment of PTSD and Substance Use Disorder Using Prolonged Exposure

Concurrent Treatment of PTSD and Substance Use Disorder Using Prolonged Exposure (COPE) is a modified version of PE specifically designed for individuals with co-

occurring disorders. COPE integrates PE with relapse prevention principles (Norman et al., 2019). Multiple studies in veterans have suggested the effectiveness of COPE for those with co-occurring PTSD and SUD. For example, Back and colleagues compared COPE to relapse prevention for veterans with these two co-occurring disorders. They found that veterans who received COPE had significantly greater reductions in PTSD scores and higher rates of remission from PTSD. Both groups had significant reductions in substance use, although there was marginal evidence for better longer-term substance use outcomes for those assigned to COPE (Back et al., 2019).

In another recent RCT, Lancaster and colleagues randomized veterans with co-occurring PTSD and SUD to receive COPE or a substance use–focused relapse prevention intervention (Lancaster et al., 2020). They focused on whether individuals experienced an exacerbation of PTSD symptoms during treatment, finding little difference between the groups with respect to exacerbation of symptoms (PTSD, depression, or substance use). Among those who completed treatment, though, there was some evidence for fewer exacerbations of PTSD symptoms for those who received COPE. Another study compared COPE to relapse prevention in the treatment of PTSD, depression symptoms, and SUDs in veterans, finding that COPE resulted in better depression outcomes, which appeared to be driven by better PTSD outcomes midtreatment (Korte et al., 2017).

A study comparing COPE to Seeking Safety, a manualized, skills-based integrated treatment for PTSD and substance use (Najavits et al., 1998), found that individuals in both groups had significant decreases in perceived heavy drinking days, but those who were assigned to COPE had better PTSD outcomes, including higher rates of remission and lower symptom severity (Norman et al., 2019). These findings suggest that COPE may be more effective than other common integrated treatments. In an effort to understand the factors that drive outcomes among veterans who receive COPE, Mills and colleagues conducted an analysis of data from a trial involving veterans with co-occurring PTSD and SUDs. They found that participants improved significantly during treatment with respect to PTSD, depression, and substance use but that the length of imaginal exposures during the course of treatment did not influence outcomes (Mills et al., 2017).

Seeking Safety

As mentioned, Seeking Safety is a manualized, present-centered, skills-based integrated treatment for PTSD and substance use (Najavits et al., 1998), and it is the most widely used intervention for co-occurring PTSD and SUDs (Roberts et al., 2015). It contains many components of the larger CBT approach to alleviating behavioral health symptoms, including the development and practice of skills to cope with negative emotions and problematic behaviors. Although quite a few studies have examined the effectiveness of Seeking Safety in veteran and nonveteran samples, there are some notable limitations in this literature, including a large number of pilot studies and studies with

small samples (Najavits and Hien, 2013). Moreover, multiple reviews have highlighted that the evidence related to Seeking Safety has been equivocal, with some studies finding no significant effect on substance use, some finding no effect on PTSD, and others finding an effect on one or both outcomes (Najavits and Hien, 2013; van Dam et al., 2012; Allen, Crawford, and Kudler, 2016; Roberts et al., 2015; Bailey, Trevillion, and Gilchrist, 2019).

Regarding veteran-specific findings, a pilot study of Seeking Safety at Walter Reed National Military Medical Center found that participants experienced reductions in PTSD scores and substance use measures after participating in the intervention; however, this was a pre-post study without a comparison group (Najavits et al., 2016). A study reporting on efforts to disseminate Seeking Safety within VA found evidence for decreased PTSD symptoms and abstinence, but the lack of comparison group makes it difficult to draw firm conclusions from this study as well (Cook et al., 2006). A small observational study of Seeking Safety with veterans with SUDs and PTSD found that 75 percent of participants experienced a reliable improvement in PTSD symptoms, 63 percent saw a decrease in depression symptoms, and 55 percent had reduced drinking outcomes (Norman et al., 2010b). However, this was a very small study (n = 9), limiting generalizations from the results. Boden and colleagues reported on an RCT of Seeking Safety for male veterans with co-occurring SUD and PTSD symptoms (Boden et al., 2012). They found that, compared with weekly recovery groups, Seeking Safety resulted in better drug use outcomes, but there was no significant treatment effect for alcohol use and PTSD severity. Finally, Najavits and colleagues compared Seeking Safety with Creating Change, a past-focused CBT intervention. Veterans with PTSD and SUDs were randomized to one of the two interventions. Both treatment groups experienced significant improvements in PTSD and substance use outcomes, suggesting that Seeking Safety may promote positive treatment outcomes—but perhaps not over and above other treatment options (Najavits et al., 2018b).

Integrated Cognitive Behavioral Therapy

ICBT approaches integrate cognitive behavioral approaches for treating mental health disorders with those for treating SUDs. The focus and method of delivering these interventions can vary, but they may include elements of psychoeducation, teaching behavioral skills for managing symptoms (e.g., engaging in heathy activities, relaxation exercises), and cognitive approaches, such as thought restructuring (Capone et al., 2014; Lydecker et al., 2010; McGovern et al., 2009).

ICBT has shown promise in the treatment of co-occurring PTSD and SUDs. McGovern and colleagues (2009) found that ICBT had a significant effect on PTSD compared to addiction-focused counseling, although substance use outcomes were not significantly different (McGovern et al., 2009). ICBT was also tested in a small, single-group feasibility study of veterans with PTSD and SUDs. In the small subset of participants with complete data, there was evidence for meaningful decreases in PTSD

symptoms and depressive symptoms (Capone et al., 2014). Another study explored whether PTSD affected the treatment outcomes of veterans with co-occurring SUDs and depression. Veterans were assigned to receive ICBT or 12-step facilitation. The study found that veterans who also had diagnoses of PTSD had worse treatment outcomes, but there was some evidence these veterans benefited more from ICBT (Norman et al., 2010a). Another RCT compared ICBT with and without CPT-M (a modified version of CPT that directly addresses substance-relevant cognitions) for veterans with SUD and comorbid depression and trauma exposure (Haller et al., 2016). Individuals in both groups experienced decreased substance use, depressive symptoms, and PTSD symptoms over time, although individuals in the CPT condition had better outcomes with respect to heavy drinking.

Another ICBT approach is Substance Dependence PTSD Therapy (SDPT), which was identified in a review of treatments relevant to co-occurring substance use and PTSD (Bernardy et al., 2011). This manualized treatment approach incorporates CBT for substance use, stress inoculation training, and in vivo exposure and is delivered in two phases (Triffleman, Carroll, and Kellogg, 1999). The first phase is designed to be trauma-informed and addiction-focused, and the second phase is trauma-focused and addiction-informed. The study suggested that this approach could reduce PTSD symptoms (Triffleman, Carroll, and Kellogg, 1999).

ICBT has also been implemented for individuals with co-occurring SUDs and depression. One study found that ICBT focused on alcohol use and depression resulted in better substance-related outcomes than alcohol-focused treatment alone, although there was no significant effect on depression (Hobden et al., 2018). In terms of studies with veterans, Brown and colleagues conducted an RCT comparing ICBT to 12-step facilitation for veterans with SUDs and depression (Brown et al., 2006). They found improved depression scores in both groups, with no significant difference during treatment; however, gains were better maintained in the ICBT group. A similar pattern was found for substance use outcomes. Another study compared ICBT and 12-step facilitation for veterans enrolled in a dual-diagnosis outpatient clinic. Participants participated in 20 sessions of the assigned intervention over 16 weeks and also received pharmacotherapy as needed. Both groups saw increases in days abstinent, but treatment gains were better maintained in the ICBT group. Both groups also experienced decreases in depression symptoms, but the effect was observed more quickly in the 12-step facilitation group, and those in the 12-step facilitation group had lower depression symptoms at each time point (Lydecker et al., 2010). Although these findings were somewhat different from those of other studies of ICBT, they do suggest that ICBT can result in improved mental health and substance use outcomes. Finally, a study examined the effect of neurocognitive ability on the outcomes of treatment for co-occurring depression and SUDs in veterans in an effort to determine whether those with poorer neurocognitive functioning could still benefit from ICBT. There was some evidence that individuals with lower overall neurocognitive functioning had better

substance-related outcomes with ICBT than with 12-step facilitation, but there was no difference for those with average functioning (Granholm et al., 2011).

Other Integrated Approaches to Addressing Trauma

A multisite study examined a range of trauma-informed interventions for women with mental health and substance use disorders, including the Addiction and Trauma Recovery Integration Model (ATRIUM), Seeking Safety, Trauma Recovery and Empowerment Model (TREM), and Triad (Morrissey et al., 2005; Cocozza et al., 2005). That study found that such models resulted in significant decreases in drug problem severity and PTSD, as well as a marginally significant decrease in mental health symptoms; however, there was no significant effect on alcohol problem severity. Both program- and person-level models found that the effects were especially strong in programs that focused on multiple treatment targets (e.g., mental health, trauma, and substance use) during integrated treatments and in those that included more core services. However, a systematic review focused on psychological interventions for addressing PTSD and problematic substance use among women who experienced interpersonal violence found mixed evidence for some of these approaches (Bailey, Trevillion, and Gilchrist, 2019). For example, two studies of TREM found an effect on substance use but not PTSD, but one study found the reverse. That study also found evidence that Trauma Adaptive Recovery Group Education and Therapy (TARGET) had a significant effect on substance use but not PTSD, and a gender-responsive treatment model showed no significant effect.

Cognitive Behavioral Therapy Plus Motivational Interviewing

CBT plus motivational interviewing interventions combine elements of CBT and the style and techniques of motivational interviewing to address co-occurring disorders. There is evidence that CBT plus motivational interviewing is effective. For example, a meta-analysis of CBT plus motivational interviewing on co-occurring AUD and depression found that CBT plus motivational interviewing resulted in greater improvements in depression symptoms and alcohol consumption compared with control groups, although the magnitude of the effect was small (Riper et al., 2014). In addition, more sessions appeared to have a stronger effect on alcohol use but not on depression. A systematic review of technology-assisted treatments for co-occurring depression and substance use found evidence that computer-based CBT plus motivational interviewing interventions were associated with reduced depression symptoms and certain substance use outcomes, with results comparable to in-person treatments in some studies (Holmes, van Agteren and Dorstyn, 2019). A review of treatments for cannabis use in individuals with psychotic or depressive disorders also reported that a CBT plus motivational interviewing–based intervention was associated with initial reductions in cannabis use; however, treatment gains were not maintained (Baker, Hides, and Lubman, 2010).

For veterans specifically, researchers have developed VetChange, a web-based intervention based on motivational interviewing and CBT principles. A large RCT tested VetChange administered to veterans with alcohol misuse and PTSD symptoms (Brief et al., 2013) and found that participants had a significant reduction in drinking and PTSD symptoms relative to those in a delayed control group. A follow-up analysis found that veterans with PTSD had significantly greater reductions in alcohol use as a result of the intervention (Brief et al., 2018). Given that this approach can be used outside of a VA setting and can be completed online, it appears to have promise for reaching veterans who may not pursue traditional avenues of in-person care.

Maintaining Independence and Sobriety Through Systems Integration, Outreach, and Networking

Maintaining Independence and Sobriety Through Systems Integration, Outreach, and Networking (MISSION) is a 12-month wraparound program developed for veterans with co-occurring disorders. It consists of Dual Recovery Therapy, a manualized treatment for co-occurring disorders that includes elements of relapse prevention, social skills training, 12-step programs, and MET; Critical Time Intervention; and peer support (Smelson et al., 2007). MISSION is delivered by a case manager and peer specialist and is designed to support veterans as they transition from residential to outpatient care (Smelson et al., 2013).

The evidence regarding MISSION's effectiveness has been mixed. The precursor to MISSION, time-limited care coordination (TLC), was tested in a sample of veterans with co-occurring mental illness and SUDs who were transitioning from inpatient to outpatient mental health treatment. Compared with veterans who received treatment as usual (inpatient and outpatient mental health services), those who received TLC had greater improvements in global psychological functioning but not specifically on depression, anxiety, or psychotic symptoms. There were also no significant differences with respect to substance outcomes (Smelson et al., 2007). A second study of TLC compared its effectiveness with that of a health education group. Small sample sizes limited tests of significance, but there was evidence that both groups led to decreased substance use, and the decrease was somewhat larger in the TLC group. Similarly, there was evidence for a greater reduction in psychotic symptoms in the TLC group, but both groups had similar decreases in depression and anxiety symptoms (Smelson et al., 2012). This suggested somewhat more positive outcomes than the first study.

An observational study with veterans experiencing homelessness who received care through a VA domiciliary program demonstrated that, compared with treatment as usual, veterans enrolled in MISSION were less likely to drink to intoxication or experience serious anxiety (Smelson et al., 2013). Researchers also examined MISSION in a sample of veterans participating in the U.S. Department of Housing and Urban Development–VA Supportive Housing program. They found that participation

in MISSION did not significantly affect drug- and alcohol-related outcomes or the likelihood of mental health hospitalizations (Smelson et al., 2018).

A recent study examined the implementation of the peer-support aspect of the MISSION intervention among veterans in subsidized housing with co-occurring SUDs and SMI. It found no significant effect of peer support beyond the effect of case management as usual (Ellison et al., 2020). Taken together, these studies suggest only modest benefits, if any, from participation in MISSION.

Care Management Interventions

Two studies examined the effectiveness of care management interventions. One was an RCT of a telephone-based care management intervention for veterans referred for psychiatric care (Zanjani, Bush, and Oslin, 2010). Based on principles of brief motivational interviewing, veterans in the intervention group received one or two telephone intervention sessions with a behavioral health specialist in the two weeks leading up to their appointment to discuss treatment goals and assess treatment barriers. These participants received an associated workbook to guide the intervention. At follow-up, patients in both the treatment-as-usual group (psychiatric care only) and the care management intervention group had similar reductions in binge drinking and improvements in mental health.

A study in Australia examined the Flinders Program, a chronic disease management program that incorporates CBT principles, care planning, and monitoring of progress toward treatment goals (Battersby et al., 2013). In this intervention, the provider serves as a coach and care manager. An RCT of the program with Vietnam War–era veterans with co-occurring alcohol misuse, mental health disorders, and medical concerns found that participants in the Flinders Program experienced significantly more improvement in AUDIT scores and reduced rates of alcohol dependence at nine months. Although participants experienced reductions in anxiety, depression, and PTSD symptoms, they were not significantly different from results in the comparison group.

Couples Therapy Approaches

A small number of studies explored couples therapy approaches for treating co-occurring disorders. For example, a small observational study examined the effectiveness of Couples Treatment for Alcohol Use Disorder and PTSD among veterans (Schumm et al., 2015). The intervention integrates behavioral couples therapy for AUD with CBT for PTSD. Participants experienced significant reductions in PTSD symptoms, depression, and days of heavy drinking. Another study explored behavioral couples therapy as a treatment for veterans with co-occurring SUDs and PTSD (Rotunda et al., 2008). Participants engaged in weekly sessions for five to six months. A pre-post analysis found that veterans with and without PTSD had a significant improvement in alcohol-related outcomes and mental health symptoms, with treatment gains maintained at 12-month follow-up. In a final study of veterans, McDevitt-Murphy and colleagues

(McDevitt-Murphy, 2011) reported on the use of Significant Other Enhanced CBT for PTSD and AUD. This intervention was delivered over the course of 20–25 sessions, with significant others attending about ten of the sessions. Through this intervention, veterans and their spouses or partners receive psychoeducation about both PTSD and AUD, learn problem-solving skills, and engage in behavioral activation. The intervention is designed to help veterans practice coping skills, avoid alcohol use, and reduce PTSD-related avoidance. The study discussed two cases. In both, participants had reduced alcohol misuse and reduced symptoms of PTSD at the end of treatment, with improvements maintained at one-month follow-up. Although these findings suggest that couples therapy approaches may be effective in addressing mental health and substance use symptoms among dually diagnosed veterans, it is important to note that the studies had limitations (e.g., small size, lack of comparison group). More research is needed to better understand the effectiveness of these treatments.

Mindfulness-Based Approaches

A review of mindfulness-based interventions for SUDs reported a small but significant effect on abstinence (Cavicchioli, Movalli, and Maffei, 2018). A small number of studies also reported on mental health symptoms, finding significant reductions in anxiety, depression, and PTSD symptoms among participants. However, a review of interventions for PTSD and substance use among women who experienced interpersonal violence reported that a mindfulness-oriented treatment had no effect on substance use or PTSD outcomes (Bailey, Trevillion, and Gilchrist, 2019). Similarly, a systematic review and meta-analysis (Grant et al., 2017) found little evidence for the effectiveness of the Mindfulness-Based Relapse Prevention protocol (Bowen, Chawla, and Marlatt, 2011) across nine randomized controlled trials.

Complementary and Integrative Approaches

There is little evidence for the effectiveness of complementary and integrative approaches for treating SUDs and co-occurring mental health disorders among veterans. The effectiveness of a yoga intervention for co-occurring SUDs and PTSD was tested in a combined sample of veterans and nonveterans. Individuals in the intervention group participated in 12 Kripalu-based Hatha yoga sessions, designed to be trauma-sensitive and incorporate elements of CBT. There was no significant treatment effect on substance use outcomes, though individuals in the intervention group reported a significant decrease in PTSD symptoms (Reddy et al., 2014). Horticultural therapy was assessed as a treatment for veterans with SUDs. Participants were randomly assigned to receive horticulture therapy or occupational therapy, with a focus on completing craft projects. Those in the horticulture therapy group completed five hours of the therapy per week. There were no significant differences between groups with respect to PTSD or depression symptoms (Detweiler et al., 2015).

Integrated Pharmacological Approaches

A small number of studies have explored efforts to develop an integrated pharmacological approach to treating co-occurring disorders. For example, Petrakis and colleagues compared the effectiveness of antidepressants and naltrexone for individuals with comorbid PTSD and AUD (Petrakis et al., 2016). Participants were randomized to receive one of two antidepressants: desipramine (400mg), a tricyclic antidepressant, or paroxetine (40 mg), a selective serotonin reuptake inhibitor (SSRI). Individuals in each group were also randomized to receive naltrexone (50mg) or a placebo. All groups experienced a significant reduction in PTSD symptoms and alcohol use. Alcohol-related outcomes were better for those assigned to receive desipramine, but the addition of naltrexone did not influence outcomes. Krystal and colleagues conducted a secondary analysis of data from a study of naltrexone for veterans with AUD (Krystal et al., 2008). They focused on the outcomes of veterans who were prescribed antidepressants during the naltrexone trial due to clinical urgency of mood or anxiety symptoms. Veterans in this subgroup experienced a significant reduction in drinking days, but there was no difference with respect to time to relapse or number of drinks consumed per drinking day compared with placebo.

Summary of Findings from Literature Reviews

As discussed in this chapter, many psychological and pharmacological treatments for veterans have demonstrated evidence for addressing SUDs alone and for addressing SUDs and co-occurring mental health problems. It is important to restate that we did not conduct a meta-analysis or synthesize evidence across multiple studies. However, our review provides insight into the approaches that have been tested with veterans and which treatments appear promising.

Treatments for Substance Use Disorders

For treatments that target SUDs among veterans, we found that most studies focused on alcohol use, either AUD or heavy/hazardous use, alone or in combination with other drugs. There were some studies that looked at cannabis, cocaine, or other stimulants or opioid outcomes, but the evidence was limited. Regarding alcohol, which is the most used substance by post-9/11 veterans, there were several psychological treatments with demonstrated evidence for efficacy with veteran populations. A review of the literature finds significant support for 12-step programs. Multiple RCTs and observational studies suggested that 12-step programs, either as stand-alone treatments, as adjuncts to other programs of care (e.g., attendance at Alcoholics Anonymous meetings after completing a course of inpatient treatment), or combined with other treatments in multicomponent approaches (e.g., combined with CBT and/or MET), can be helpful in addressing AUD and heavy/hazardous drinking among veterans. Pharmacological

interventions also had a large evidence base, with most studies focusing on naltrexone to treat AUD.

A large number of studies also focused on MET and CBT approaches, which have support for efficacy with veterans when used alone or in combination, but many studies of these approaches found no significant difference between treatment and the comparison condition. These approaches have also been used successfully to treat alcohol and other drug use problems within larger multicomponent programs for veterans, including pharmacological treatments, family therapy, and case management. MET and CBT approaches have also been administered in digital formats, such as online or through mobile-based apps (e.g., the new program VetChange which targets PTSD and AUD). These approaches offer a promising way to reach veterans outside of treatment settings, but more evidence is needed to determine their effectiveness. Aftercare, in the form of telephone check-ins or continuing care groups, also appears promising, particularly when aftercare options are tailored to veterans based on need (e.g., telephone check-ins for those with less severe symptoms, regular groups for those with more severe symptoms). A handful of other promising treatments need further testing in more-rigorous trials with veterans, including work therapy, contingency management approaches, exercise, and primary care interventions.

Treatments for Co-Occurring Disorders

The research literature on treatments for SUDs and co-occurring mental health disorders is large, with more than 100 meta-analyses, systematic reviews, narrative reviews, RCTs, and observational studies on the topic. We identified many studies, in part, because we expanded our review to include studies of veterans and nonveterans, but the veteran-focused literature base, in particular, included a large number of rigorous studies and reviews.

The evidence base indicates that integrated treatments, in which both SUDs and co-occurring mental health disorders are addressed concurrently, have more-consistent evidence than approaches that traditionally focus on a single disorder or treat problems sequentially. Theoretically, integrated treatments make sense, given the high prevalence of co-occurring disorders among the post-9/11 veteran population and the interactions between substance use and mental health symptoms that perpetuate problems and complicate treatment trajectories.

Most integrated treatment studies targeted SUDs with co-occurring PTSD specifically. The three integrated treatments with the largest evidence base for PTSD and SUDs were COPE, Seeking Safety, and ICBT. COPE has been compared directly with Seeking Safety and found to be efficacious for PTSD symptom reduction but not for substance use outcomes. Although Seeking Safety is one of the most commonly used integrated treatments and appeared in a number of the studies in our review, the evidence for Seeking Safety over treatment as usual or other treatments is not particularly robust. Many of the positive effects come from uncontrolled or pilot studies and

inconsistent findings across more-robust RCTs. ICBT was also the subject of several rigorous studies; some found effects for mental health symptoms but not substance use outcomes, whereas others found effects for substance use outcomes but not mental health symptoms. It is also important to note that ICBT approaches vary in terms of focus and length. That said, ICBT was the subject of the more rigorous types of research designs in our review, and those studies demonstrated adequate evidence for this approach when used with veterans.

There has been less evidence for other CBT approaches, including ACT and mindfulness-based treatments, and for complementary and integrative type approaches. Observational studies suggest that they may be helpful, but more research is needed. There were also many studies of MISSION and related interventions, such as TLC, but the evidence suggested modest benefits. In addition, most of the integrated treatment literature is psychotherapy-focused, meaning that the pharmacological studies tended to look at a mental health medication or substance-related medication and not a combined approach. Yet, there was promise for medications such as naltrexone and antidepressants.

We focused on the literature on SUDs and co-occurring PTSD, given the needs of the WWP population, but our review included studies addressing SUDs and other co-occurring mental health disorders, such as depression and anxiety, both of which are common in post-9/11 veterans. Co-occurring depression studies are well represented in the literature, but there is less of an evidence base for veterans with SUDs and co-occurring anxiety or SMI. Given the overlap between other mental health disorders and PTSD, more research is needed to determine how integrated treatments can effectively address other mental health problems directly or indirectly. For example, one study found that COPE led to improvements in depression in addition to PTSD, and it appeared that improvements in PTSD were driving the depression improvements.

In many RCTs, integrated treatments were found to be helpful in reducing substance use outcomes and mental health symptoms, but it was also common for veterans in the control groups in these studies (usually treatment as usual) to improve over time. This does not indicate that integrated treatments are not necessary or important; rather, there are likely ways to improve them or test them more rigorously to help identify their superiority over treatment as usual. Similarly, in our review of treatments that were not originally designed as integrated treatments, we found evidence that psychological approaches, such as trauma-focused CPT and PE, and pharmacological approaches, such as naltrexone and disulfiram, had effects on both substance use and mental health outcomes in studies with veterans. In one study with VA veterans, researchers found that improvements in PTSD symptoms were a result of improvements in substance-related symptoms. This may help explain why non-integrated treatments can still have a significant effect on substance use and mental health outcomes. However, it also raises an important question about how much more improvement in symptoms integrated treatments can produce over treatments that focus on a sole dis-

order. In practice, it is very likely that substance use issues come up during traditional mental health treatment and that mental health symptoms are addressed in traditional SUD treatments. Assessing both substance use and mental health outcomes is necessary in any treatment study with veterans, given the prevalence of co-occurrence.

Conclusion

Researchers have tested a range of interventions for SUDs alone and for co-occurring SUDs and mental health disorders. Some programs have demonstrated effectiveness for both SUD treatment and treatment for people with SUDs and co-occurring mental health disorders (e.g., 12-step programs, CPT programs, ICBT interventions, such as COPE). Other methods hold promise but require further investigation to confirm their effects (e.g., personalized normative feedback, multicomponent residential and outpatient treatment programs, contingency management approaches). In general, providers should select treatments based on the strength of supportive evidence whenever possible and continually renew their knowledge as new studies identify innovative ways of treating SUDs and co-occurring mental health disorders.

CHAPTER FOUR

Availability and Accessibility of Treatment Centers for Veterans with Substance Use Disorders and Co-Occurring Mental Health Disorders

In this chapter, we describe the current availability of licensed substance use and mental health treatment facilities for veterans with SUDs and co-occurring mental health disorders. We used information from two SAMHSA directories to determine the availability of (1) mental health treatment facilities and (2) substance use treatment facilities in the United States.[1] We describe the availability of these service for veterans, with a focus on mental health and substance use treatment facilities that offer services for co-occurring mental health disorders and SUDs. Given the prevalence of PTSD among the post-9/11 veteran population and the availability of data in the directories indicating which facilities had specialized PTSD or trauma programs for veterans, we also describe the availability of these programs. Depression is also prevalent among these veterans, with a high co-occurrence with PTSD; however, the databases did not specify which facilities had specialized programs for depression. This precluded us from conducting similar analyses for depression as we did for PTSD. We used data provided by WWP to examine the availability of treatment facilities located near where WWP alumni live, as well as near where alumni lived who screened positive for PTSD or depression.

Description of the Databases

We collected data on mental health facilities for the years 2012 and 2015–2019 from SAMHSA's National Directory of Mental Health Treatment Facilities. We collected data on licensed substance use treatment facilities between the years 1975 and 2019 using listings from SAMHSA's National Directory of Drug and Alcohol Abuse Treatment Facilities. We geolocated both sets of data using ArcGIS Desktop version 10.6.

[1] Although SAMHSA calls these facilities *substance abuse treatment facilities*, we refer to them as *substance use treatment facilities* to maintain consistency throughout this report. It should also be noted that the SAMHSA databases are reported to contain licensed facilities only.

We limited analyses to the mental health and substance use treatment facility directories for 2019 to reflect the most recent availability of treatment resources (SAMHSA, 2019a, 2019b).

The National Directory of Mental Health Treatment Facilities is a listing of federal, state, and local government facilities and private facilities that provide mental health treatment services. The underlying data in the directory come from treatment facilities that responded to the 2018 National Mental Health Services Survey (N-MHSS) (SAMHSA, 2019d). Likewise, the National Directory of Drug and Alcohol Abuse Treatment Facilities is a listing of federal, state, and local government facilities and private facilities that provide substance use treatment services. The directory includes facilities that (1) are licensed, certified, or otherwise approved for inclusion in the Directory by a State Substance Abuse Agency and (2) responded to the 2018 National Survey of Substance Abuse Treatment Services (N-SSATS) (SAMHSA, 2019c).

Treatment Facility Categories

We used the 2019 National Directory of Mental Health Treatment Facilities and National Directory of Drug and Alcohol Abuse Treatment Facilities to determine the availability of the following types of facilities:

1. mental health facilities with
   a. specialized treatment programs for PTSD
   b. specialized treatment programs for co-occurring disorders
   c. specialized treatment programs for *both* PTSD and co-occurring disorders

2. substance use treatment facilities with
   a. specialized treatment programs for trauma[2]
   b. specialized treatment programs for co-occurring disorders
   c. specialized treatment programs for *both* PTSD and co-occurring disorders.

As we were focused on treatments for veterans that targeted PTSD, we examined the mental health and substance use treatment facilities that had specialized PTSD (or trauma) programs. These programs could have excluded those with co-occurring SUDs. We also examined the mental health and substance use treatment facilities that had specialized treatment programs for co-occurring disorders. These programs would include those with co-occurring SUDs and mental health disorders; however, it was not clear whether these co-occurring treatment programs targeted PTSD. Thus, we examined facilities that reported having specialized programs for both PTSD and for

[2] The National Directory of Drug and Alcohol Abuse Treatment Facilities includes PTSD under the umbrella category of "trauma."

co-occurring disorders, with an assumption that PTSD (trauma) would be a targeted mental health disorder within the co-occurring disorders program.

We were also focused on treatments for veterans with depression; however, the data available in the databases did not have codes for specialized treatments for depression, which precluded us from conducting analyses or generating maps similar to what we did for PTSD (trauma).

We also examined treatment facilities that offered telehealth or telemedicine approaches.

For each of these types of facilities, we identified whether the facility reported offering specialty services for veterans or services exclusively to veterans.

Within the categories for veteran-focused services, we also identified substance use treatment facilities that offered detoxification services.

Table 4.1 provides an overview of the facilities included in our analyses, along with their corresponding codes in the treatment facility databases.

Table 4.1
Overview of Relevant Mental Health and Substance Use Treatment Facilities and Codes in the SAMHSA Databases

Facility Type	Relevant SAMHSA Facility Codes	SAMHSA Facility Code Definitions
Mental Health Treatment Facilities		
Facilities that offer specialized treatment for PTSD	PTSD	Facility serves persons with PTSD
	TRMA	Facility serves persons who have experienced trauma
	TT	Trauma therapy offered
Facilities that offer specialized treatment for co-occurring disorders	CO	Facility serves persons with co-occurring mental health and substance use disorders
	IDD	Integrated dual-disorders treatment offered
Facilities that offer telehealth	TELE	Telemedicine therapy offered
Facilities that serve veterans and nonveterans (any type of mental health treatment)	MI	Military insurance (e.g., TRICARE) accepted
	ADM	Facility serves active-duty military
	MF	Facility serves military families
	VAF	U.S. Department of Veterans Affairs funds accepted
	VET	Facility serves veterans

Table 4.1—Continued

Facility Type	Relevant SAMHSA Facility Codes	SAMHSA Facility Code Definitions
VAMCs or VA-affiliated facilities (any type of mental health treatment)	VAMC	U.S. Department of Veterans Affairs operated
	VO	Facility serves veterans only
Substance Use Treatment Facilities		
Facilities that offer specialized treatment for trauma	TRC	Trauma-related counseling offered
	TRMA	Facility serves persons who have experienced trauma
Facilities that offer specialized treatment for co-occurring disorders	CO	Facility serves persons with co-occurring mental health and substance use disorders
	MHS	Mental health services offered
Facilities that offer detoxification services	ADTX	Alcohol detoxification offered
	BDTX	Benzodiazepine detoxification offered
	CDTX	Cocaine detoxification offered
	MDTX	Methamphetamine detoxification offered
	ODTX	Opioid detoxification offered
	DT	Detoxification offered
	HID	Hospital inpatient detoxification offered
	OD	Outpatient detoxification offered
	RD	Residential detoxification offered
	DB	Buprenorphine detoxification offered
	DM	Methadone detoxification offered
Facilities that offer telehealth	CT	Computerized treatment/telemedicine offered
Facilities that serve veterans and nonveterans (any type of substance use treatment)	MI	Military insurance (e.g., TRICARE) accepted
	ADM	Facility serves active-duty military
	MF	Facility serves military families
	VET	Facility serves veterans
	DDF	U.S. Department of Defense operated
VAMCs or VA-affiliated facilities (any type of substance use treatment)	VAMC	U.S. Department of Veterans Affairs operated
	VO	Facility serves veterans only

Mental Health Treatment Facilities

We identified and successfully geocoded several types of mental health treatment facilities using the most recent year of directory data available at the time of this research (total facilities = 9,577). Table 4.2 shows the number of each type of facility in the National Directory of Mental Health Treatment Facilities. We identified 7,772 facilities that offered some type of **specialized treatment program for PTSD**.[3] There were two ways a facility could be identified as providing this type of service. The SAMHSA survey asked, "Does this facility offer a mental health treatment program or group that is *dedicated or designed exclusively* for clients in any of the following categories?" The facility could then specify that it offered treatment to "persons with a diagnosis of post-traumatic stress disorder (PTSD)" and "persons who have experienced trauma (excluding persons with a PTSD diagnosis)." The second way would be if the facility indicated that "trauma therapy" was a mental health treatment approach that it offered.

We identified 6,437 facilities that had some type of **specialized co-occurring disorders program**.[4] To be included in our sample, a facility needed to indicate on the N-MHSS that it had a mental health treatment program or group for "clients with co-occurring mental and substance abuse disorders" or that it provided "integrated dual disorders treatment."

We found 5,638 facilities that offered **services for both PTSD and co-occurring disorders**[5] and 1,006 facilities that **did not provide services to those with PTSD or those with co-occurring disorders**.[6]

We next identified facilities that **provide care for veterans**.[7] Such facilities could also provide services to nonveterans. These facilities met one of the following five criteria: (1) the facility accepted federal military insurance as a form of payment for mental health treatment services, (2) the facility offered a specialized treatment program for active-duty service members, (3) the facility offered a specialized treatment program for military families, (4) the facility accepted VA funds as payment for mental health treatment services, or (5) the facility offered a specialized treatment program for veterans.

We then identified facilities that were **VAMCs or VA-affiliated facilities**.[8] These facilities could be best described as VAMCs, other VA health care facilities, or facilities operated by VA but not falling into one of the other two categories. These facilities do not serve nonveterans.

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3 Facilities were categorized as having a specialized treatment program for PTSD if they had at least one code of PTSD, TRMA, or TT from Table 4.1.

4 Facilities with codes CO or IDD from Table 4.1.

5 Facilities with codes PTSD, TRMA, or TT *and* codes CO or IDD from Table 4.1.

6 Facilities that had none of following codes: PTSD, TRMA, TT, CO, or IDD from Table 4.1.

7 Facilities with codes MI, ADM, MF, VAF, or VET from Table 4.1.

8 Facilities with codes VAMC and VO from Table 4.1.

Facilities that **provide telehealth services** were identified with code TELE from the facility database (see Table 4.1). We identified **facilities that provide telehealth services for veterans**[9]—specifically, facilities that indicated on the N-MHSS that they offered telemedicine/telehealth therapy as a form of mental health treatment and were previously identified as providing services for veterans. Lastly, we identified facilities that **were VAMCs or VA-affiliated facilities that also offer telemedicine/telehealth therapy**[10] as a form of mental health treatment.

Substance Use Treatment Facilities

We identified and successfully geocoded 13,424 substance use treatment facilities using the most recent year of directory data, the most recently available survey data at the time of this research. Table 4.2 shows the number of each type of facility in the National Directory of Drug and Alcohol Abuse Treatment Facilities.

There were 11,287 facilities with a **specialized treatment program for trauma**.[11] These facilities indicated on the N-SSATS that they "sometimes" or "always or often" provided "trauma-related counseling." This category also included facilities that indicated that they had a specialized treatment program for clients who have experienced trauma.

The data included 10,270 facilities with a **specialized co-occurring disorders program**,[12] identified as those reporting that they had a specialized treatment program specifically tailored to "clients with co-occurring mental and substance abuse disorders" or that they provided mental health services.

We identified 2,766 facilities that provided **detoxification services**.[13] We used several responses from the N-SSATS questionnaire to categorize these facilities. We included facilities that reported offering detoxification for at least one of the following substances: alcohol, benzodiazepines, cocaine, methamphetamines, opioids, and other. This group also included facilities that reported offering separate hospital inpatient, outpatient, or residential detoxification services. If a facility indicated that they provided detoxification from opioids with methadone or buprenorphine, we included them in our list of facilities that provided detoxification services.

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9 Facilities with code TELE *and* at least one of the following codes: MI, ADM, MF, VAF, or VET from Table 4.1.

10 Facilities with code TELE *and* code VAMC or VO from Table 4.1.

11 Facilities with codes TRC or TRMA from Table 4.1.

12 Facilities with codes CO or MHS from Table 4.1.

13 Facilities with codes ADTX, BDTX, CDTX, MDTX, ODTX, DT, HID, OD, RD, DB, or DM from Table 4.1.

We also flagged 9,946 facilities that offered **services for both trauma and co-occurring disorders**[14] and 1,363 facilities that **did not provide services to either those with trauma or those with co-occurring disorders**.[15]

We next identified facilities that **provide care for veterans**.[16] Facilities in this subgroup met one of the following criteria: (1) the facility accepted federal military insurance as a form of payment for mental health treatment services, (2) the facility offered a specialized treatment program for active-duty service members, (3) the facility offered a specialized treatment program for military families, (4) the facility offered a specialized treatment program for veterans, or (5) the facility was operated by DoD.

We identified facilities that were **VAMCs or VA-affiliated facilities**.[17]

We identified facilities that provided **telehealth for veterans**[18]—specifically, facilities indicating that they provided computerized substance use treatment/telemedicine as a clinical/therapeutic approach "sometimes" or "always or often." We next identified **facilities that provide telehealth services for veterans**.[19] Finally, we identified **VAMC or VA-affiliated facilities that also offer telemedicine/telehealth therapy**[20] as a form of substance use treatment.

Examining Access for the Wounded Warrior Project Population

To assess the availability and accessibility of these facilities and programs for veterans with co-occurring behavioral health problems, we relied on data from WWP. We received three key data files from WWP: (1) All Warriors database output (n = 133,470), (2) WWP Resource Center call data (n = 21,303 calls, with 15,602 unique callers), and (3) 2019 Alumni Survey data (n = 35,908). The All Warriors database included all WWP alumni as of September 17, 2019. The data included demographic measures, service information, and injuries, which were self-reported at the time of registration. The data also included the date that the individual's registration with WWP was approved.

We also received data on calls to the WWP Resource Center that were logged between January 1, 2017, and September 16, 2019. The data included a status field for whether the call was made by a veteran or family member; however, all calls were made

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14 Facilities with codes TRC or TRMA *and* codes CO or MHS from Table 4.1.

15 Facilities that had none of following codes from Table 4.1: TRC, TRMA, CO, or MHS.

16 Facilities with codes MI, ADM, MF, VET or DDF from Table 4.1.

17 Facilities with codes of VAMC or VO from Table 4.1.

18 Facilities with code CT from Table 4.1.

19 Facilities with code CT *and* at least one of the following codes from Table 4.1: MI, ADM, MF, VET, or DDF.

20 Facilities with code CT *and* VAMC or VO from Table 4.1.

Table 4.2
Overview of Relevant Mental Health and Substance Use Treatment Facilities in the SAMHSA Data, 2019

	All Facilities	Specialized Treatment Program for Veterans	VA Medical Centers or Affiliated Facilities	Provide Telehealth for Veterans	VA Medical Centers or Affiliated Facilities That Offer Telemedicine/ Telehealth Therapy
Mental Health Treatment Facilities (n = 9,577)					
Facilities that offer specialized treatment for PTSD	7,772	4,835	368	2,168	348
Facilities that offer specialized treatment for co-occurring disorders	6,437	4,199	287	1,910	275
Facilities that offer specialized treatment for PTSD *and* co-occurring disorders	5,638	3,782	286	1,788	274
Substance Use Treatment Facilities (n = 13,424)					
Facilities that offer specialized treatment for trauma	11,287	5,855	154	1,347	55
Facilities that offer specialized treatment for co-occurring disorders	10,270	5,787	171	1,331	60
Facilities that offer specialized treatment for trauma and co-occurring disorders	9,496	5,484	154	1,289	55
Facilities that offer detoxification services	2,766	1,498	100	—	—

SOURCES: SAMHSA, 2019a, 2019b.

NOTE: Numbers in the table do not sum to the total number of mental health or substance use treatment facilities because a particular facility may offer multiple types of programs.

in reference to a veteran. These data excluded engagements with WWP that occurred via email, walk-in visits, events, live chats, and social media and other online forums. We scanned call logs for PTSD, depression, and substance use keywords (see Table 1.2 in Chapter One) and coded the calls as referencing PTSD, depression, substance use, both PTSD and substance use, or both depression and substance use.

WWP conducts its Alumni Survey to understand and respond to the needs of its members. The survey contains 11 sections with several key measures. The detailed survey data include demographic characteristics of WWP alumni, along with information on their deployments, health problems that they experienced while serving

or as a result of serving, their VA service-connected disability rating, and more. We used raw data from the 2019 Alumni Survey to calculate measures of screening positive for PTSD, depression, or alcohol or drug misuse. We used the 20 items from the PTSD Checklist for DSM-5 (PCL-5) to identify survey respondents with symptoms consistent with a diagnosis of PTSD (scores of 33 or above) (Blevins et al., 2015; Bovin et al., 2016). Similarly, we used items from the Patient Health Questionnaire 9-item (PHQ-9) to identify alumni who were experiencing symptoms consistent with depression (scores of 10 or above) (Kroenke, Spitzer, and Williams, 2001).

To identify WWP alumni who may meet the criteria for alcohol or drug misuse, we used two measures. First, we calculated rates of alcohol misuse using AUDIT-C measures (Bush et al., 1998; Dawson et al., 2005). The AUDIT-C is scored from 0 to 12, and cutoff scores are gender-based. A score of 5 or more indicates alcohol misuse for men, and a score of 4 or more indicates alcohol misuse for women. Next, we used items on the TICS (Brown et al., 2001; Brown et al., 1997) to identify respondents with alcohol or drug problems. WWP Alumni Survey respondents with gender-based scores of 4 or 5 on the AUDIT-C or with a "yes" response to at least one of the two TICS items (i.e., "In the last year, have you ever drunk or used drugs more than you meant to," and "Have you felt you wanted or needed to cut down on your drinking or drug use in the last year?") were identified as having a positive screen for alcohol/drug misuse. Our rates of positive screens, discussed in Chapter One, were slightly different from those presented by WWP in the 2019 Alumni Survey publication (Westat, 2019), because that publication used survey weights to match the larger WWP population. For our purposes, we were interested in raw rates among those who responded to the survey.

Geolocating Zip Codes and Analytic Planning

For each of the WWP databases, we geolocated the data using ArcGIS Desktop version 10.6 at the centroid of the zip code; in the case of the 2019 Alumni Survey, the data were limited to the first three digits of the zip code. We successfully geolocated 99.5 percent of these three-digit zip codes in the 2019 Alumni Surveys. For the All Warriors and WWP Resource Center call data, we calculated the minimum drive time to each type of treatment facility from the centroid of the five-digit zip code.[21] We successfully geocoded 97.4 percent of the five-digit zip codes for the All Warriors file and 98.6 percent of the five-digit zip codes for the WWP Resource Center calls. We report the mean and standard deviation (SD) for these minimum drive times (see Table 4.3).

For the 2019 Alumni Survey, we were able to conduct a separate analysis, given that we had richer data on self-reported symptoms of PTSD, depression, and alcohol/

[21] Minimum drive time were calculated using ArcGIS Desktop's Network Analyst Extension. An Origin Destination cost matrix is used to calculate measures for the least-cost (time and tolls) paths along the road network between two sets of points based on the parameters of the road network (speed limits).

drug misuse. Out of the 895 three-digit zip codes in the United States, we found that 98.0 percent (n = 877) had at least one 2019 Alumni Survey respondent. Of those three-digit zip codes with a 2019 Alumni Survey respondent, 93.2 percent had at least one respondent who screened positive for PTSD, 94.6 percent had at least one who screened positive for depression, 87.0 percent had at least one who screened positive for alcohol/drug misuse, 91.8 percent had at least one who screened positive for both PTSD and depression, and 65.3 percent had at least one who screened positive for PTSD, depression, and alcohol/drug misuse. For our analyses, we calculated the number of facilities within a 60-minute drive time of the centroid of the three-digit zip code. We used this 60-minute drive time metric because it aligns with VA's recommendation for measures of geographic access to specialty care (VA, 2019). We produced a series of heat maps illustrating the number of treatment facilities within this 60-minute drive time. Note that because the access standard for both primary care and mental health care is a 30-minute drive time, we repeated our analyses using the 30-minute standard. These findings are presented in Appendix B.

Drive Time to Mental Health and Substance Use Treatment Facilities for WWP Members in the All Warriors Database

As reported in Table 4.3, in the All Warriors data file, we found that the average centroid of an alumni's five-digit zip code was a 12.0-minute drive time (SD = 15.5) from the closest mental health treatment facility and a 10.8-minute drive time (SD = 14.0) from the closest substance use treatment facility. More-specialized treatment programs tended to be located farther from the centroid of the zip code. For example, on average, a specialized treatment program for co-occurring disorders at a mental health treatment facility was a 14.1-minute drive time away (SD = 17.4); for a substance use facility, it was a 12.2-minute drive time (SD = 15.2)—approximately two minutes farther than the average for all facility types that we considered. Among both mental health treatment facilities and substance use treatment facilities, the drive times were even greater for those with co-occurring disorders program and programs for veterans (16.5 minutes and 15.3 minutes for mental health and substance use treatment facilities, respectively). Drive times were also much greater (about 45 to 55 minutes longer) for facilities that had a co-occurring disorders program that were either VAMCs or VA-affiliated facilities (57.0 minutes and 66.3 minutes for mental health and substance use treatment facilities, respectively).

Table 4.3
Mean Drive Times to Mental Health and Substance Use Treatment Facilities from the Centroid of the Five-Digit Zip Code in the All Warriors Database (in minutes)

Facility Type	Mean	SD
Any mental health treatment facilities	12.0	15.5
Mental health facilities with a co-occurring disorders program	14.1	17.4
Mental health facilities with a co-occurring disorders program for veterans	16.5	19.0
Mental health facilities with a co-occurring disorders program that were VAMCs or VA-affiliated facilities	57.0	63.8
Any substance use treatment facilities	10.8	14.0
Substance use facilities with a co-occurring disorders program	12.2	15.2
Substance use facilities with a co-occurring disorders program for veterans	15.3	18.9
Substance use facilities with a co-occurring disorders program that were VAMCs or VA-affiliated facilities	66.3	65.6

Drive Time to Mental Health and Substance Use Treatment Facilities for Resource Center Callers

Table 4.4 shows the minimum drive time to a substance use or mental health treatment facility for individuals in a five-digit zip code whose calls referenced PTSD, depression, substance use, both PTSD and substance use, or both depression and substance use. Callers' mean drive time to both mental health and substance use treatment facilities was similar across problem areas referenced in the call logs. Callers were generally located a much greater drive time away from VAMCs or VA-affiliated facilities, however. As in the All Warriors data file, we found that more-specialized treatment programs were a greater drive time from the centroid of the zip code.

Table 4.4
Drive Time to Mental Health and Substance Use Treatment Facilities from the Centroid of the Five-Digit Zip Code in the WWP Resource Center Call Log (in minutes)

	Call Log Referenced PTSD and Substance Use		Call Log Referenced Substance Use		Call Log Referenced PTSD		Call Log Referenced Depression		Call Log Referenced Depression and Substance Use	
Facility Type	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**Mean**	**Mean**	**SD**	**Mean**	**SD**
Any mental health facilities	11.40	11.30	10.60	9.78	11.00	10.07	9.64	8.88	8.61	6.75
Mental health facilities with a co-occurring disorders program	13.10	13.50	12.30	11.90	12.90	13.40	10.50	9.03	9.32	6.94
Mental health facilities with a co-occurring disorders program for veterans	15.50	15.70	14.30	13.40	14.90	15.10	12.30	11.70	12.20	12.70
Mental health facilities with a co-occurring disorders program that were VAMCs or VA-affiliated facilities	53.30	61.20	51.60	47.60	52.90	51.30	49.40	55.40	48.80	88.90
Any substance use facilities	10.20	8.82	9.75	9.28	9.83	9.67	8.77	8.67	7.23	6.53
Substance use facilities with a co-occurring disorders program	12.00	11.60	11.20	10.60	11.20	11.10	10.40	11.40	8.29	6.94
Substance use facilities with a co-occurring disorders program for veterans	14.70	15.10	14.00	14.80	13.90	14.10	11.90	11.90	9.81	7.45
Substance use facilities with a co-occurring disorders program that were VAMCs or VA-affiliated facilities	70.80	73.50	62.10	60.60	65.30	67.60	62.20	69.70	68.60	90.20

Maps and Analyses for 2019 Alumni Survey Respondents

Mental Health Treatment Facilities

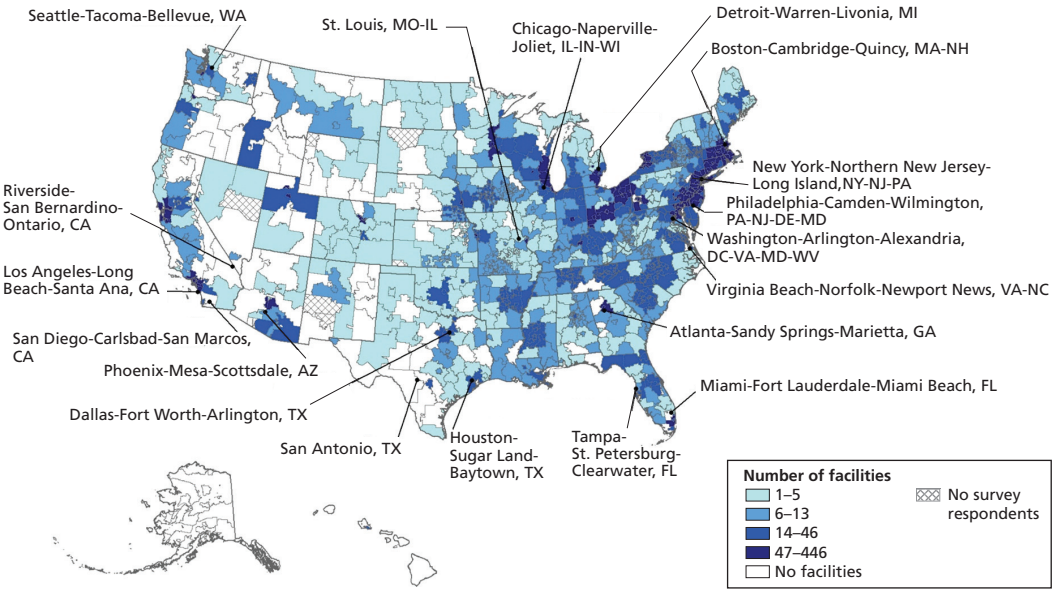
Mental Health Facilities with Specialized PTSD Programs

Using 2019 SAMHSA data, we identified 7,772 of a total of 9,577 mental health treatment facilities (81 percent) that had a specialized program for PTSD (see Table 4.2). Approximately 50 percent of mental health treatment facilities with a specialized treatment program for PTSD also had a specialized treatment program for veterans. However, only 4 percent of those that offered both a PTSD program and a veterans' program were VAMCs or VA-affiliated facilities.

Figure 4.1 is a heat map at the three-digit zip code level that visually shows the availability of mental health treatment facilities with a specialized PTSD program. Areas shaded in darker blue are those with a larger number of such facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. Areas with a hatch pattern are those where no survey respondents reported residing. Figure 4.2 is a heat map at the three-digit zip code level that visually shows the availability of mental health treatment facilities with a specialized PTSD program that also had a specialized program for veterans. Figure 4.3 is a heat map at the three-digit zip code level that visually shows the availability of mental health treatment facilities with specialized programs for PTSD and veterans according to survey respondents' positive screen status for PTSD. In each of the heat maps, we highlight core-based statistical areas (CBSAs) with an elevated number of veterans, based on the most recently available VetPop data (VA, National Center for Veterans Analysis and Statistics, 2019). In the maps, we call out the top 20 CBSAs with the names of the urban areas they comprise. Similar maps using the 30-minute drive time metric can be found in Appendix B.

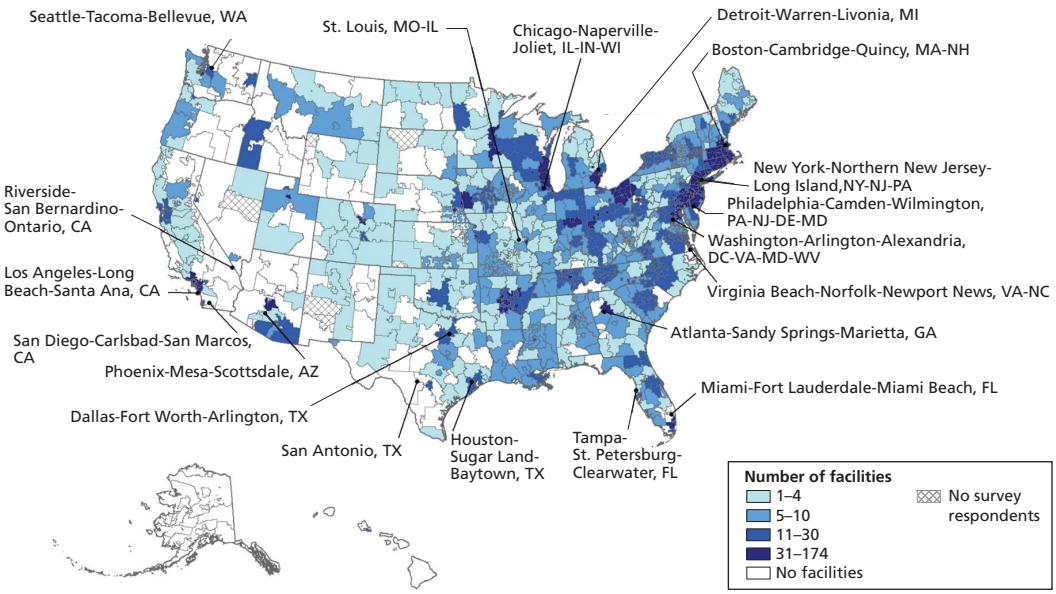
Of the survey respondents' three-digit zip codes, 89.3 percent had a mental health treatment facility with a specialized PTSD program within a 60-minute drive time. A smaller number of three-digit zip codes (65.4 percent) had a mental health treatment facility with a specialized PTSD program within a 30-minute drive time. Survey respondents were as likely to have a mental health treatment facility with a specialized PTSD program and a specialized program for veterans. A high percentage who screened positive for PTSD lived within a 60-minute drive time of a mental health treatment facility with specialized treatment program for those with PTSD and for veterans (75 percent).

Figure 4.1
Mental Health Treatment Facilities with a Specialized PTSD Program



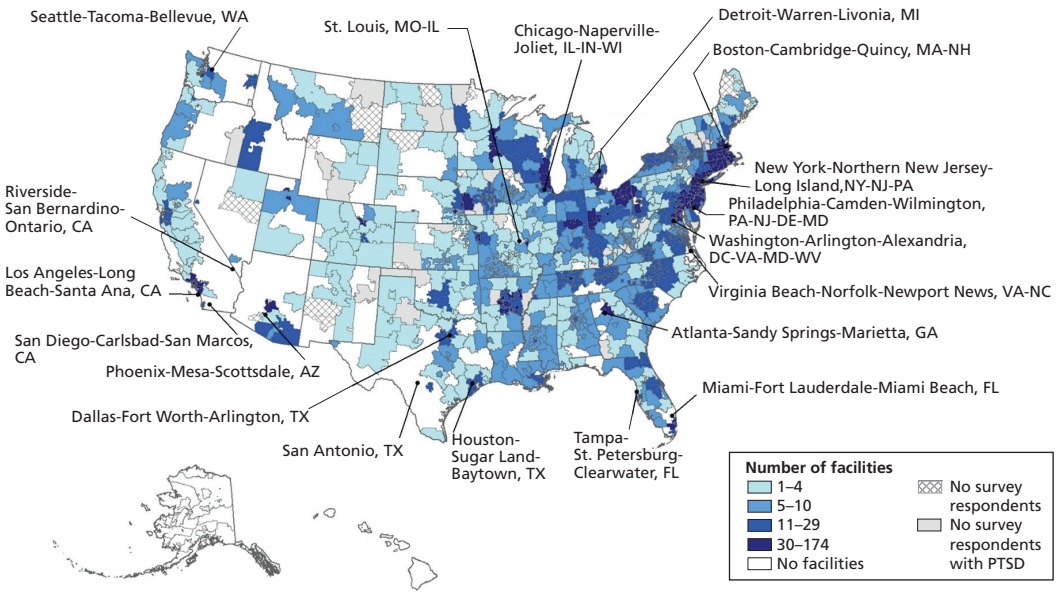
NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.2
Mental Health Treatment Facilities with a Specialized PTSD Program and a Specialized Treatment Program for Veterans



NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.3
Mental Health Treatment Facilities with a Specialized PTSD Program and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' PTSD Status



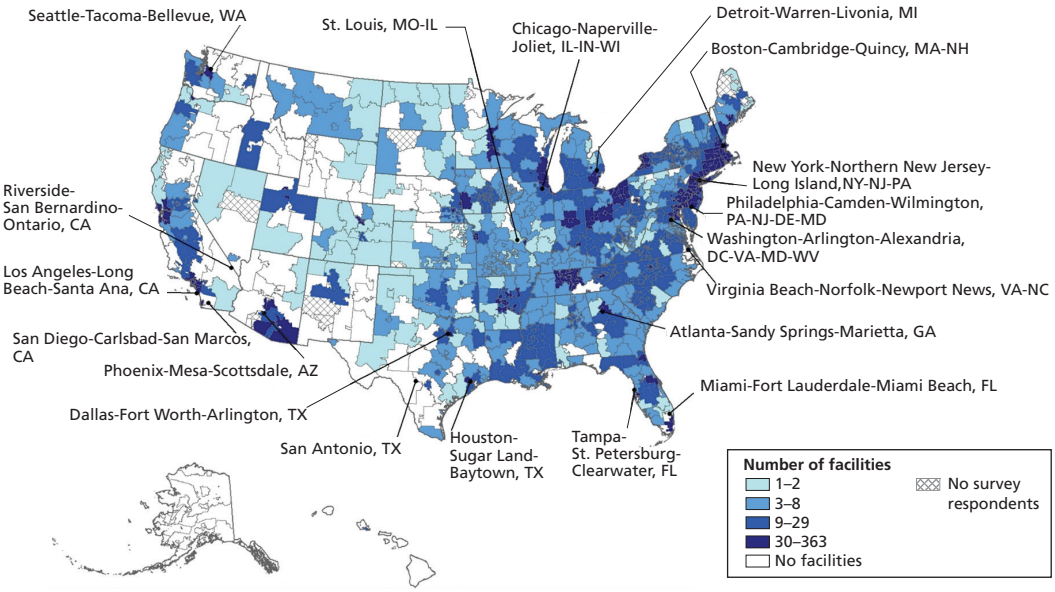
NOTES: All blue-shaded areas had at least one warrior who screened positive for PTSD. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for PTSD (PCL ≥ 33) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for PTSD (i.e., the zip code did not have any alumni with a PTSD screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Mental Health Facilities with Specialized Co-Occurring Disorders Programs

Of the 9,577 mental health treatment facilities in the 2019 SAMHSA data, 6,437 (67 percent) offered specialized treatment programs for co-occurring disorders (see Table 4.2). Fewer than half (44 percent) offered specialized treatment programs for co-occurring disorders and had specialized treatment programs for veterans. Very few facilities (3 percent) offered specialized treatment programs for co-occurring disorders, had specialized treatment programs for veterans, and were either VAMCs or VA-affiliated facilities.

Figure 4.4 is a heat map at the three-digit zip code level that visually shows the availability of mental health treatment facilities with a specialized co-occurring disorders program. Of the 2019 WWP Alumni Survey respondents' three-digit zip codes, 88.2 percent had a mental health treatment facility within a 60-minute and 63.3 percent within a 30-minute drive time from the centroid with a co-occurring disorders program (see also Appendix B for 30-minute drive time maps). Survey respondents were slightly less likely to have access to a mental health treatment facility with a spe-

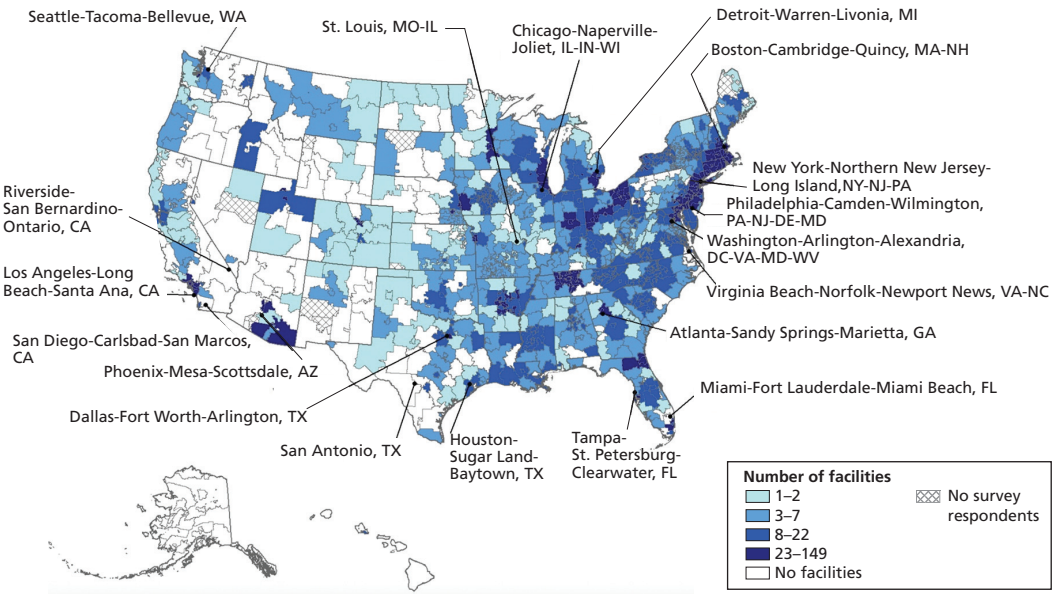
Figure 4.4
Mental Health Treatment Facilities with a Specialized Co-Occurring Disorders Program



NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

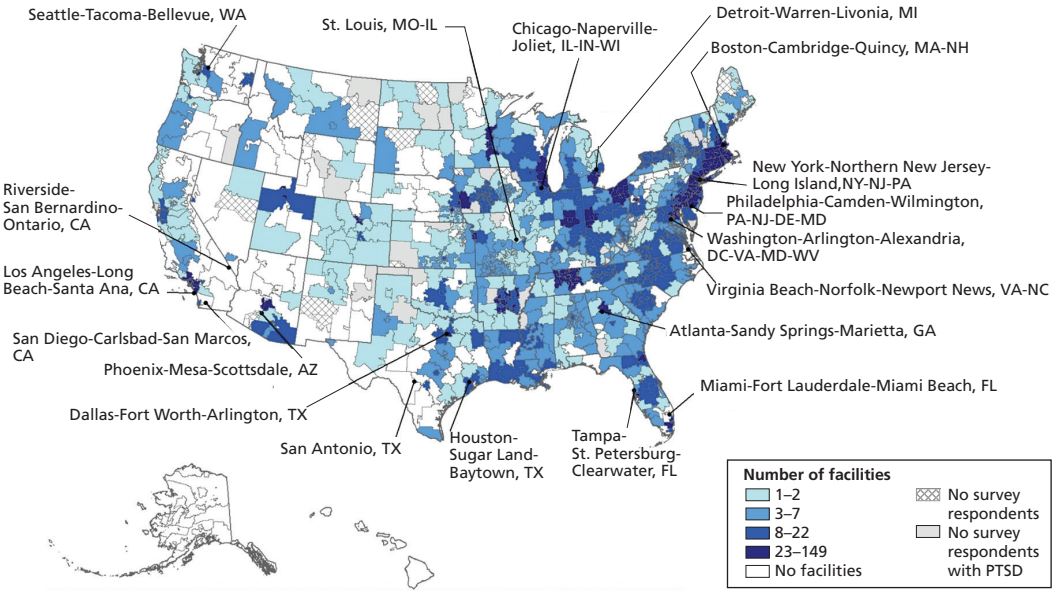
cialized co-occurring disorders program and a veteran program (Figure 4.5). Respondents who screened positive for PTSD were more likely than those who did not to live within a 60-minute drive time from a mental health treatment facility with a specialized treatment program for co-occurring disorders and veterans (85.3 percent versus 73.7 percent who did not screen positive for PTSD) (Figure 4.6). Respondents who screened positive for depression were more likely than those who did not to live within a 60-minute drive time from a mental health treatment facility with a specialized treatment program for co-occurring disorders and veterans (85.1 percent versus 82.6 percent who did not screen positive for depression) (Figure 4.7).

Figure 4.5
Mental Health Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans



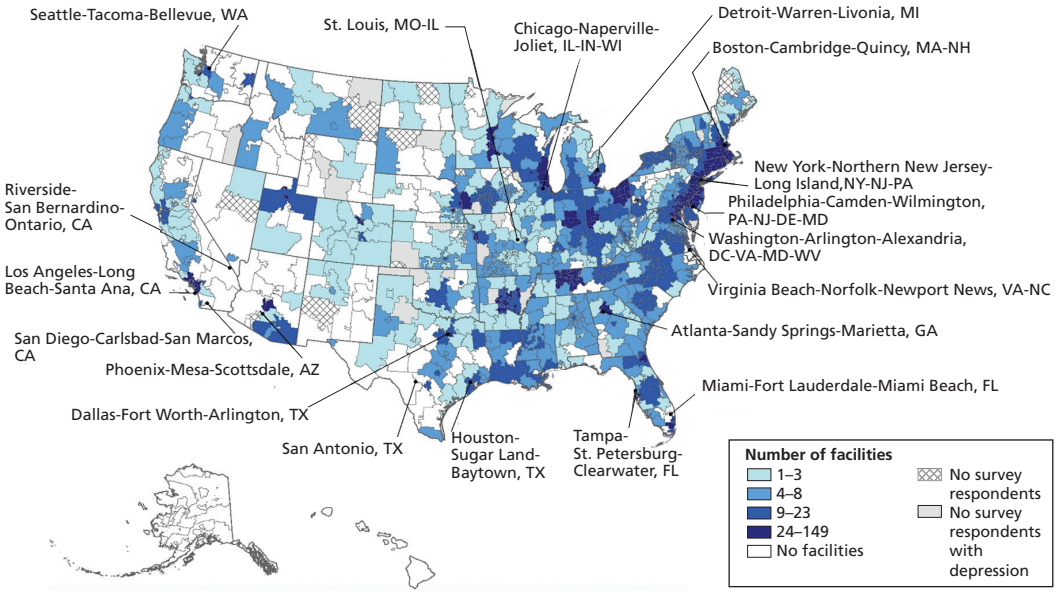
NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.6
Mental Health Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' PTSD Status



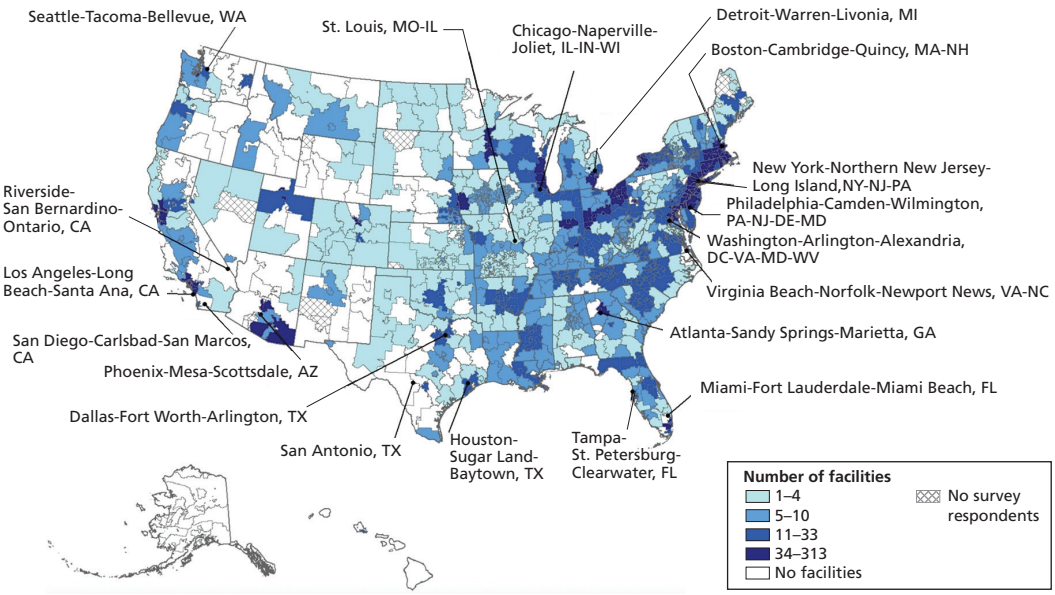
NOTES: All blue-shaded areas had at least one warrior who screened positive for PTSD. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for PTSD (PCL ≥ 33) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for PTSD (i.e., the zip code did not have any alumni with a PTSD screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.7
Mental Health Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' Depression Status



NOTES: All blue-shaded areas had at least one warrior who screened positive for depression. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for depression (PHQ ≥ 10) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for depression. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.8
Mental Health Treatment Facilities with a Specialized PTSD Program and a Specialized Co-Occurring Disorders Program



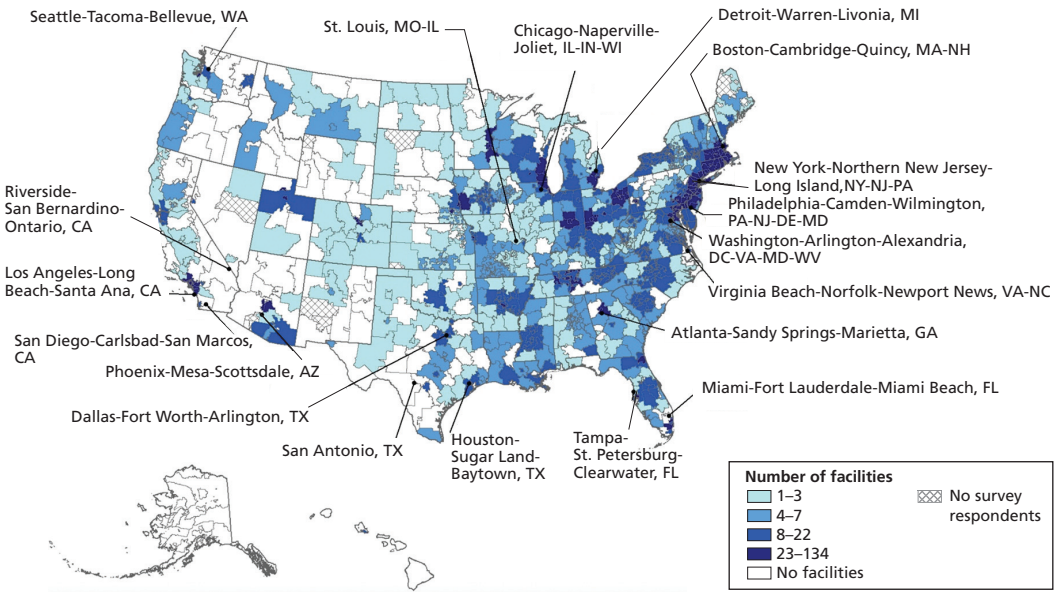
NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Mental Health Facilities with Specialized PTSD and Co-Occurring Disorders Programs

Of the 9,577 mental health treatment facilities in the 2019 SAMHSA data, 5,638 (59 percent) offered both specialized treatment programs for PTSD and specialized treatment programs for co-occurring disorders (see Table 4.2). Approximately 39 percent offered specialized treatment programs for both PTSD and specialized treatment programs for co-occurring disorders and had specialized treatment programs for veterans. Rarely, mental health treatment facilities (3 percent) offered specialized treatment programs for PTSD and co-occurring disorders, had specialized treatment programs for veterans, and were either VAMCs or VA-affiliated facilities.

Figure 4.8 is a heat map at the three-digit zip code level that visually shows the availability of mental health treatment facilities with a specialized co-occurring disorders program and a PTSD program. Of the 2019 WWP Alumni Survey respondents' three-digit zip codes, nearly all (88.1 percent) had a mental health treatment facility with a co-occurring disorders program and a PTSD program within a 60-minute drive time from their centroids. And more than half of three-digit zip codes (62.5 percent) had a mental health treatment facility with a co-occurring disorders program and a

Figure 4.9
Mental Health Treatment Facilities with a Specialized PTSD Program, a Specialized Co-Occurring Disorders Program, and a Specialized Treatment Program for Veterans

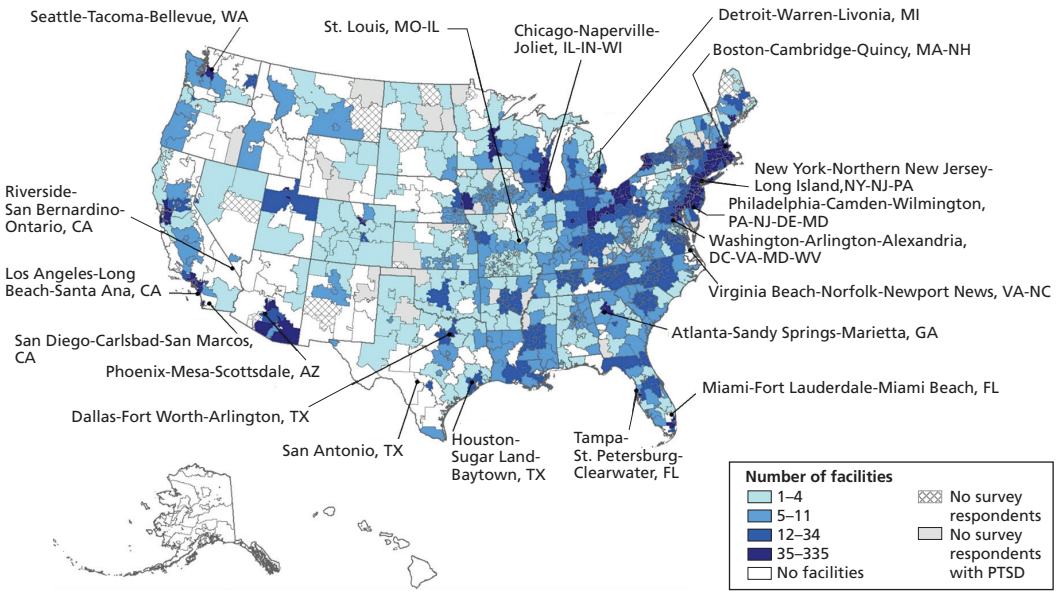


NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

PTSD program within a 30-minute drive time from their centroids (see Appendix B). WWP Alumni Survey respondents were slightly less likely to have a mental health treatment facility with a specialized co-occurring program, a specialized PTSD program, and served veterans (Figure 4.9). Less than a third of respondents who screened positive for PTSD lived within a 60-minute drive time from a mental health treatment facility that had a specialized treatment program for co-occurring disorders, a specialized PTSD program, and a program for veterans (Figure 4.10).

Figure 4.11 is a heat map at the three-digit zip code level that visually shows the availability of mental health treatment facilities with a specialized co-occurring disorders program, a specialized program for PTSD, and a specialized program for veterans, by 2019 alumni survey respondents' positive screens for PTSD and alcohol/drug misuse. Those who screened positive for PTSD and alcohol/drug misuse were more likely (85.0 percent) than those who did not (77.6 percent) to live within a 60-minute drive time from a mental health treatment facility with specialized treatment programs for co-occurring disorders, PTSD, and veterans. This is promising; although only a third of respondents with positive screens for PTSD alone (see Figure 4.9) lived within a 60-minute drive of a mental health treatment facility with specialized programs for

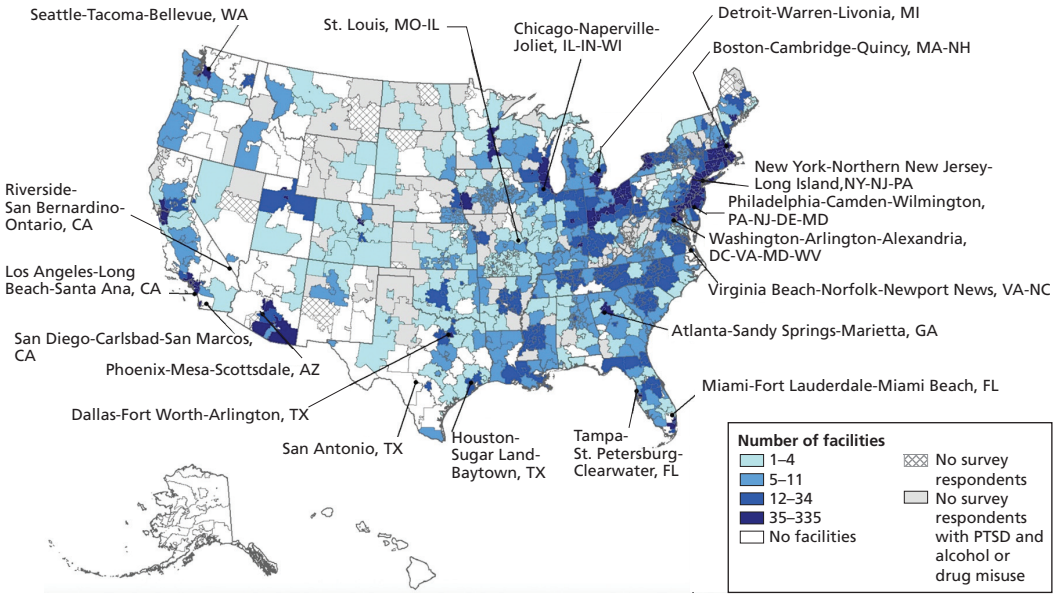
Figure 4.10
Mental Health Treatment Facilities with a Specialized PTSD Program, a Specialized Co-Occurring Disorders Program, and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' PTSD Status



NOTES: All blue-shaded areas had at least one warrior who screened positive for PTSD. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for PTSD (PCL ≥ 33) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for PTSD (i.e., the zip code did not have any alumni with a PTSD screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

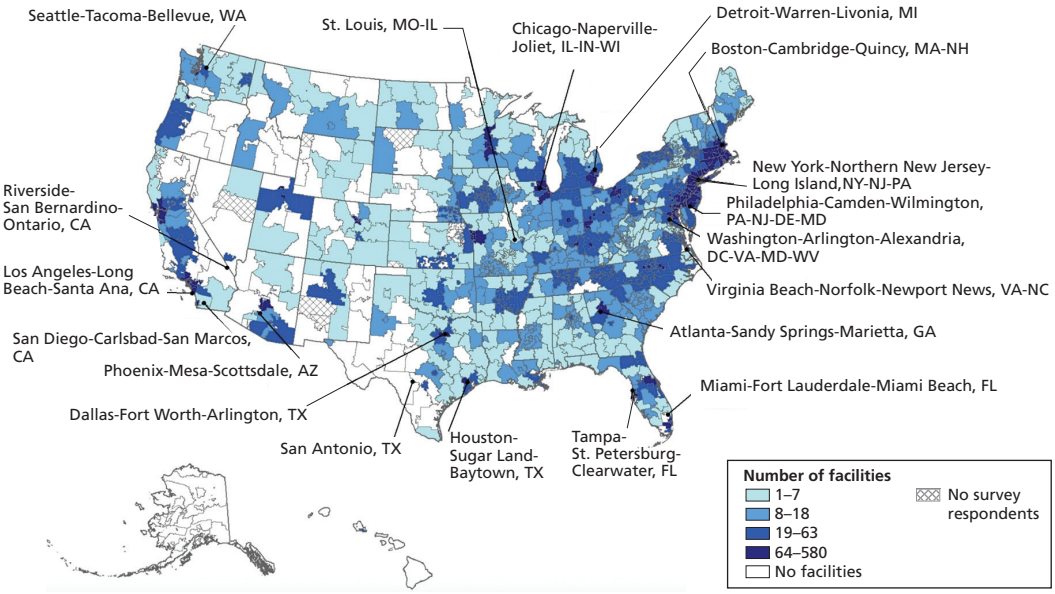
PTSD and veterans, the majority of those with positive screens for both PTSD and alcohol/drug misuse lived within a 60-minute drive of specialized treatment facilities that served veterans and could address both PTSD and co-occurring SUDs.

Figure 4.11
Mental Health Treatment Facilities with a Specialized PTSD Program, a Specialized Co-Occurring Disorders Program, and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' PTSD and Alcohol/Drug Misuse Status



NOTES: All blue-shaded areas had at least one warrior who screened positive for PTSD *and* alcohol or drug misuse. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for PTSD (PCL ≥ 33) and for alcohol or drug misuse (AUDIT-C > 4/5 or TICS > 1) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for PTSD and alcohol or drug misuse (i.e., the zip code did not have any alumni with a PTSD screen and a positive alcohol/drug misuse screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.12
Substance Use Treatment Facilities with a Specialized Trauma Program



NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

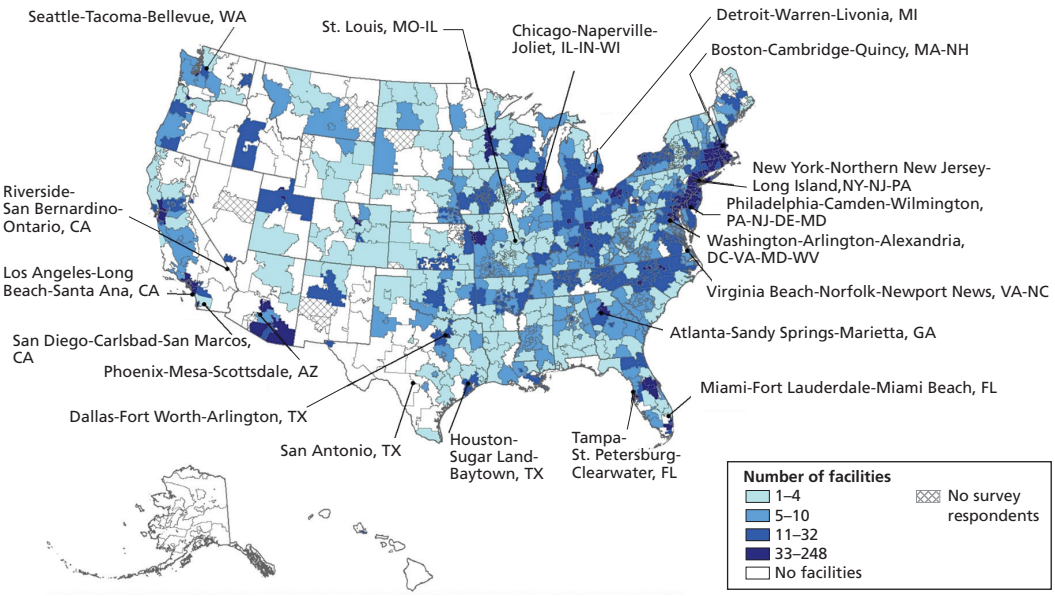
Substance Use Treatment Facilities

Substance Use Treatment Facilities with Specialized Trauma Programs

Of the 13,424 substance use treatment facilities in the 2019 SAMHSA data, 11,287 (84 percent) had a specialized program for trauma, and 5,855 (44 percent) offered a specialized treatment program for trauma and had a specialized treatment program for veterans (see Table 4.2). There were 154 substance use treatment facilities (1 percent) that offered a specialized treatment program for trauma, had a specialized treatment program for veterans, and were either VAMCs or VA-affiliated facilities.

Of the 2019 WWP Alumni Survey respondents' three-digit zip codes, almost all (89.6 percent) had a substance use treatment facility with a specialized trauma program within a 60-minute drive time from their centroids (Figure 4.12). Again, fewer three-digit zip codes had a substance use treatment facility with a specialized trauma program within a 30-minute drive time, but that proportion was still more than half (67.3 percent) (see Appendix B). Figure 4.13 shows that a similar share of survey respondents (86.8 percent) had a substance use treatment facility with a specialized trauma program and a specialized treatment program for veterans within a 60-minute drive time. The majority of respondents who screened positive for PTSD

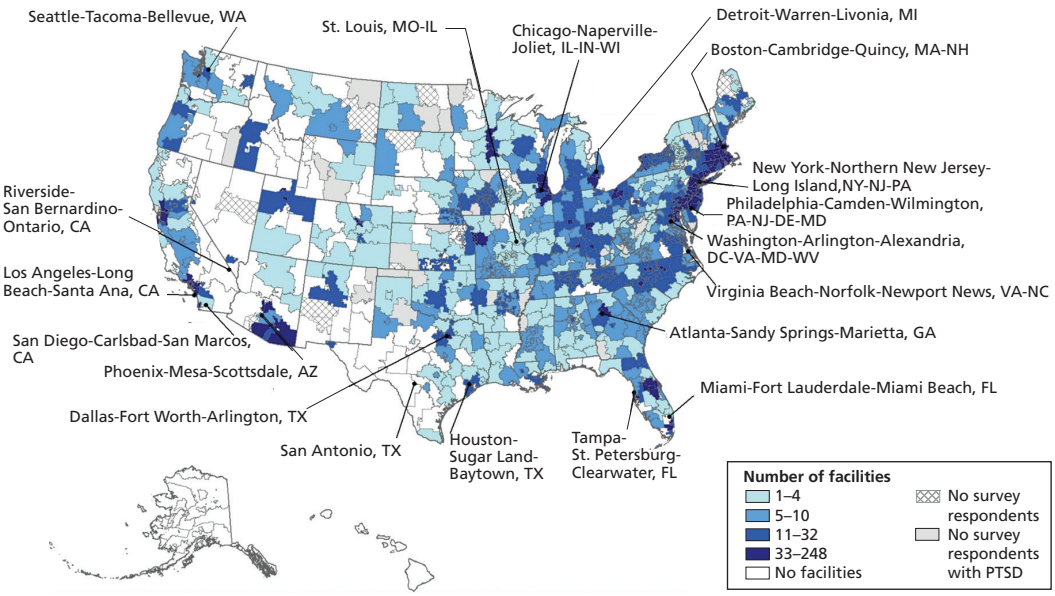
Figure 4.13
Substance Use Treatment Facilities with a Specialized Trauma Program and a Specialized Treatment Program for Veterans



NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

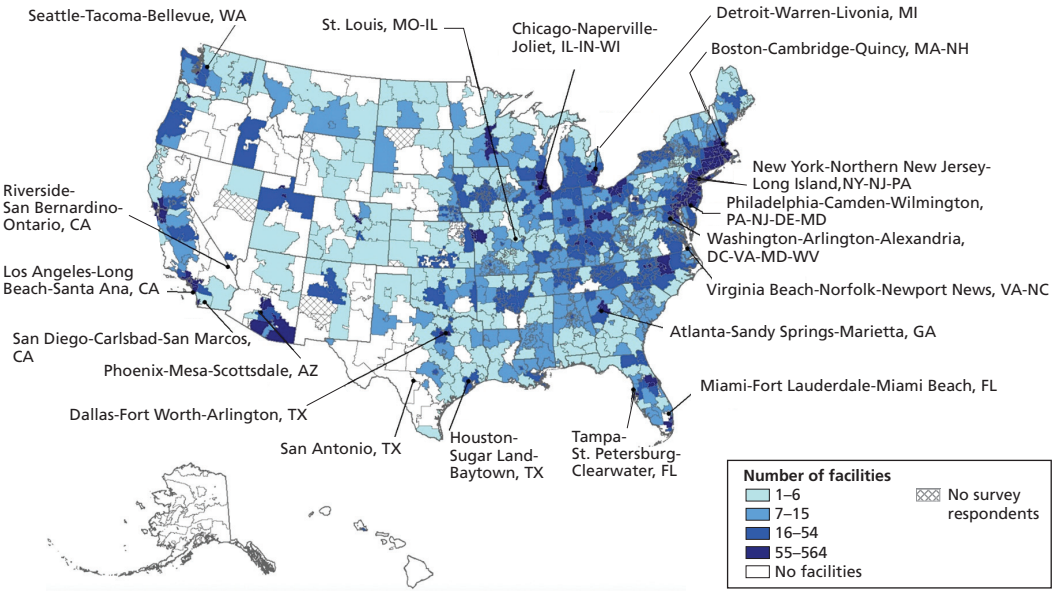
lived within a 60-minute drive time from a substance use treatment facility with specialized programs for trauma and veterans (89.0 percent; Figure 4.14).

Figure 4.14
Substance Use Treatment Facilities with a Specialized Trauma Program and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' PTSD Status



NOTES: All blue-shaded areas had at least one warrior who screened positive for PTSD. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for PTSD (PCL ≥ 33) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for PTSD (i.e., the zip code did not have any alumni with a PTSD screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.15
Substance Use Treatment Facilities with a Specialized Co-Occurring Disorders Program



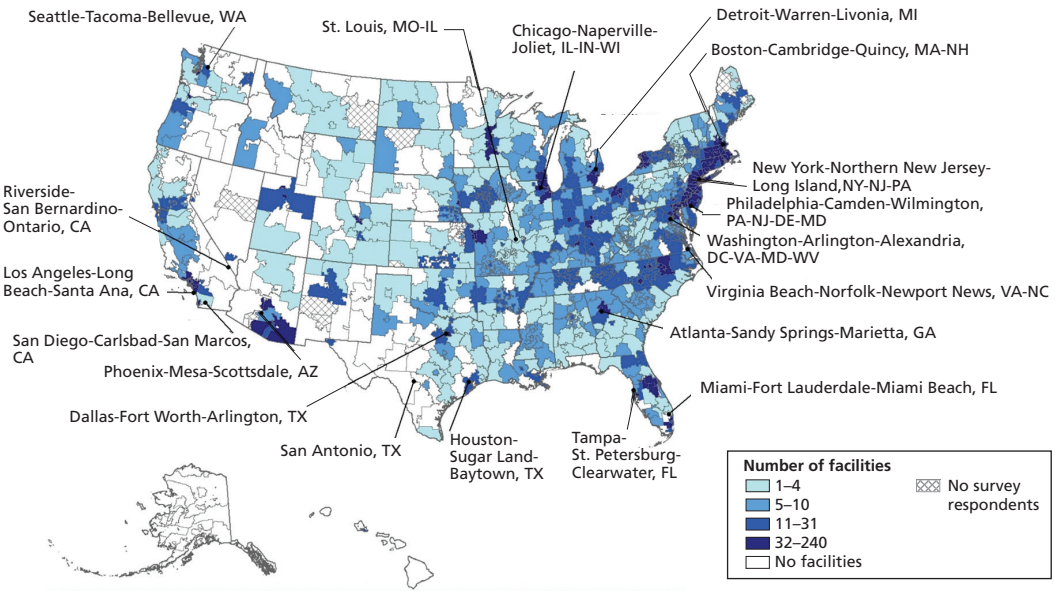
NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Substance Use Treatment Facilities with Specialized Co-Occurring Disorders Programs

Of the 13,424 substance use treatment facilities in the 2019 SAMHSA data, 10,270 (76 percent) offered specialized treatment programs for co-occurring disorders, and 5,787 (43 percent) offered specialized programs for co-occurring disorders and had specialty programs for veterans (see Table 4.2). Fewer than 200 substance use treatment facilities (n = 171, 1 percent) offered specialized treatment programs for co-occurring disorders, had specialized treatment programs for veterans, and are either VAMCs or VA-affiliated facilities.

Figure 4.15 is a heat map at the three-digit zip code level that visually shows the availability of substance use treatment facilities with a specialized co-occurring disorders program. Of the 2019 WWP Alumni Survey respondents' three-digit zip codes, 88.2 percent had a substance use treatment facility with a co-occurring disorders program within a 60-minute drive time and 63.3 percent had such a program within a 30-minute drive time from the centroids (see Appendix B for 30-minute drive time maps). Survey respondents were slightly less likely (86.7 percent) to have a substance use treatment facility with a specialized co-occurring disorders program and a veteran program within a 60-minute drive time (Figure 4.16). Respondents who screened posi-

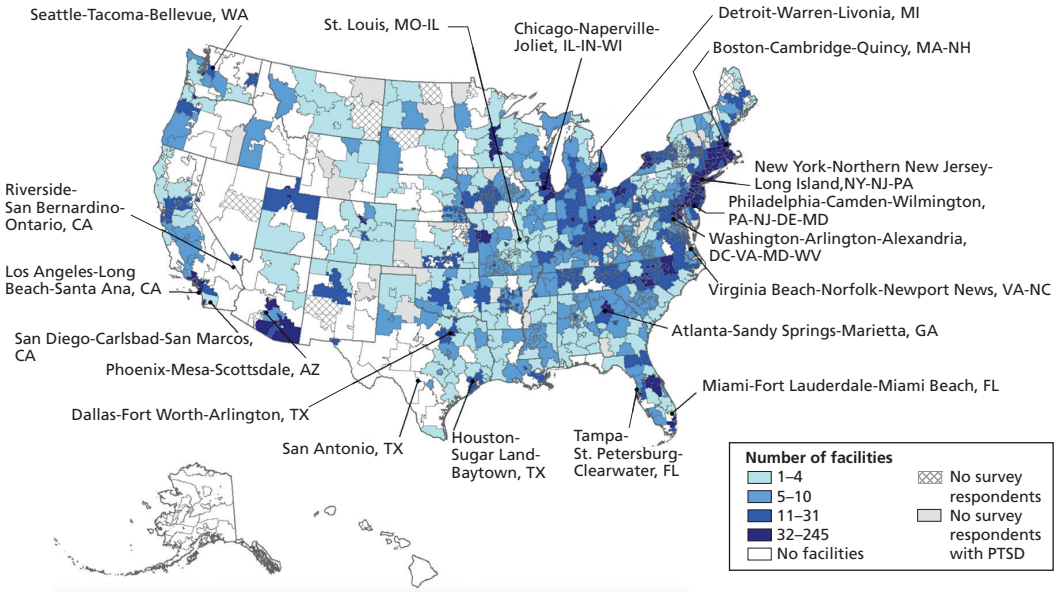
Figure 4.16
Substance Use Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans



NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

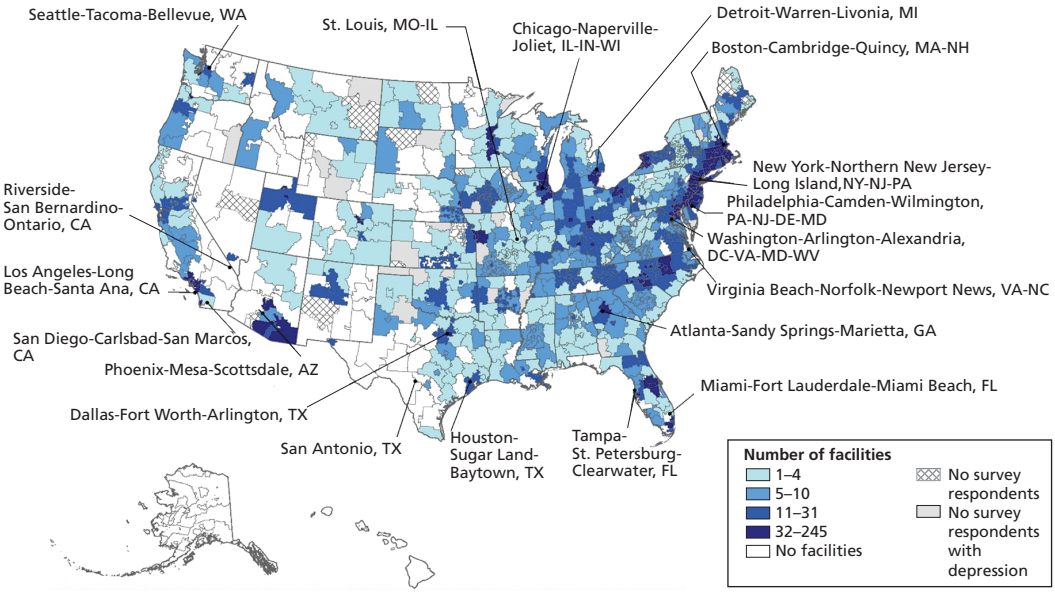
tive for PTSD were more likely (85.3 percent) than those who did not (79.7 percent) to live within a 60-minute drive time from a substance use treatment facility with a specialized program for co-occurring disorders and a specialized treatment program for veterans (Figure 4.17). Respondents who screened positive for depression were more likely (86.1 percent) than those who did not (80.4 percent) to live within a 60-minute drive time from a substance use treatment facility with a specialized program for co-occurring disorders and a specialized treatment program for veterans (Figure 4.18).

Figure 4.17
Substance Use Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' PTSD Status



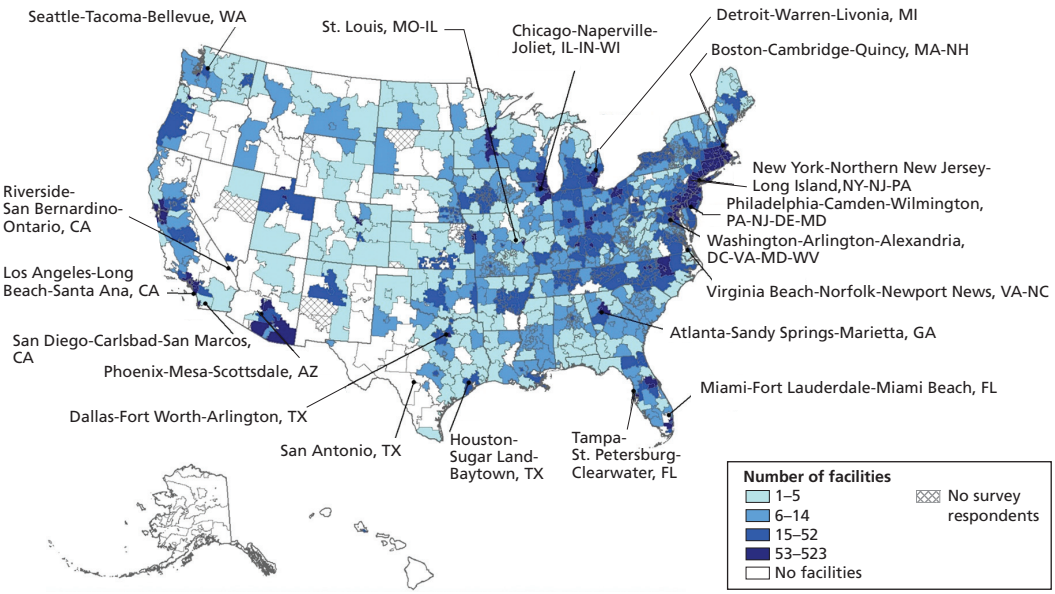
NOTES: All blue-shaded areas had at least one warrior who screened positive for PTSD. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for PTSD (PCL ≥ 33) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for PTSD (i.e., the zip code did not have any alumni with a PTSD screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.18
Substance Use Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' Depression Status



NOTES: All blue-shaded areas had at least one warrior who screened positive for depression. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for depression (PHQ ≥ 10) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for depression (i.e., the zip code did not have any alumni with a depression screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.19
Substance Use Treatment Facilities with a Specialized Trauma Program and a Specialized Co-Occurring Disorders Program



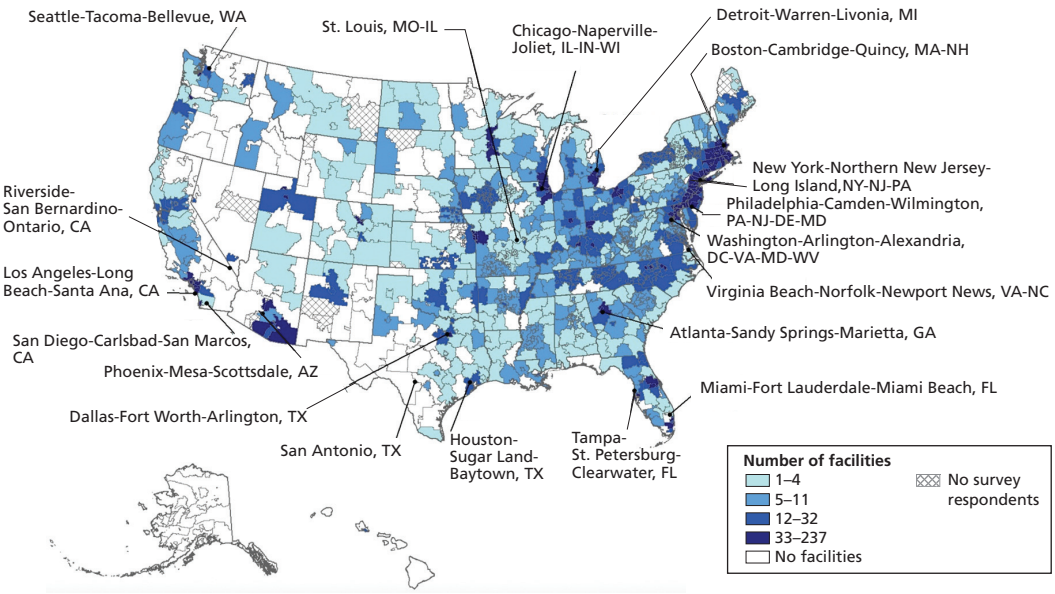
NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Substance Use Treatment Facilities with Specialized Trauma and Co-Occurring Disorders Programs

Of the 13,424 substance use treatment facilities in the 2019 SAMHSA data, 9,496 (71 percent) offered both specialized treatment programs for trauma and specialized treatment programs for co-occurring disorders, and 5,484 (39 percent) offered specialized treatment programs for both trauma and co-occurring disorders and had specialty programs for veterans (see Table 4.2). Few substance use treatment facilities (3 percent) offered specialized treatment programs for trauma and co-occurring disorders, had specialized treatment programs for veterans, and were VAMCs or VA-affiliated facilities.

Figure 4.19 is a heat map at the three-digit zip code level that visually shows the availability of substance use treatment facilities with a specialized co-occurring disorders program. Of the 2019 WWP Alumni Survey respondents' three-digit zip codes, almost all (89.2 percent) had a substance use treatment facility with a co-occurring disorders program within a 60-minute drive time from their centroids, and 65.9 percent had such a facility within a 30-minute drive time (see Appendix B). Slightly fewer survey respondents (86.3 percent) had a substance use treatment facility with a special-

Figure 4.20
Substance Use Treatment Facilities with a Specialized Trauma Program, a Specialized Co-Occurring Disorders Program, and a Specialized Treatment Program for Veterans

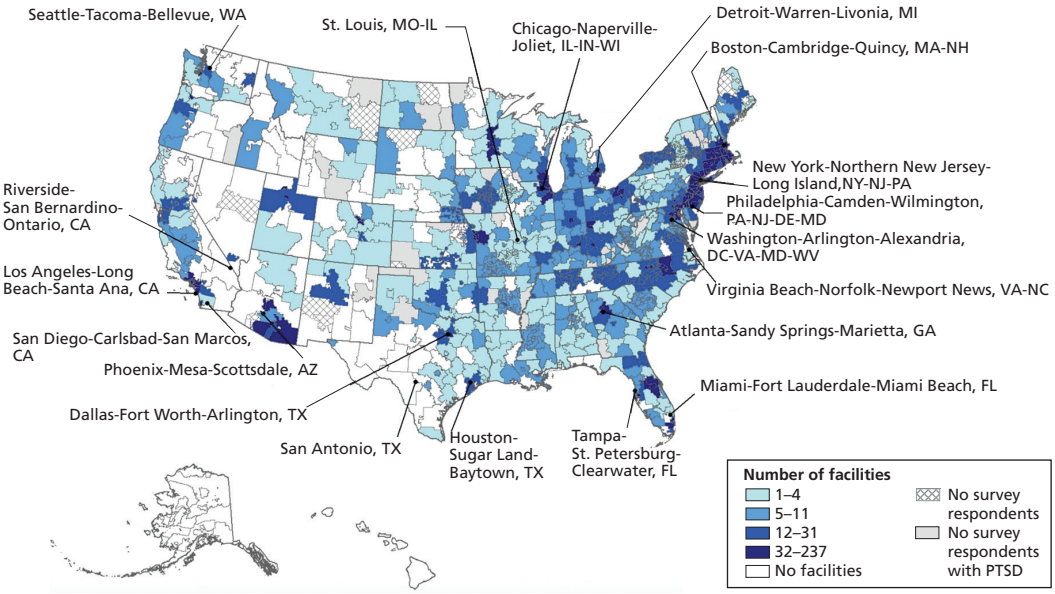


NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

ized co-occurring disorders program and a veteran program within a 60-minute drive time (Figure 4.20). More than 86 percent of respondents who screened positive for PTSD lived within a 60-minute drive time from a substance use treatment facility with a specialized treatment program for co-occurring disorders and a specialized treatment program for veterans (86.3 percent; Figure 4.21).

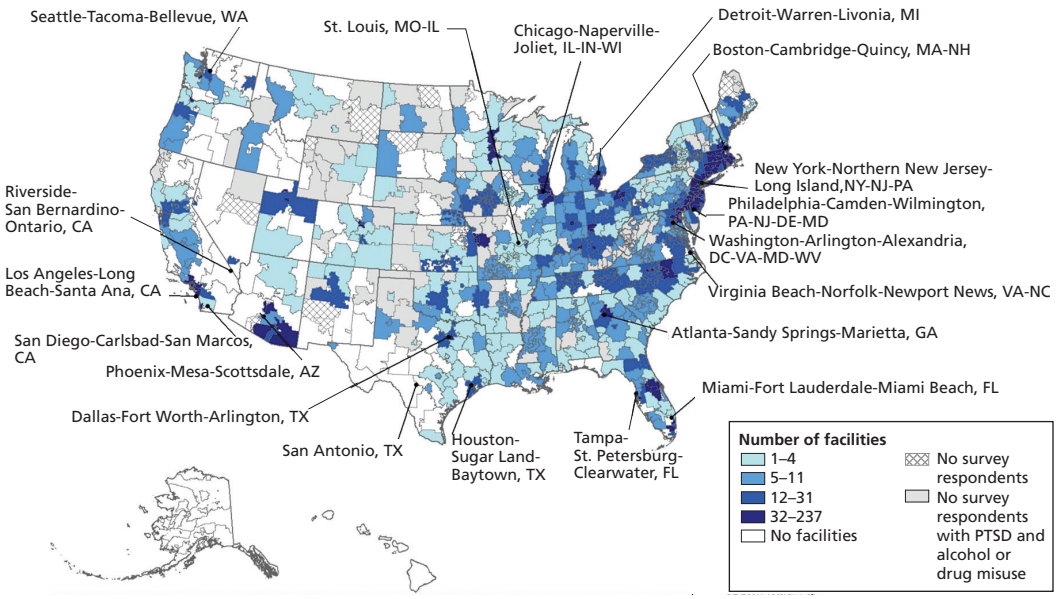
As shown in Figure 4.22, respondents who screened positive for PTSD and alcohol/drug misuse were more likely than those who did not (86.6 percent versus 75.6 percent) to live within a 60-minute drive time from a substance use treatment facility with a specialized treatment program for co-occurring disorders, a specialized trauma program, and a program for veterans. As we saw for mental health treatment facilities, this indicates that the respondents with the greatest need for co-occurring treatment services are more likely to have access to those services.

Figure 4.21
Substance Use Treatment Facilities with Specialized Trauma Program, a Specialized Co-Occurring Disorders Program, and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' PTSD Status



NOTES: All blue-shaded areas had at least one warrior who screened positive for PTSD. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for PTSD (PCL ≥ 33) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for PTSD (i.e., the zip code did not have any alumni with a PTSD screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Figure 4.22
Substance Use Treatment Facilities with a Specialized Trauma Program, a Specialized Co-Occurring Disorders Program, and a Specialized Treatment Program for Veterans, by 2019 WWP Alumni Survey Respondents' PTSD and Alcohol/Drug Misuse Status

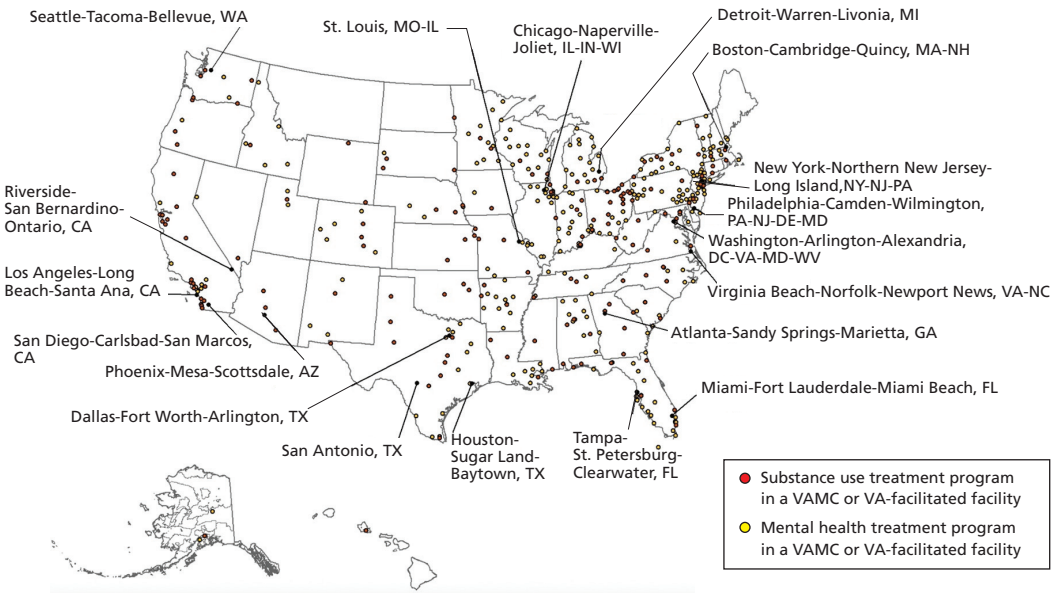


NOTES: All blue-shaded areas had at least one warrior who screened positive for PTSD *and* alcohol or drug misuse. Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of the three-digit zip codes of respondents who had positive screens for PTSD (PCL ≥ 33) and for alcohol or drug misuse (AUDIT-C > 4/5 or TICS > 1) on the 2019 WWP Alumni Survey. Gray areas had survey respondents residing in them but none who screened positive for PTSD and alcohol or drug misuse (i.e., the zip code did not have any alumni with a PTSD screen and a positive alcohol/drug misuse screen but may have facilities). White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Availability of VA Treatment Facilities with Specialized Programs

In our analyses of the populations in the three WWP data files (All Warriors database, WWP Resource Center call logs, 2019 Alumni Survey data) and their access to mental health and substance use treatment facilities, we found that VAMCs and VA-affiliated facilities represented a small proportion of those available to treat veterans with behavioral health disorders. VA is authorized and resourced to provide care for service-connected conditions, such as PTSD and SUDs. As such, veterans who are enrolled in the VA health care system and meet service-related connection criteria would likely be able to use these facilities at no cost. Given the critical function that VA may serve in providing access to care for veterans with PTSD, depression, and SUDs, we also examined average drive times to VAMCs or VA-affiliated facilities with specialized programs. Figure 4.23 shows the locations of these facilities. As we discuss

Figure 4.23
Location of Mental Health and Substance Use Treatment Facilities That Are VA Medical Centers or Affiliated Facilities

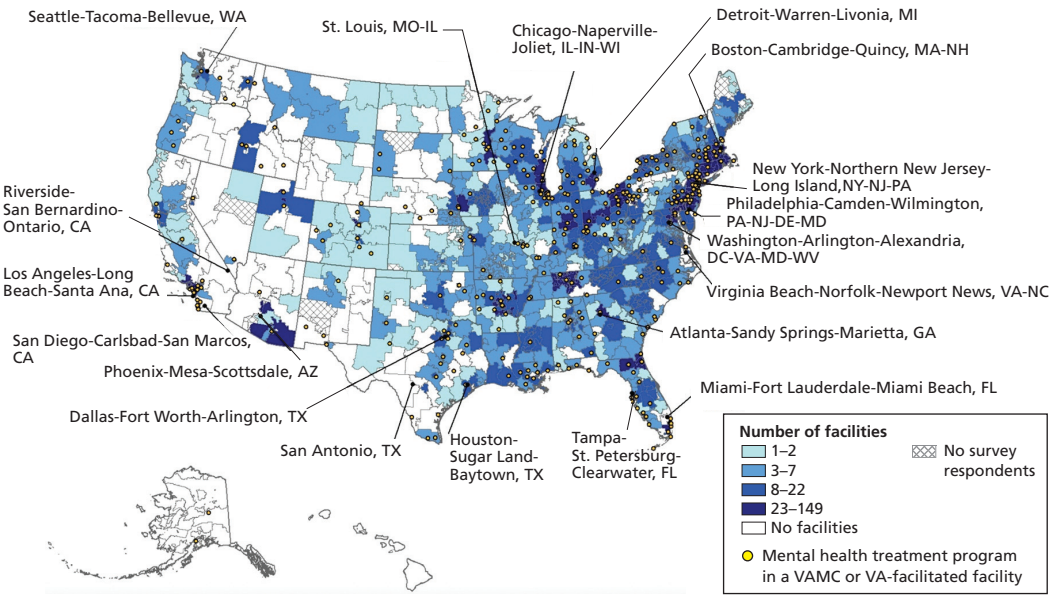


NOTE: Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

later, their density is much lower than for mental health and substance use treatment facilities overall, thus increasing average drive times. Nonetheless, the VAMCs and VA-affiliated facilities in the SAMHSA data may still play an essential role in promoting access to high-quality and no-cost care for veterans.

Next, we show two variations of Figure 4.5, presented earlier, which showed the availability of mental health facilities with a specialized co-occurring disorders program and a specialized treatment program for veterans within a 60-minute drive time of 2019 WWP Alumni Survey respondents' three-digit zip code centroids. Figure 4.24 shows that VAMCs and VA-affiliated facilities are generally located in the areas with the densest availability of treatment facilities that serve veterans (indicated by darker blue). It should be noted that some of these facilities are located outside the 60-minute drive time for the population that we examined; so, although they are available, they are potentially less accessible to those in need. However, as shown in Figure 4.25, when these VAMCs and VA-affiliated facilities are removed, the availability of treatment facilities that serve veterans and offer co-offering disorder programs is slightly sparser (i.e., many of the blue areas are shaded more lightly in Figure 4.25, indicating less density of facilities). This may reinforce the importance of the access to care that VAMCs and VA-affiliated facilities provide for veterans with co-occurring disorders.

Figure 4.24
Mental Health Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans, with VA Medical Centers or Affiliated Facilities Overlaid

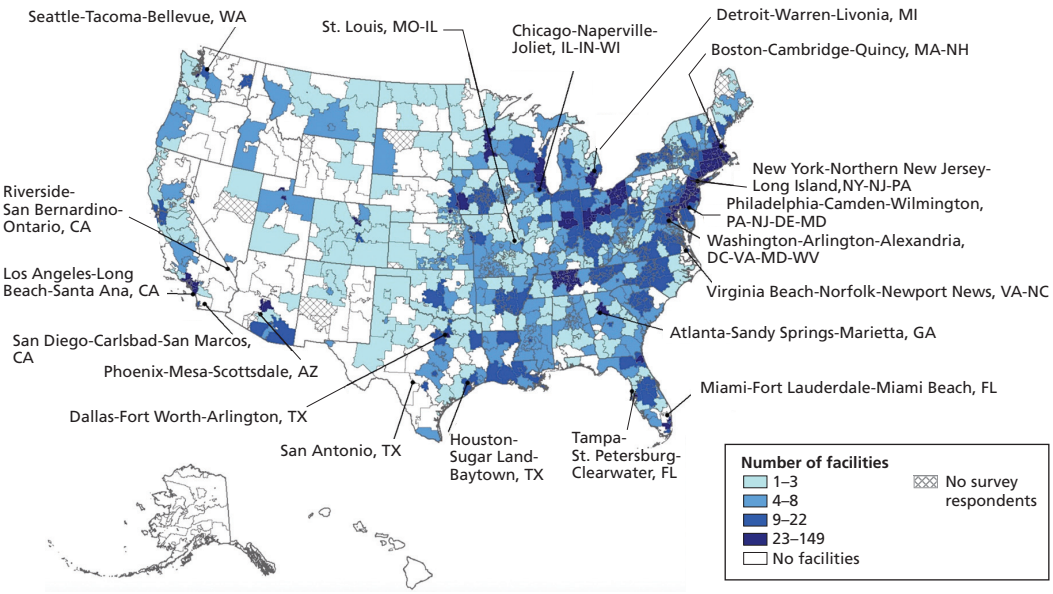


NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids..

We see a similar pattern when looking at substance use treatment facilities. Figure 4.16 showed substance use treatment facilities with a specialized co-occurring disorders program and specialty programs for veterans within a 60-minute drive time of WWP Alumni Survey respondents three-digit zip code centroids. Figure 4.26 shows the same map with VAMCs and VA-affiliated facilities overlaid, and Figure 4.27 shows this map with these facilities removed. Again, without these facilities, the availability of treatment facilities that serve veterans and offer co-occurring disorder programs would be slightly sparser, as indicated by the blue areas becoming less apparent with lighter shades of blue indicating less density of facilities featured more prominently. This is more difficult to see in the substance use treatment facility maps, which highlights that VAMCs and VA-affiliated facilities are available for veterans, but non-VA facilities are also widely available.

These maps help to illuminate the availability of VAMCs and VA-affiliated facilities for the WWP population. Looking at the 2019 Alumni Survey respondents as a whole, nearly all had access to at least one VAMC or VA-affiliated facility within a 60-minute drive time. Within the 60-minute drive time of the centroid of the three-

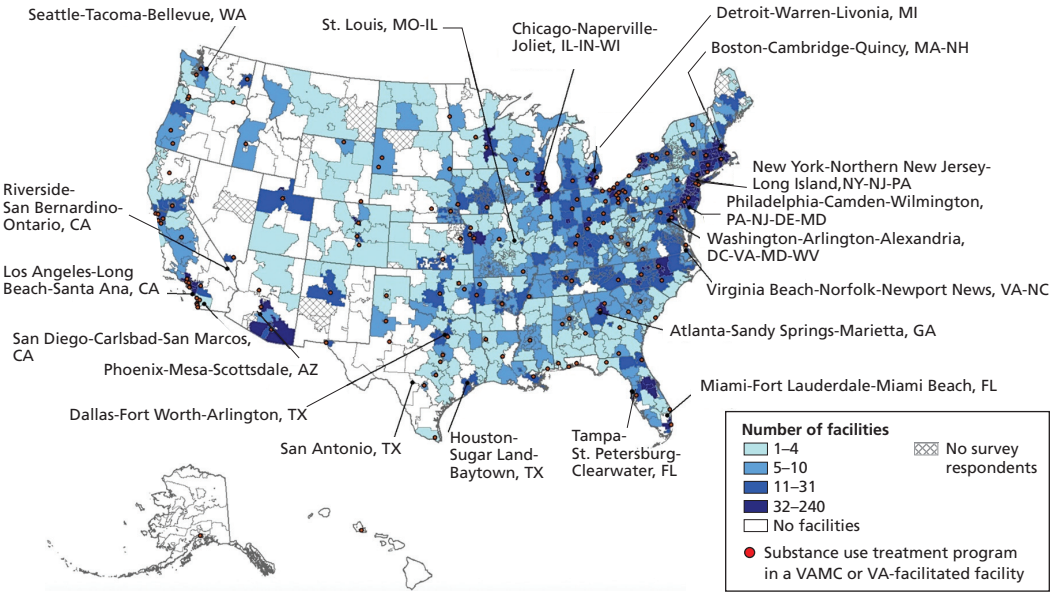
Figure 4.25
Mental Health Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans, Not Including VA Medical Centers and Affiliated Facilities



NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

digit zip code, 95.3 percent of the 2019 Alumni Survey respondents had access to a VAMC or VA-affiliated mental health treatment facility and 96.1 percent of the 2019 Alumni Survey respondents had access to a VAMC or VA-affiliated substance use treatment facility. Even when looking at the 30-minute drive time of the centroid of the three-digit zip code, most had access to a VAMC or VA-affiliated mental health treatment facility (88.1 percent of survey respondents) or substance use treatment facility (89.3 percent). It should be noted that according to VA (VA, 2019), one criterion for receiving VA-paid care outside a VAMC or VA-affiliated facility is that one falls outside the access standard for accessibility to specialty care (more than a 60-minute drive time) or primary care and mental health care (more than a 30-minute drive time). Thus, most of the WWP veterans in the 2019 Alumni Survey population would not be eligible to receive VA-paid care at a non-VAMC or VA-affiliated facility based on the drive time standard alone.

Figure 4.26
Substance Use Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans, with VA Medical Centers and Affiliated Facilities Overlaid

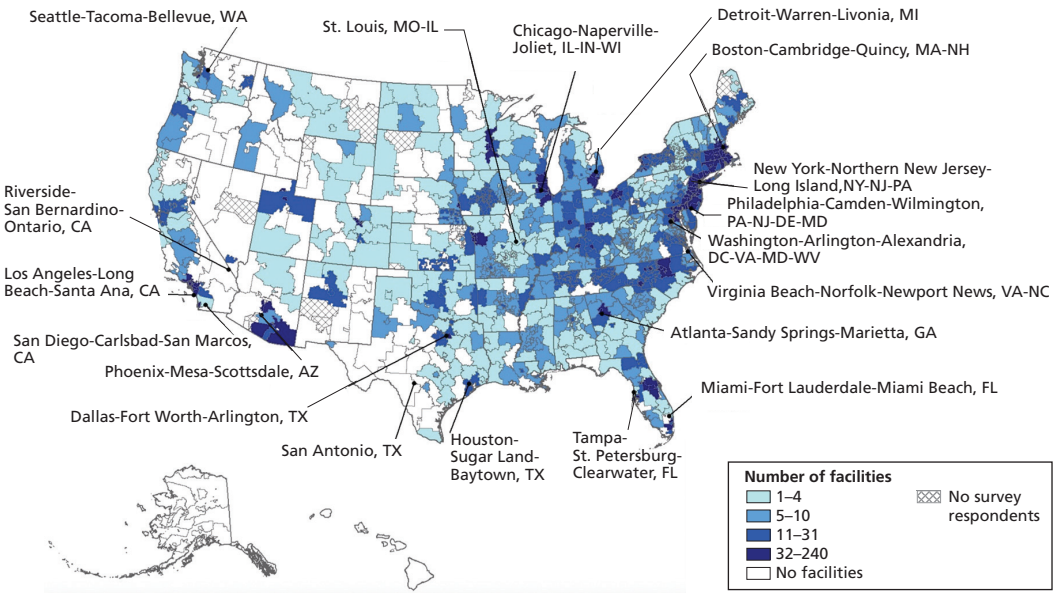


NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Availability of Telehealth Services

The availability of telehealth services is important for multiple reasons. Veterans who live in rural areas may not be able to access services in person. Our analyses indicate that mental health and substance use treatment services were generally available within 60-minute drive times for most WWP survey respondents, but that may still be too far of a drive for some. Only about half of this population had access to such facilities within a 30-minute drive time (see Appendix B), and the more specialized the treatment requirements became, the less available they were. As we described in detail in Chapter One, many barriers may preclude veterans from receiving services. Thus, telehealth may be an option for veterans who may not have received care otherwise. In addition, the 2020 novel coronavirus (COVID-19) pandemic made it clear that telehealth services can play an essential role in initiating mental health and substance use care for new patients and ensuring continuity of care if in-person appointments are not feasible.

Figure 4.27
Substance Use Treatment Facilities with a Specialized Co-Occurring Disorders Program and a Specialized Treatment Program for Veterans (Not Including VA Medical Centers or Affiliated Facilities)



NOTES: Darker blue shading indicates increasing availability of facilities within a 60-minute drive time from the centroid of 2019 WWP Alumni Survey respondents' three-digit zip codes. White areas had no facilities within a 60-minute drive time. Areas with a hatch pattern had no survey respondents residing in them. Core-based statistical areas (CBSAs) with 200,000 or more veteran residents, according to the VetPop data, are labeled on the map, with the lines pointing to the CBSAs' centroids.

Telehealth services for veterans with co-occurring disorders are available but limited. Just about one-third (1,788) of the 5,638 mental health treatment facilities with specialized programs for PTSD and co-occurring disorders also offered telehealth services for veterans (see Table 4.2). However, of the 360 facilities that were either VAMCs or VA-affiliated facilities and offered telehealth, the majority (76.1 percent) also offered specialized treatment services for PTSD and co-occurring disorders. Looking at substance use treatment facilities, only 1,289 of the 9,496 (13.6 percent) substance use treatment facilities with specialized trauma and co-occurring disorders programs offered telehealth services for veterans (see Table 4.2). Only 61 facilities were either VAMCs or VA-affiliated facilities and offered telehealth services, but most of them (90.2 percent) also offered specialized treatment programs for trauma and co-occurring disorders. It is important to note that some forms of SUD treatment cannot be provided via telehealth (e.g., detoxification services), and telehealth resources can be expensive to provide. However, these services were generally available to 2019 WWP Alumni Survey respondents who needed programs to address co-occurring disorders—more so among mental health treatment facilities. It should be noted that we conducted

the analyses of the databases prior to the COVID-19 pandemic, at which point access to telehealth likely became much more prevalent. An examination of facilities offering telehealth options to veterans before and after March 2020, when the large migration to telehealth would have occurred, is an area for future exploration.

Summary

In this chapter, we examined the availability of mental health and substance use treatment services for veterans with co-occurring disorders. We focused primarily on veterans with PTSD and those who also needed care for SUDs. Using zip code data from WWP's All Warriors database and WWP Resource Center call logs, we found that the average five-digit zip code was well within a 60-minute drive time from the nearest mental health or substance use treatment facility with a specialized treatment program for co-occurring disorders that also served veterans. Thus, on average, these veterans had relatively good geographic access, based on the VA access standard of a 60-minute drive time to a specialty provider and a 30-minute drive time to a mental health provider. In contrast, VAMCs and VA-affiliated facilities were substantially farther away. For example, the centroid of veterans' zip codes in the WWP data had an average 15–16 minute drive time from the nearest mental health or substance use treatment facility that offered co-occurring mental health and substance use treatment programs for veterans. Veterans had to travel much farther to access co-occurring disorders programs at VAMCs or VA-affiliated facilities (57–66 minute drive time).

There was a similar pattern for veterans who discussed PTSD during WWP Resource Center calls or screened positive for PTSD on the 2019 Alumni Survey: Availability was less dense around alumni's zip codes as treatment requirements became more specialized. For example, 85.3 percent of survey respondents who screened positive for PTSD had a mental health treatment facility with a specialized co-occurring disorders program within a 60-minute drive time of the centroid of their zip code, but only 31.1 percent of these respondents had equivalent access to a mental health treatment facility with a specialized co-occurring disorders program and a specialized PTSD program that served veterans. Once we looked at VAMCs and VA-affiliated facilities, the density declined further. Although WWP Resource Center call logs were helpful in determining access in the areas where the calls originated, we were able to review them only for mentions of PTSD or substance use problems. We were not able to determine whether callers had obtained a diagnosis or screened positive for PTSD or alcohol/drug misuse. The 2019 WWP Alumni Survey data did allow us to determine the approximate locations of respondents with positive screens for PTSD and alcohol/drug use misuse among the 2019 alumni survey respondents.

We also found that at least three-quarters of survey respondents had a mental health treatment facility within a 60-minute drive time from the centroid of their three-

digit zip code that had a specialized treatment treatment program for co-occurring disorders, a specialized program for PTSD/trauma, and a specialized treatment program for veterans. Thus, these veterans had access to a mental health or substance use treatment facility at a level matching VA's geographic access standards. Even when we examined facility availability within a 30-minute drive time, we found that most of these veterans had access to a mental health or substance use treatment facility, including those with a specialized treatment program for co-occurring disorders. It became clear when we removed VAMCs and VA-affiliated facilities from our heat maps that VA is an important provider for ensuring access to co-occurring PTSD and SUD care for veterans.

Perhaps most importantly, we found that the majority of 2019 WWP Alumni Survey respondents who screened positive for PTSD and for PTSD and alcohol/drug misuse lived within a 60-minute drive of a treatment facility with a specialized treatment program for co-occurring disorders, a specialized program for PTSD/trauma, and a specialized treatment program for veterans. Similarly, the majority of 2019 WWP Alumni Survey respondents who screened positive for depression lived within a 60-minute drive of a treatment facility with a specialized treatment program for co-occurring disorders and a specialized treatment program for veterans. Thus, the respondents in most need for co-occurring treatment services had relatively convenient geographic access to those services.

Although the analyses presented in this chapter offer insights into geographic access for veterans with co-occurring disorders, this component of our study had several limitations due to the constraints of the data used for analysis. First, the mental treatment facility data were restricted to mental health treatment facilities that agreed to be listed in the SAMHSA's National Directory of Mental Health Treatment Facilities and had completed the previous year's N-MHSS. Similarly, the substance use treatment facility data were limited to licensed providers that completed the previous year's N-SSATS and agreed to be listed in the National Directory of Drug and Alcohol Abuse Treatment Facilities. Second, neither the mental health treatment facility data nor the substance use treatment facility data included the locations of physician, psychiatrist, or therapist offices. This is an important omission. For example, for those with OUD, the data did not include buprenorphine-waivered physicians, and, in the case of mental health treatment facilities, they did not include individual psychiatrists, psychologists, or social workers. Third, each of the distances reported in this chapter was based on the centroid of survey respondents' three- or five-digit zip code. Zip codes are a relatively coarse measure (i.e., not as refined as a residence address) and may not accurately represent the availability of treatment facilities within a community. Future work is needed with more-detailed data on where veterans reside to more accurately quantify the availability of specialty providers. Fourth, the data lacked accurate measures for the capacity of the treatment facilities, as well as the quality of care that they provide. An important caveat to these findings is that although veter-

ans had access to treatment facilities that offered care for veterans with co-occurring disorders, it is unclear from our analyses whether the care offered was culturally competent care (i.e., whether providers in non-VA settings had the knowledge and skills to treat veterans and their unique needs), whether treatment offered considered veterans' preferences (e.g., same gender groups, veteran providers), and whether harm reduction or abstinence philosophies were followed. Fifth, there are additional components of access that this section did not examine, including financial access. Future studies should explore whether veterans are able to access a treatment facility that accepts their form of insurance. Finally, our measures of PTSD, depression, and alcohol misuse were based on self-reports in the survey data.

Although it is clear that veterans have geographic access to mental health and substance use treatment services, the analyses in this chapter do not account for important issues related to capacity (space availability) or the quality of treatment programs. It is not known whether these facilities offer any of the evidence-based treatments described in Chapter Three. The SAMHSA databases do not provide sufficiently detailed information to identify evidence-based treatments. Thus, to better understand the types of treatments that veterans are receiving, and to characterize the associated barriers and challenges that both veterans and providers face, we conducted a series of interviews and site visits at facilities that offered co-occurring disorders programs for veterans. We present our findings in the next chapter.

CHAPTER FIVE

Perspectives and Experiences of Treating Co-Occurring Disorders

In this chapter, we detail the methods and findings from a series of in-person site visits and telephone interviews with a range of representatives from mental health and substance use treatment facilities that provide treatment to veterans with co-occurring disorders. The goal of this qualitative research was to collect firsthand experiences and perspectives on how treatment approaches are enacted in practice and to illuminate how providers and directors navigate the on-the-ground realities of providing care for this complex issue. The findings from these interviews and site visits, coupled with our literature reviews and mapping of treatment facilities, informed our list of recommendations for WWP in the next chapter.

Sampling Procedure

We took a multipronged sampling approach to ensure wide representation geographically and across types of treatment approaches offered, payment models, and salience to the WWP populations of interest. We began with iterative discussions with WWP staff regarding sites they had deemed of interest and with which they had either established contact or planned to do so.

We then created a database of mental health and substance use treatment facilities using the National Directory of Mental Health Treatment Facilities (SAMHSA, 2019b), the National Directory of Drug and Alcohol Abuse Treatment Facilities (SAMHSA, 2019a), and the SAMHSA Behavioral Health Treatment Services Locater database (SAMHSA, undated). This database identified the type of evidence-based treatments offered, specific subpopulations served (including the facility claimed to treat military and veteran populations), payment models, and geographic location. Because of the large size of this database, we randomly selected a subsample of this database to help facilitate purposive sampling that achieved representation across these variables of interest. The team then collaboratively reviewed this subsample, which we stratified by the variables mentioned above, and identified facilities that together achieved representation across the variables. We supplemented this process with targeted web searches

to identify facilities in geographic areas that were underrepresented in our database. Finally, we employed a referral sampling approach (also known as "snowball sampling") by asking directors and staff whom we interviewed whether there were other facilities they would recommend including in the sample. In addition, we sought out treatment facilities that either (1) emphasized mental health disorders but were equipped to offer care for SUDs or (2) emphasized SUD care but were equipped to offer care for PTSD. In other words, not all facilities offered strictly co-occurring disorders treatment programs, but all noted being able to accommodate SUDs and mental health disorders to varying degrees.

The following inclusion criteria guided our purposive sampling approach:

- geographic region, with a particular emphasis on regions with a high concentration of veterans
- facilities that explicitly offered care for co-occurring SUDs and PTSD (i.e., those that did not exclude patients with SUDs from PTSD care)
- facilities that offered medication-assisted treatment (MAT) for SUDs
- facilities that offered evidence-based treatments identified in our literature reviews (e.g., Seeking Safety, PE, CBT) or multicomponent models
- facilities that were explicit in having an abstinence-based (including 12-step models) or harm-reduction approach
- facilities that offered treatment programs exclusive to military and veteran populations, programs for veterans and first responders, and programs for mixed veteran and nonveteran populations
- facilities with gender-specific programs
- facilities with specific inpatient, outpatient, and detoxification programs
- facilities that offered scholarship programs for veterans with inadequate coverage
- VAMC or VA-affiliated facilities
- facilities that had established working relationships with VA
- facilities that addressed co-occurring mental health disorders and SUDs irrespective of whether they focused primarily on mental health or substance use treatment.

Contact with treatment facilities was initiated either by email from WWP or through a phone call or email from a member of the RAND research team. Potential interviewees were provided with a brief description of the study aims and an explanation of consent. We additionally performed follow-up calls with numerous facilities to provide more details on the purpose of the visit. Three follow-up attempts were made before a facility was deemed nonresponsive.

We recruited 35 facilities to join the study, of which we expected to talk to about 15 to 20. This number was selected based on prior work suggesting that we would reach saturation of themes with this many facilities. Of the 35, three agreed to partici-

pate but were then unable to do so because of scheduling conflicts. Six others expressed initial interest but were then unable to participate in light of the COVID-19 pandemic that began in March 2020. We left voicemails and emails with an additional ten facilities but did not receive a response.

The final sample included 16 facilities, which represented the array of treatment center characteristics we aimed to explore. We conducted interviews and site visits from August 2019 to March 2020. Representatives from the facilities included program directors, medical directors, members of the executive staff (e.g., chief executive officer, executive clinical directors), a range of providers, human resources directors, patient outreach coordinators, and operations staff. We interviewed 72 representatives in total. We talked to four or more representatives at 12 facilities and two representatives at one facility; at the remaining three facilities, we spoke to the clinical director, chief executive officer, or veteran-specific program director. Eleven sets of interviews were conducted during the course of site visits, and five sets of interviews were conducted via telephone. Table 5.1 characterizes the facilities included in the final sample.

Interview Instrument Development

We designed a comprehensive semistructured interview protocol to capture a range of experiences, perspectives, and approaches to treating co-occurring disorders. The protocol was co-created by members of the research team with expertise in the field.

The protocol covered the following domains:

- organizational factors
- descriptions of the patient population
- descriptions and modulations of their programs
- systems-, provider-, and patient-related challenges
- desired changes to improve the provision of treatment for co-occurring disorders.

It was designed to be flexible, depending on the respondent's role. For example, some respondents were better positioned to answer questions related to insurance payment procedures, while others could speak in depth to treatment modalities and challenges faced by their patient populations.

Data Analysis

We took detailed notes (verbatim when possible) during interviews and site visits. We then uploaded these notes into Dedoose, a qualitative data analysis program that facilitates team-based coding (SocioCultural Research Consultants, 2020). We recorded

Table 5.1
Characteristics of Sampled Facilities

Characteristic	Number of Facilities	% of Facilities
Geographic region		
Northeast	3	19
Southeast	2	12
Southwest	5	31
West	3	19
Midwest	2	13
Multiple locations	1	6
Type of treatment[a]		
Inpatient services	9	56
Outpatient services	7	44
Intensive outpatient services	10	62
Detoxification services	12	75
Residential	8	50
Partial hospitalization	5	31
Veteran treatment track		
VAMC	3	19
OEF/OIF male veterans only	1	6
Female veterans (all eras) only	1	6
OEF/OIF veterans only	4	25
MST-specific programming	3	19
Veteran, active military, and/or first responder only	1	6
Veteran, active military, and/or first responder and general patient population (dual tracks)	7	44
Veterans blended with nonveterans	1	6
Insurance accepted (non-VA facilities)[b]		
TRICARE	11	69
Private insurance	13	81
Medicaid	5	31

Table 5.1—Continued

Characteristic	Number of Facilities	% of Facilities
Facility focus		
SUD	6	37
Mental health	5	31
SUD and mental health[c]	5	31
Abstinence-focused SUD program	5	31
Harm-reduction SUD program[d]	9	56
Unclear	2	13

[a] Facilities offered multiple types of treatment.

[b] These classifications were identified using the following data sources: National Directory of Mental Health Treatment Facilities (SAMHSA, 2019b), National Directory of Drug and Alcohol Abuse Treatment Facilities (SAMHSA, 2019a), and the SAMHSA Behavioral Health Treatment Services Locater database (SAMHSA, undated).

[c] The three VAMCs are included here because the facility focuses on both SUD and mental health care; however, only one of the VAMCs in our sample offered a fully integrated program.

[d] A facility may have had an abstinence-based program but included practitioners who were willing to offer harm-reduction approaches. These facilities are included with the harm-reduction focused SUD programs.

the interviews when we were able to secure the consent of our interviewees, helping us ensure the accuracy of our notes.

We developed a codebook based on the questions in the interview protocol and key research questions identified in our literature reviews, such as whether veteran treatment groups should be blended with nonveteran groups and how treatment approaches are enacted in practice.

Each set of notes was coded independently by a member of the research team trained in qualitative methods who also had sufficient expertise to identify key themes. The identification of themes followed Butler-Kisber's (2010) approach, which involves two core stages of analysis, beginning with a coarse-grained phase to broadly classify emerging themes. We additionally identified themes through repetition and specificity (i.e., similarities and differences among and within case studies), metaphors and analogies used, and existing knowledge of issues related to health service delivery in underserved populations (Ryan and Bernard, 2003).The second phase of this analysis—the fine-grained phase—included examining the pieces of data more closely and isolating specific words, phrases, and ideas that represented larger themes.

Themes from Our Interviews and Site Visits

In an overarching sense, treatment protocols for co-occurring disorders are like veterans—as one provider put it, "If you have seen one, you have seen one," meaning, there is no one-size-fits-all approach to treating co-occurring disorders among veterans. Rather, the goal is to seek an ideal match for each veteran, understanding that these ideals are shaped by a range of patient-, provider-, and system-level constraints. The following descriptions present salient themes from the qualitative data. High-level summaries of these findings are included with the section subheadings.

Population and Provider Themes

Group Composition

Summary: *There are advantages and disadvantages to having heterogeneous groups within therapy and post-9/11 veterans may benefit from mixed group settings. Offering post-9/11 veterans various options for group therapy, where possible, may help be responsive to the multiple backgrounds, trauma histories, and treatment preferences among veterans.*

All the treatment facilities offered some type of group treatment, either exclusively or as an adjunct to individual treatment and case management. Thus, one central issue surrounding the care of co-occurring disorders among OEF/OIF veterans was the appropriate composition of therapy groups. The dynamics of a treatment milieu often depend on a group's size and degree of heterogeneity, and, as treatment providers noted, striking the right balance can often reflect the *art*, rather than the science, of therapy.

Facilities in our sample offered multiple types of groups for veterans based on available resources and need, including men-only cohorts for veterans of all eras and first responders (including law enforcement); women-only groups that were a mix of veterans and nonveterans; men-only cohorts with post-9/11 combat veterans; groups for veterans (mixed-gender) of all eras along with first responders; groups for veterans of all eras alongside active-duty military personnel and first responders; women-only cohorts of all eras; mixed veteran and nonveteran groups; and veteran-only (all eras, genders, and types of trauma) tracks coupled with parallel general population tracks (e.g., religious, LGBTQ [lesbian, gay, bisexual, transgender, queer/questioning], anger management).

If a facility were to separate groups to too great a degree by gender, era, trauma type, type of SUD, and degree of integration with nonveterans, the groups could quickly become too small to justify their continuation. Many facilities had experimented with creating more-granular veterans' groups, but, because of low patient numbers, they eventually had to merge groups. In addition, representatives from multiple facilities noted that disentangling types of trauma is rarely straightforward: "With veterans, having multiple traumas throughout the lifespan is the norm, not the exception."

Furthermore, facilities noted particular advantages in not separating groups, such as building understanding and respect between veterans and nonveterans. In addition, some facilities allowed patients to sit in on groups prior to participating, while others asked patients to wait for a period of time (e.g., two weeks) after arriving at the facility before joining a group so as to not disturb the existing milieu. Other non-VA facilities placed veterans on veteran-specific and general patient tracks in parallel. Several of these options for group types—and their benefits and drawbacks—are described in this section.

Combat-Related Trauma Groups

As discussed, WWP alumni exclusively consist of post-9/11 veterans. One key point of consideration for this population is the group dynamics of blending veterans presenting with combat-related trauma from different eras (e.g., Vietnam War veterans with OEF/OIF veterans).

Perspectives and experiences on this topic varied. A clinical director at a private facility noted, "It's a brotherhood. IEDs [improvised explosive devices] and boobytraps are synonymous. They [veterans of all eras] all speak each other's language." This director emphasized the appreciation of the OEF/OIF for Vietnam veterans, who they say their advocacy paved the way for PTSD and addiction treatment. He added, "They look at the Vietnam veterans and think, 'This is how my life could have turned out,' and feel motivated to change younger in life."

One VA therapist touched on the gender aspects of this dynamic, noting that "Women appreciate the intergenerational lessons learned" from veterans of other eras, whereas men-only combat trauma-related groups should be separated by era, since the source of the trauma was considered vastly different. This was echoed by another VA clinical director, who stated that the importance of having a shared understanding of the "technical aspects" of combat is critical. Without it, "Combat veterans can get cliquey and uppity," oftentimes *othering* those who have not endured OEF/OIF-related combat trauma. Even among post-9/11 male veterans who had deployed, one VA therapist lamented the way that one veteran who did not see direct combat had been "ridiculed" by the other veterans, despite the fact that his deployment required him to regularly endure witnessing horrific scenes of combat on closed-circuit television.

In addition, a VA psychiatrist recounted that he did not feel as though he received respect from his patients until he deployed to a combat zone. Clinicians at another VA found it impractical to operationalize different treatment groups based on era, noting, "When younger and older vets are mixed, sometimes it works, sometimes it doesn't. . . . It's overall hard to predict cohesion with groups."

It is also important to reiterate that combat-related trauma is seldom the only type of trauma a veteran, regardless of gender, is facing. In fact, it was noted to be common that male veterans present with childhood physical traumas and MST, but they rarely discuss this in combat-related trauma groups. One veteran therapist at a private facil-

ity was astonished by how many men had revealed MST within male-majority therapy groups, which the therapist attributed to the positive camaraderie and trust within the group. A representative from a VA-affiliated residential program described successful efforts to address MST and combat-related trauma in group treatment but would not recommend it as part of an outpatient program. This may be a factor of the "comfort in being together in close quarters" in a residential program.

Four private facilities offered programs specific to veterans, active-duty military, and first responders, or to just veterans and first responders. It is important to note that many first responders who were in these treatment facilities were also veterans. These four did not mention issues specific to mixed-group milieus and instead noted that there is shared respect and understanding among military and first responder "cultures." A clinician and chief operating officer from a private behavioral health facility that had made its active-duty military program available to to veterans and first responders described the "acceptance, natural understanding, and shared experience that they can related to. There have not been a lot of 'us-versus-them' struggles." This interviewee added that there are also commonalities among those who are experiencing mental health issues and those with SUDs. One clinical director emphasized that blending different types of traumas among military, veteran, and first responder populations can be a "positive form of exposure therapy." This clinician reported actively trying to get patients to see the obstacle of hearing someone else's trauma or sharing individual traumas within a group as an opportunity for growth.

One facility that specialized in treating special operations and other elite military personnel described its efforts to minimize differences among veterans, noting, "It's good for them to absorb a little humility." The clinical director of this facility urged veterans to "lead with their addict identity, and not their special operations identity" to foster recovery. At the same time, he said he motivates his patients by reminding them that they once used their character strengths to their success, and they should apply these strengths to their "six- week therapeutic path" for co-occurring SUDs and PTSD.

Several facilities leveraged the commonality of cultural symbols and insignia across military and first responder groups to enhance the group experience. This included offering challenge coins to program graduates for sustained sobriety, establishing "battle buddy" programs, and outfitting treatment facilities in U.S. flags and hero motifs.

Going forward, post-9/11 combat-trauma groups will likely have to consider the rising number of women with combat-related trauma. A therapist supporting a women-only VA group felt that a patient with combat-related trauma who is in a group with others who have experienced MST may feel out of place or worse: "There can be a *Mean Girls* phenomenon," this therapist said in reference to the 2004 film about the damaging effects of high school girl cliques, and noted that women *othering* or outright bullying others within a group has been grounds for discharge from their therapy

groups. It is perhaps notable, if unfortunate, that the mockery observed among combat veterans toward noncombat veterans was not seen as grounds for dismissal in the men's therapy groups we learned about. In any case, the issue of purposefully creating animosity and belittling those in therapy requires additional attention.

In sum, addressing combat-related trauma is necessary but perhaps not sufficient when trying to approach the root causes of one's mental and behavioral health concerns.

Women's Groups

As reflected in our literature reviews, separating groups by gender is a complicated topic, and it generated mixed responses from representatives in our sample. Among facilities that offered mixed-gender programming, women were always the minority, hovering around 5–10 percent of the group—a function of the U.S. military and veteran population being composed primarily of men. Another challenge among women veterans identified in our literature reviews was that both veteran and nonveteran women are more likely to significantly delay seeking treatment for SUDs and/or trauma, reflecting the need to deal simultaneously with childcare, as well as decades of maladaptive strategies (substance use among them) to cope with long-standing trauma.

In addition, women's trauma was almost always equated with MST, which does not adequately reflect the range of mental and behavioral health issues faced by women veterans. This perspective also excludes the fact that men also struggle with MST. That being said, on average, more than 75 percent of patients in a women-only VA group reported MST, and the other quarter report childhood trauma, other forms of sexual trauma, or intimate partner violence. One therapist at a private substance use treatment facility, herself a combat veteran, was actively trying to create an MST track. However, the executive clinical director of the facility lamented that, while important, it may not be feasible given low numbers: "Unfortunately, we can't build an entire program around four patients. It's hard to get veterans in for treatment, but it's *really* hard to get female veterans in."

We added one VA facility to our sample after other interviewees referenced its MST-specific track; however, when we spoke to representatives from that facility, we learned that it had actually discontinued that track as part of a motivation to remove "siloed" approaches to treatment. An MST coordinator could refer patients to groups outside VA, but, as a clinician noted, these referrals could often be a "black box" and there is no "published rubric" for treatment plans. As a result, MST is often addressed in individual therapy.

Addressing MST through individual therapy was an approach echoed by a director of military programming for a network of addiction and behavioral health facilities that had tried gender-specific groups. Another private facility separated men's and women's residential programs on the basis of MST prevalence among women. Still another clinical director noted that many women did not want to be identified as

sexual trauma survivors. Although women may be initially apprehensive to join groups with men, she found that "They are able to process more instead of stewing on it and building it into something." In addition, "When women leave, they're going to get on a plane next to a man or work next to a man in their next job." Thus, it can be a positive form of exposure therapy for women to be in a group with men. This was corroborated by another VA clinician who noted, "Some of the female veterans report finding it therapeutic to be in groups with men; they group more comfortably with men." Poignantly, another VA therapist observed that women-only groups can be difficult for some participants, as their military identities coupled with their trauma have led them to "reject their own femininity."

A different clinician at the same VA facility added, "Co-ed groups just haven't gone anywhere!" With that, some representatives reported that women have tried to deal with their trauma in groups with male veterans but then eventually came to the women-only program through VA. One clinician noted that women can, at times, be disruptive in mixed groups because they "often have chaotic lives and need more help and specialized care." One reason for the complexity of care required by women veterans could be the co-occurrence of not only SUDs and mental health disorders but also long-standing complex trauma and behavioral addictions, something that was reported by multiple interviewees.

Finally, experiences with stranger and sexual harassment at VA can lead to delayed and missed treatment among women (Klap et al., 2019). To overcome this problem, one VA facility in our sample was in the process of expanding telehealth modalities for women with co-occurring disorders, which may help improve access to care for women veterans. VA is actively taking steps to make its facilities more accessible to women, such as through its End Harassment campaign. However, in general, it is important that all treatment facilities ensure that policies and practices are in place to create inclusive and nondiscriminatory environments for their patients.

Blending Veterans and Civilians

The most significant point of disagreement in approaches to group composition surrounded the question of whether to separate veterans from nonveterans. Regardless of where respondents stood with regard to the question of whether veterans and nonveterans should be blended in therapeutic contexts, they felt strongly about their viewpoint.

One CEO of a private facility that offers a veteran and first responder–specific program and several programs for general patient populations stated, "You've got your door kickers and meat eaters and they just don't relate to civilians. When they're with their peers, there's accountability and trust. What drove them into service was their heart, conscientiousness, ethos to serve, and will to be a sheepdog and help people." Another clinical director of a veteran and first responder program emphasized the need to respect military and first responder culture and to foster a peer environment that "understands that honor and pride," adding, "You wouldn't put a cop with the same

kid that he just busted for meth possession, right?" A group of clinical and executive directors at a private clinic echoed this point, noting that "Veterans like being with other veterans, a good portion of whom are still active in the Coast Guard and as reservists. There's a baseline comfort of having others there. They are invested in each other making it through treatment."

Residential facilities where veterans were mixed with nonveterans recounted challenges, especially with veterans who clung deeply to a military mentality and thrived on hierarchy, structure, and a "mission-centric" perspective. To a host of providers, some veterans appeared to be comfortable being in mixed-group settings, while others found that blending populations is most effective if there is an equal mix of veterans and nonveterans within a group. A director of military programming for a network of addiction and behavioral health facilities described the complications of mixed groups, which "can be an advantage for some, but for others, their biggest struggle is assimilation. And they're angry, and you need to get them to understand that they have more in common with the people down the street than they think they do." Representatives from one private facility that draws several patients from VA noted that "[Some] veterans demand respect [from nonveterans]. They want people to understand what they've done for their country," while others do not want to be tied to their military identity and want to process their trauma among nonveterans. A clinical director of military programming at a private facility noted that veteran-only groups can do a disservice if they reinforce to veterans that "No one can understand you if they didn't go to war." This interviewee added, "It's really about where the veteran is mentally and whether the groups reinforce their challenges or help them cope with them."

Other non-VA facilities placed veteran patients into two tracks: a veteran-specific track and one mixed with nonveterans. As one therapist noted, "It is very easy for veterans to hide behind the uniform." However, because every veteran inevitably has to interact with nonveterans, the therapist's facility had structured its treatment environment to "build in that exposure and to prevent isolationist tendencies." It also sought to foster relationship growth and help veterans understand appropriate times to share and communicate their unique forms of trauma and when doing so may be inappropriate. This was echoed by a clinician, also a veteran, who noted the importance of "building an emotional connection with civilians." Another clinical director of an active-duty military, veteran, and first responder program found it useful to "integrate with civilian culture" through weekly outings. The program strived to weave together veteran and civilian struggles while maintaining the "safe space of a dedicated unit."

On the other end of the spectrum, another clinical director was adamant about blending veterans and nonveterans, so much so that she would not have two veterans in the same group. Veterans make up approximately 5 percent of her patient community and follow the same treatment protocol as nonveterans. "Veterans have to learn how [to have] tolerance for civilians. They need to deal with people who are messy. The world is messy." This interviewee added, "We know they're coming with a different type of

trauma. I don't want the veterans to feel different. They need to feel like a part of the community."

It is important to note that four private facilities, only one of which treated a veteran-only patient population, specifically mentioned addressing co-occurring LGBTQ-related trauma and SUDs. A representative from one facility reported, "It is an area we can improve on." Two other facilities that blended veteran and nonveteran groups reported having protocols in place and programming available to ensure that all LGBTQ patients feel safe and comfortable. Clinical staff at a facility that was providing care for an LGBTQ veteran at the time of the site visit mentioned that solidarity among veterans in group therapy was strong, and that the patient also benefited from working with a group that was open to all participants in conjunction with veteran-specific groups. Given this, LGBTQ veterans may find benefits in seeking treatment in facilities with both veteran and nonveteran tracks, where there may be adequate patient numbers to attend group therapy in both veteran-related and LGBTQ-related settings. We asked about LGBTQ issues, but specialized groups or services for these veterans were not typically offered.

Patient Reluctance to Seek Care and Transition to Civilian Life

Summary: *Treatment for co-occurring disorders can be impacted by a veteran's search for identity, purpose, and reintegration into civilian life post-military.*

Post-9/11 veterans face a multitude of challenges and barriers to care, leading one clinician to assert that they "have endured a lot more damage than other eras." In addition to co-occurring PTSD and SUDs, veterans are also often dealing with TBI, behavioral addictions (e.g., compulsive shopping, gambling), depression, anxiety, and personality disorders, as well as multiple physical health disorders, housing instability, legal issues, and persistent stigmatization. Several clinicians and therapists described issues of avoidance among veterans with co-occurring mental health disorders and SUDs. As noted earlier in this report, some veterans may avoid seeking treatment for PTSD and SUD out of fear of repercussions or harm to their careers or risk of losing a security clearance. Clinicians specializing in the treatment of women veterans noted an additional level of embarrassment or fear of judgment from others related to experiencing MST or childhood sexual trauma, and many said that patients avoided seeking treatment because they felt a need to put their families and childcare first. Some treatment programs are voluntary, but others are court-ordered or mandated through patients' employers. As one clinical director explained, "It's a lot of pressure if you're not ready for this level of care. If you were told to come here and don't think you have a problem, sometimes it works, sometimes it doesn't."

Another common theme in transitions back to civilian life was the "struggle to find one's identity, purpose, and create meaning in their lives beyond the military," in the words of one representative. "Many have trust issues or feel that no one else can

understand. Some have a bitter taste for the military after all that has happened to them." This calls attention to the importance of providers who can build trust within the therapeutic relationship and encourage veterans to be forthcoming about their health issues. One program director at a private facility added, "It's not that the veterans are trying to be deceptive; it's the way the question is being asked. If you ask them, 'Do you have a substance use disorder?' you may not get an answer. But, if you ask, 'What is the most disruptive thing in your life right now?' then they will answer that it is their substance use."

Provider Experience and Military Cultural Competency

Summary: *Military cultural competency among providers and staff is highly important and comes in different forms ranging from respect for those who served to formal trainings. Military cultural competency can be fostered through training sessions and reinforcing a sense of purpose.*

Provider Military Experience and Commitment to Those Who Served

In a field in which provider burnout and turnover are endemic, our interviewees made a point of noting the long-standing dedication among their staffs, from technicians and groundskeepers to clinicians and executive leadership. Several programs were initiated by veterans, some of whom had personally endured SUDs, mental health concerns, or both. Staff members, even those with whom we interacted only briefly during site visits, expressed the sense of purpose they received from their work with military and veteran populations. Said succinctly by a social worker at a private facility that specializes in co-occurring disorders among veterans and first responders, "Each of us has a purpose here. We are all clear on our 'why' here." Several facilities made an effort to hire clinicians and therapists with direct military ties, either as veterans themselves or as spouses or parents of military personnel or veterans. A therapist at a residential SUD facility highlighted the complexity of treating "our warriors," adding, "They are in deep distress. They are extremely uncomfortable with the internal maelstrom they are trying to manage. We bend over backwards for them, even when they are especially difficult. We have gratitude for their service."

Providers who were also veterans offered different perspectives on how much they incorporate their experiences into their treatment approaches. One therapist at a substance use and mental health treatment facility described his own travails with a SUD as a Vietnam War veteran. He believed that "Part of veteran PTSD comes from being totally removed from the *unit* mentality" and saw himself as a conduit for creating familiar terrain for veterans and fostering the "unit" or "tribe mentality." With that, he noted that he often refers to his own struggles in group therapy to build a sense of solidarity. Clinical directors at two other facilities chose not to draw on their own experiences in the military. One clinical director who deployed as a psychologist mentioned

not wearing their officer's jacket when treating patients, presumably to reduce the presence of a hierarchy within the patient-provider encounter.

Facilities and their parent organizations also shared a passion for helping veterans. Four private facilities reported offering scholarship programs for veterans who were unable to cover the full cost of their treatment or whose insurance covered only a limited portion of their treatment duration. A representative from a well-established psychiatric facility admitted that the "ideal is to treat everyone the same, but we do give special attention to veterans. We feel a special connection to them." An executive director who came to his current facility after being impressed by the staff's dedication to those who have served stated, "The *warrior* culture is intrinsic to all that is done here. Clients leave with a sense of worth as warriors and return back to their lives as sober, confident warriors—as husbands, brothers, friends, sons—they can reconnect with all parts of their identities."

Clinicians and therapists who participated in our study were deeply dedicated to their practice, in spite of many challenges they faced in delivering care to veterans with co-occurring disorders. "The burnout is *real*," one therapist affirmed as her two colleagues nodded in agreement. Cultivating healthy workplace environments through staff meetings that allow people to voice their concerns and challenges, along with genuine and kind outreach from leadership to all staff members (e.g., greeting people by name, having lunch with colleagues), appeared to be important for building cohesion and reducing burnout. In addition, several private facilities had teams handling the "bureaucratic red tape" by navigating payment issues, obtaining referrals, and ensuring appropriate lengths of treatment. One clinician at a private facility with a utilization review team said the team's function was "to ensure that there is no push and pull for clinical teams in terms of where they focus their efforts."

Although staff were enthusiastic about their devotion to their veteran patients, the challenges and burnout they reported experiencing were significant. However, these challenges appeared to be mitigated by facility-level provider support and fostering a sense of teamwork across all staff levels. For example, one CEO made it a point to engage with every staff member of the facility, from dining hall staff to payment administrative staff, taking time to greet each staff member directly by name. One private facility also offers staff regular "powers hours" to incorporate yoga, exercise, meditation, and other recreational activities into their work as a means of preventing burnout. The same facility also holds daily all-hands staff meetings where all are encouraged to participate in what they have deemed, "What I Feel Like Saying," which allows staff to "get anything and everything off their chest." Across facilities, interviewees concurred that there is no substitute for the wisdom, patience, and perseverance that comes from experience to assist with burnout and acceptance of the persistent challenges that come along with the demanding work.

Military Cultural Competency

Clinical directors described formal and informal strategies for training staff in cultural competency for veteran patients and instructing staff on the importance of understanding military culture, structure, and protocols. A host of facilities purposely sought to hire former service members. For example, a behavioral health facility hired a charge nurse and mental health technicians with military experience to ensure that patients could interact with other veterans on a regular basis.

A clinical program manager at the same behavioral health facility hosted a monthly session on understanding military culture and emphasized this during staff meetings. Another clinical director, who served as both the co-occurring lead and director of military and veteran consultation services, taught courses on military cultural competence in postsecondary psychology programs and provided guidance to staff informally.

Two leaders in staff training at a substance use treatment facility said that their first goal was to help staff understand that PTSD among veterans "is not like some warped Hollywood perception where people are constantly flying off the handle!" At the same time, staff were trained to be mindful to announce themselves when entering a room and to react with patience and compassion while minimizing PTSD triggers. Providers and staff at the facility were also "empowered" to "deescalate the situation in the moment" using common sense and not necessarily to wait for approvals or directives from leadership. A technician recounted a tense moment when a veteran began digging a hole for safety in the middle of the night outside his living quarters. The technician acted quickly to make the veteran feel safe and comfortable while being mindful of the difficult situation for the veteran. The same facility also provided veterans and first responders with a discrete label on their badges (or beds if they were still in detoxification). This was so staff can be mindful of potential PTSD triggers and mitigate acute reactions to potential triggers. Another facility tried to schedule follow-up appointments with veterans around traffic patterns, noting that PTSD can be triggered by traffic jams, as it can call up memories of being stopped in convoys surrounded by detonating improvised explosive devices.

Several respondents emphasized the need to be in tune with veterans' behaviors as markers of their overall health and well-being. For example, veterans have a reputation for making their beds; with that, representatives at three facilities mentioned checking on whether veterans had kept their rooms tidy. If the veterans had not done so, they made a point to check in on their current state of mental health. Clinical staff at one VA facility spoke about the need to be stoic and patient when male veterans in an inpatient trauma treatment program used gallows humor and mockery, often directed at the staff, to cope with their hardships.

In sum, cultural competency among staff stems from a natural appreciation and desire to give back to those who have served. Cultural competency includes not only having knowledge about the military culture (e.g., familiarity with terms, the

importance of hierarchy and structure) but also possessing attitudes and implementing behaviors that align with those of the veteran community. Fostering cultural competency can take multiple forms, from formalized informational sessions to individual meetings to help junior staff think through the best ways to show solidarity and be best attuned to the needs of their patient populations. Having more senior staff who have military backgrounds appeared to be an effective means of infusing cultural competency into staff training. As reflected in the literature, having clinical staff with military backgrounds can be an important facilitator to providing care to veteran populations.

Themes Related to Treatment Approaches

Although this report outlines a host of evidence-based treatment approaches for co-occurring disorders, we found that only a few facilities actually employed these approaches with a certain degree of fidelity to the model (i.e., facilities may have taken elements of certain treatment approaches or tailored and blended various treatment approaches). All but two of the facilities in our sample offered specialized treatment approaches for co-occurring SUDs and PTSD; the two facilities without specific co-occurring programs offered PTSD treatment programs and were willing to consider admitting patients who had not abstained from substances. In other words, treatment approaches, similar to group compositions, were rarely black and white. This section describes the "gray areas" within treatment approaches and the constraints that shape these approaches. The bulk of the discussion that follows centers on inpatient and residential programs, which are more aptly designed to match the severity of co-occurring disorders often observed among post-9/11 veterans.

Harm Reduction Versus Abstinence Philosophies

Summary: *Clinical perspectives on harm reduction versus abstinence treatment philosophies were polarized across facilities. Offering totally personalized treatment options across the board is not feasible; however, providers underscored the importance of tailoring treatment to the particular goals of a veteran.*

As noted in this report, substance use is a major barrier to accessing and adhering to mental health treatment. Those who are actively using or are in active withdrawal may be unable to fully participate in treatment or may interfere with group dynamics. However, abstaining from substances is difficult, especially for those whose only tool prior to treatment to handle distress from mental health disorders is to use substances. Thus, some providers use a harm-reduction approach for patients, in which any movement toward less use or abstinence is seen as a success. In theory, most facilities were abstinence-based, but even for abstinence-only programming, the lines between abstinence and harm reduction could be blurred. One trauma-specific treatment program for veterans was abstinence-only but purposely did not perform drug tests. Representatives from that facility saw drug testing as a breach of trust and a hindrance to a condu-

cive relationship between the veteran and the care team. That facility performs extensive evaluations prior to commencing treatment, and if it is determined that patients cannot abstain from using substances, they may be sent to a substance use treatment facility or to VA for detoxification services. If this was a necessity, the facility was mindful that detoxification should be completed well enough in advance of beginning trauma therapy so as to not have patients be in an active state of withdrawal. Three additional facilities with veteran-specific, trauma-based programs reported performing regular drug screens and being willing to take a veteran with a positive screen just prior to starting the program if the veteran has committed to remaining abstinent during the intensive outpatient program. Such facilities may also perform multiple tests to see whether a veteran is titrating down their use. A positive test during the program may not be automatic grounds for dismissal, but, rather, the clinical team might first work to set up additional support services, including connecting the veteran to local Alcoholics Anonymous meetings. The overarching goal of these approaches was to ensure patient safety and reduce any interference in group therapy settings and, as we heard from multiple facilities that followed harm-reduction models, "to meet people where they are."

The emphasis on "meeting patients where they are" was echoed by a psychiatric facility that emphasized abstinence and drew on peer support to encourage it but was still open to harm reduction on an individual basis. Another private behavioral health facility that provided both 12-step and Self-Management and Recovery Training (SMART) models had started as an abstinence-only facility but, based on increasing evidence and feedback from patients, opened up the option for harm-reduction approaches.

The philosophical standpoint of leadership can also dictate whether a facility or network of facilities follows an abstinence-only versus harm-reduction model. For example, one co-founder of a facility specializing in treatment for co-occurring disorders among veterans was an elite force veteran who found the 12-step model and the adage "one day at a time for the rest of your life" to be paramount in his personal recovery. Thus, the cornerstone of his facility's programing was the 12-step model, and every patient was encouraged to adhere to the program's "Big Book."[1] Program leads, however, noted that they were in the process of revamping their version of the 12-steps, as many patients preferred to not be "indoctrinated" in the religious approach to which the 12-step model is attributed. A former clinician and current client services manager added, "We do not follow a harm-reduction model that would allow for, say, some alcohol or cannabis use. By nature of being addicts, they cannot for the most part self-

[1] The Big Book is the colloquial name for *Alcoholics Anonymous: The Story of How Many Thousands of Men and Women Have Recovered from Alcoholism*, which was written primarily by William G. Wilson (also known as Bill W.), one of the founders of Alcoholics Anonymous. The book outlines the program's 12-step model (Alcoholics Anonymous, 1976).

regulate. One hundred percent of people who have come to this program have at one point or another tried to regulate their use."

Another network of facilities reported being "steeped in the Big Book approach" and firm on abstinence-only treatment. It was only when the opioid crisis in the United States became so severe that "Leadership *had* to wrap their heads around seeing MAT as *medication* as opposed to another drug." A representative from another private facility that also offered MAT (including buprenorphine and Vivitrol) noted that "The controversy around abstinence-only MAT approaches comes with suboxone." A representative from one large-scale, comprehensive psychiatric facility that provided MAT added, "We can respect the 12-Step model and still prescribe naltrexone." Another private facility followed a harm-reduction approach and conducted full-team meetings to discuss MAT options for their patients based on symptomology, presentation, insurance coverage, and whether the patient's preferred sober-living situation allows MAT.

Some abstinence-based programs at behavioral health facilities lacked the resources to retain psychiatrists who could provide consistent and safe MAT. In contrast, the CEO of an abstinence-only private facility did not ascribe to MAT, believing that it was dangerous to "just be dishing out prescriptions. The key is to get the right diagnosis first" and then address underlying trauma with the facility's blend of EMDR and neuromodulation therapy.[2]

Abstinence-only versus harm-reduction models appeared to be particularly contentious within VA. Although the original director of one VA residential program had pushed for a harm-reduction model, all patients were expected to remain abstinent during the program. Clinicians wrestled with their own thoughts on the matter, noting that they may be in favor of a harm-reduction approach in outpatient settings where patients' lives are "not so chaotic," but "The odds are not in the patients' favor in our residential program that harm reduction would work." Instead, this program employed motivational interviewing to encourage patients to articulate the immediate benefits of sobriety. One clinician added, "My hope is that by doing so, they'll buy into it. They feel calmer and more stable. But, trying to help patients figure out what works in the short-term is more effective than forcing long-term sobriety." This particular VA facility performed drug testing regularly to "give feedback to the patient and not to reprimand them." A psychiatrist who had started at an abstinence-only VA program now works for a different residential program at a VA facility where patients are asked to set their own goals regarding substance use post-discharge. Finally, a clinician in a different VA residential program was actively spearheading a harm-reduction approach. In his estimation, "The U.S. is behind the rest in the world simply because we just want to stay grounded in what we've always done."

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[2] This is the first time neuromodulation therapy is referenced in the report because it was not identified in our review or in discussions with providers in other facilities. We are not aware of RCT studies that have used this treatment, which involves the delivery of electrical stimulation or pharmacological treatments directly to specific neurological sites in the body, for SUDs or for co-occurring disorders.

A clinical dilemma that has arisen more recently is the increasing legalization of cannabis. Veterans may use medical forms of cannabis to treat sleep disorders or to manage physical pain. Trauma-centric programs allowed for some cannabis use, although not for anxiety, even though it can be difficult for clinicians to disentangle pain from anxiety. Several clinicians were seeking guidelines on how to address medical cannabis use and how to educate patients on possible alternatives.

Preferences and Protocols for Evidence-Based Integrated Treatments

Summary: *All facilities emphasized the need to address substance use disorder(s) and mental health symptoms in tandem, although they differed on the degree to which both could be simultaneously addressed. Many facilities incorporated several evidence-based approaches in their treatment protocols.*

Provider Views on Integrated Treatments

A common theme across facilities was that flexibility and options are important components when treating veteran populations with co-occurring disorders. Treatment approaches and protocols mirrored this flexibility, with most facilities offering an array of different evidence-based treatment approaches and other integrated therapy options. The majority of treatment approaches that our interviewees described were delivered in inpatient and residential settings, which representatives at multiple facilities noted is an effective means of shielding those in recovery from triggers while, as one clinical director described it, "They are reprograming their brains."

A long-standing debate among clinicians has centered on whether PTSD and SUDs could be treated simultaneously. One school of thought assumed that trauma could not be addressed until one was no longer under the influence of substances; however, others had been concerned that addressing trauma could exacerbate SUD. One VA psychiatrist stated, "PTSD *used* to be considered a 'pesky' problem but now is central to substance use work." Another VA clinician referred to this as "the myth of fragility" and a barrier to accessing care. A clinician at a different VA facility added, "Some of the addiction therapists were reluctant to accept concurrent PTSD treatment at first, thinking that exposure therapy could trigger use. But now they are really supportive and want to see people in PTSD treatment while they're here for SUD. They see PTSD treatment as the missing piece that finally helps patients overcome their SUD." A representative from a private trauma-based program that did not offer detoxification services described how the field was beginning to accept concurrent treatment: "The worry had been that PTSD together with SUD treatment would overwhelm patients, but now it is becoming more widely accepted. People see that sequential treatment is difficult to achieve. People stick with the concurrent programs."

VA and DoD clinical practice guidelines for SUDs and PTSD (VA and DoD, 2015, 2017) are based on evidence that improvement of PTSD symptoms is associated with a reduction in SUD symptoms (however, a reduction in SUD symptoms is not

necessarily correlated with improvement in PTSD symptoms). In general, the facilities we visited championed the approach of delivering PTSD and SUD care simultaneously or at least in parallel, as opposed to a staggered approach. One teaching facility focused on present-focused and skills-based treatments, such as Seeking Safety, while incorporating some past-oriented trauma work in individual therapy sessions, as needed. A clinician at that facility added, "Trauma programs that require [the proverbial] '30 days of sobriety' are just not realistic." The common thread is addressing SUD throughout trauma-related therapeutic approaches, provided that one's detoxification process is not too severe. Another private facility had weighed the option to separate those in active detoxification but found that, clinically, it was more effective to integrate all group participants early on. That facility opted to provide a "buddy system" connecting patients who are and are not in active detoxification to enhance mentorship. Even programs that were more trauma-centric addressed SUDs, particularly cravings and triggers, in every individual session. Several other private facilities described success in starting concurrent PTSD and SUD program during the detoxification stage.

In contrast, one private facility emphasized the need to have patients abstain from substances prior to any trauma work: "They need to trust and emotionally regulate, otherwise they get angry and resistant. The intensive therapy work usually starts after the third week." Another private facility echoed this sentiment, addressing trauma only once the SUD issue has been addressed. Although VA facilities ascribed to concurrent treatment, one clinic lead said, "Some providers are on board, others are not. It's hard to get people to adopt evidence-based practices, even within the VA. The clinicians opposed to it will say, 'I know the evidence, but you don't understand *my* patients. My patients aren't ready.' But, trial after trial shows that people are getting better."

Use of Evidence-Based Integrated Treatments

Regardless of what providers preferred, our literature reviews in Chapter Three point to the emerging evidence base for integrated treatments with veterans. VA facilities in our sample have been frontrunners in evaluating and developing evidence-based approaches. One VA residential program incorporated CPT, COPE, and PE into individual and group sessions. Patients attended three groups per week. The CPT group reviews the cognitive behavioral triangle and helps patients uncover their stuck points through an exploration of the "narrative" they have developed of an event (as opposed to the actual event). There is an *in vivo* exposure therapy group where patients walk around the hospital, ride elevators, approach people to ask for directions, and walk the campus. The third group is skills-based, ranging from anger management, ambivalence, and motivation to change, and borrows from tenets of Seeking Safety, which, as we discussed in Chapter Three, has been evaluated in multiple studies but a tenuous evidence base that includes rigorous controlled trials. Clinicians in the program reported varying their approach based on how much exposure each patient has had to trauma-oriented therapy and SUD therapy. We were also made aware through our

discussions with VA staff that researchers were conducting trials with patients with co-occurring disorders, including an RCT evaluating the effectiveness of combining pharmacological treatment (such as topiramate) and PE for PTSD and AUD, as well as another comparing the effectiveness of COPE and Seeking Safety.

Outside of clinical trials, most facilities used evidence-based treatments in adapted formats, modified for either individual patients or to fit the needs of the larger patient cohort. For example, a VA facility offering gender-specific trauma treatment also offered "essentially the full CPT format, with a PE flavor" with Seeking Safety, dialectical behavior therapy (DBT), and anger management groups, coupled with structured recreational therapy and occupational therapy. The program's lead clinician appreciated the eclectic approach, adding, "If you're doing Seeking Safety, you're doing process therapy anyways. You have to customize and adapt your programs to your patients." The women-only group further emphasized a psychoeducational approach to the links among complex trauma, borderline personality disorders, and addiction to disabuse patients of the notion that these issues are their own fault or that they are permanent health problems.

Another residential program offered through an offsite VA facility had been piloting a novel, gestalt, SUD- and trauma-based behavioral intervention rooted in human connection and mindfulness while having patients identify concrete actions that they will take to change their behavior. The program is unique in that it leverages the therapeutic relationship to reinforce change. The clinician who spearheaded the program noted, "They [veterans] are laying their heart bare. I am honored that they are sharing their trauma with me, and I tell them that. I recognize that it is uncomfortable, and I am proud of them. It is differential reinforcement in the vein of motivational interviewing." The program focuses on education and relationships, exposure therapy, and optimized reinforcement and will be coupled with a psychoeducation group, ACT, and grief recovery groups. The clinician who created the program emphasized the need to reinforce the "why" among patients, stating that sensing an existential change in one's life will promote revised behaviors.

A private hospital specializing in psychiatric care has also been recognized as a frontrunner in developing and evaluating co-occurring treatment models. Evidence-based treatments are the foundation of its programming, together with treatments with promising but less rigorous research evaluation, such as ACT for SUD, written exposure therapy (a form of narrative exposure therapy), and mentalization-based treatment (i.e., to increase patients' ability to "read the mental states of others"). A representative from the hospital described how the approach weaves psychoeducational principles throughout, noting, "Patients latch onto brain chemistry explanations for mental health and addiction, especially veterans. We live in a medicalized world. It provides a tangible explanation." It should be noted that, as of the writing of this report in early 2020, there was a research base for ACT, written exposure therapy, and other forms of brief PTSD treatments (e.g., PE for primary care settings) for PTSD outcomes

(Cigrang et al., 2015; Pohar and Argáez, 2017; Sloan et al., 2013) but not for SUD outcomes or for treating those with co-occurring disorders. Thus, these treatments were not identified in our literature review in Chapter Three.

Two facilities described breaking with two common therapeutic models discussed in the literature, PE and Seeking Safety. The clinical director at a private SUD treatment facility stated, "Every veteran who has tried to get treated at the VA has already been exposed to Seeking Safety." Instead, the facilities offered CBT, some DBT, Rapid Resolution, and individual EMDR "if a patient is ready for it." In addition, an array of groups based on some evidence-based components (e.g., anger management) and some not (e.g., sand therapy, nutritional education) were offered throughout the day, and patients could choose which group to attend. Finally, another private facility specializing in co-occurring disorders for veterans offered EMDR, CPT, DBT, and ACT, as well as Accelerated Resolution Therapy (Waits, Marumoto, and Weaver, 2017), an exposure-based therapy delivered in two to five sessions over a two-week period (i.e., a considerably shorter treatment duration than PE and other exposure-based therapy protocols). Accelerated Resolution Therapy does not have a large enough evidence base to evaluate it efficacy with veterans. The facility also did not employ PE in its veterans programs "because it tends to negatively impact the moral injury."

Facilities offering intensive outpatient programs likewise borrowed from Seeking Safety, CPT, DBT (particularly distress tolerance, emotional regulation, and interpersonal effectiveness), motivational interviewing, and COPE. The state of the art for providing care for co-occurring disorders is shifting, and new insights come to the fore regularly. This can add a layer of complexity for providers who want to adhere to the most up-to-date evidence-based practices. Moreover, clinical directors noted challenges in trying to convince providers to consider employing evidence-based practices.

Mental Health Treatment Facilities and Substance Use Treatment Facilities

Although the SAMHSA databases distinguished between "mental health" and "substance abuse" treatment facilities, providers at the facilities in our sample rarely defined their facilities as one or the other. Still, among private facilities, programming did not appear to differ substantially among those that leaned toward substance use care and those that centered on mental health and trauma care. Group therapy, which was offered at all the facilities, covers multiple issues, including personal identity, life purpose, cognitive distortion, anger management, self-esteem, self-imposed limitations, and life histories, which are then shared with the group. Issues that emerged in groups cut across both substance use and mental health topic areas. Facilities themselves described incorporating mental health treatment components into SUD-focused care protocols. For example, one private facility's veteran and first responder program covered the 12-step model in group therapy while elements of traditional non-integrated mental health treatments (e.g., CPT, CBT, DBT) and integrated treatments (e.g., Seeking Safety) were blended into its own manuals, which one clinician noted "is the art

of therapy." The original clinical director was a proponent of EMDR, but subsequent clinical directors at the clinic were adamant about offering it only to those who are "ready and sober." Thus, patients do not engage in full EMDR but present a narrative of their lives within group therapy, describing their trauma, stuck points, and moral injury.

Similarly, another behavioral health facility with a specific active-duty military, veteran, and first responder program had patients on a SUD track complete an autobiography guided by 31 questions on trauma. Patients could also be simultaneously enrolled in a mental health track and a trauma track. The trauma track, which addressed MST, childhood trauma, physical abuse, and combat-related trauma, was based on CPT, the first five steps of the 12-step model or SMART, and schema therapy. Another private facility offered patients fluidity across four treatment tracks: complex trauma, AUD, co-occurring mental health and SUDs, and grief-related issues. An additional private facility specializing in both SUD and trauma treatment integrated CBT, DBT, and ACT. One inpatient program at a private facility was developing protocols for neuromodulation treatments in conjunction with EMDR and 12-step or SMART group therapy models.

Another private facility's veteran and first responder program incorporated CBT, DBT, motivational interviewing, EMDR, and psychoeducational models focused on the neurobiology of addiction and PTSD, with the goal of teaching veterans that addiction and PTSD are not a personal failure. The facility had just invested in virtual reality exposure therapies, and staff reported observing "early promising results." The executive clinical director added, "It was a battle to get EMDR. It's all about making sure that the patient is available for more than 30 days so that there is time to heal after opening up the wounds. You have to have that therapeutic alliance, and that's why we pride ourselves on the therapy team that we have built up."

Complementary and Integrative Care

Summary: *In addition to offering evidence-based treatments or modifications of these treatment protocols, many treatment facilities offered complementary and integrative treatments, which are promising but have received less research support than other treatments.*

Recreational Therapy

Recreational therapy was infused throughout intensive treatment programs to help veterans reclaim joy and rediscover how to have fun without substances. Multiple programs described it as vital component of trauma-based therapy programs and an important means of expressing emotions in healthy ways. One VA facility built in recreational therapy at the outset of the treatment curriculum. A recreational therapist there recounted how one veteran said he had "missed out on life while he was drinking." An emphasis on self-care and "just acting silly every once in a while" can strengthen the recovery process. In addition to skills-based therapy—including learning to sit in

a restaurant with one's back to the door to reduce inappropriate hypervigilance, going sailing to learn how to deal with fear, trusting one another, and relinquishing some control—these providers wanted veterans to use recreational therapy as an opportunity to relax. They also used recreational therapy as an opportunity for veterans to identify healthy and fun activities they can do with their families when they return home, such as karaoke or game-controller exercise activities.

Many private facilities offered extensive recreational therapy options, including fitness classes, canine therapy, film screenings, music therapy, art therapy, equine therapy, culinary arts, gardening, nature walks (one facility even had animals on the property such as deer), metalworking, and woodworking. Private facilities often have the advantage of providing peaceful spaces to engage in nontherapeutic activities. One private facility had a lake where patients could commemorate the fallen and come to terms with their survivor's guilt. Skills-based recreational therapy "gives patients a sense of competence and a chance to get a therapeutic boost." One clinical director mentioned that a potential unintended consequence is when assistants who are not trained in delivering care "therapize" during recreational activities, which could interfere with the course of treatment.

Yoga, meditation, and mindfulness training have also been employed in both recreational and therapeutic modalities, but one clinician at a private psychiatric hospital emphasized the importance of using the evidence base for the patient population to guide integrative care options, as opposed to simply offering an array of options. Nevertheless, there were several instances during our site visits when yoga classes were observed to be full of men and women actively engaged in the practice. Thus, incorporating recreational activities, such as yoga or craftwork, is perhaps an important aspect of one's recovery and *discovery* of new healthy hobbies and activities that could be considered as a complement to evidence-based therapies.

Occupational Therapy

Occupational therapy was also incorporated into some treatment programs, which, as one occupational therapist noted, is a recent development in the fields of psychiatry and PTSD treatment. One VA program, in particular, systematically incorporated occupational therapy into its treatment curriculum. A therapist noted, "In a nutshell, we address life skills. I see how trauma has impacted functioning, from simple tasks to complex goals. We take the theoretical and make it practical, so that they leave here with actual strategies." This practical skills-based approach helps veterans build structure into how they spend time and money and promotes self-reliance. These veterans also devised strategies to avoid relapse; for example, they might be encouraged to purchase gift cards in the amount of their monthly grocery budget at stores that do not sell alcohol. Under the therapist's care, veterans paid off debt, among other sustainable changes in their lives. "A lot of veterans have told me that they see hope in the practical occupational therapy approach."

Family Support

Several facilities incorporated families, spouses, and caregivers into their treatment protocols. The purpose of this is to both help families understand their loved one's therapeutic journey and contextualize a patient's SUD and mental health diagnoses. One clinician at a psychiatric facility said, "Clinicians can learn a lot about a veteran from their families. Parents can be especially important because they know about veterans before they deployed." Family involvement ranged from weekly family visitations to educational sessions to teach families about SUD and PTSD. A representative from one private facility noted the difficulty of systematically integrating family therapy because of the fact that patients come from across the United States, while another facility had implemented a telehealth program exclusively for families.

A few facilities had dedicated therapists who were "on call" for families. One program director commented,

> Caregivers are used to being very controlling and we have to prepare them for their anxiety, too. We're available to them anytime, and they do call! I'd rather they call me at 10 p.m. instead of stew on a problem and have it cause a debacle. I encourage them to go to treatment for co-dependency at the same time. I've seen, and not always, but I have seen where they have been so fearful and co-dependent that if the veteran gets better, they won't be 'useful' anymore.

Another private facility lamented the issue of co-dependency and urged facilities to "develop more robust components for family involvement." Two other facilities encouraged families to attend Al-Anon groups. One facility even had a self-funded family support group that met weekly on its premises.

Connecting Veterans to Outside Services

Treatment providers discussed issues connecting veterans in therapy at their treatment facilities to external services. A clinician in a VA outpatient program described this as a particular challenge:

> Although the VA does it well, it's hard to find coordinated and integrated care for those with co-occurring disorders. People need housing. There's a need to see the veteran as a whole. We need to meet them where they are at. Do they need motivation? Skills? Or just basic needs? On top of that, there needs to be communication among the integrated team and the veteran.

Another director of a private facility added, "Our goal is to get veterans back to being functioning members of society." That facility offered free office and meeting space to organizations serving veterans and first responders. It also drew on these partnerships to leverage employment opportunities for its patients post-discharge. Several other interviewees described building connections with government agencies to assist veterans with housing, employment opportunities, and social services post-discharge.

Another private facility had been active in partnering with nonprofit organizations to help cover transportation costs for veterans seeking care (including access to private jets), musical instruments for music therapy, and access to other recreational activities. The same facility reached out to local law enforcement and first responder Alcoholics Anonymous groups to enable community-based support for its patients.

In addition, several facilities described the positive impact WWP has had on rounding out the therapeutic continuum—from providing transportation to get veterans to facilities to taking one veteran to a barber shop to improve his self-care. In essence, facilities emphasized the need to provide holistic care that extends beyond therapeutic protocols, to assist in transitions, and to help veterans onboard to healthier lifestyles.

Discharge Planning and Aftercare

Summary: *Facilities often envision and prepare veterans to understand recovery as a lifelong process. Many facilities have plans in place for a substance use disorder relapse.*

Transitions across the therapy continuum can be precarious for veterans with co-occurring disorders. Discharge and the transition to aftercare is no exception, and veterans were often not encouraged to return directly home to contexts in which they were using substances. Although this may be the ideal, aftercare options are shaped by veterans' insurance payment options and other factors, such as their employment and family status. Interestingly, the vernacular is to refer to therapeutic stages as "step-down therapy"; however, one private facility rebuked this phrasing, suggesting that it be called "promoting up" to convey a sense of progress and ownership throughout the course of therapy. One clinician at a psychiatric facility with extensive experience working with veterans added that, in addition to time- and payment-related issues, some veterans "minimize their own needs. They think after inpatient care that their 'mission' is over. They think they can do the next step themselves," underscoring the need to help veterans understand that recovery is a lifelong "mission."

Several facilities were proactive in their approach to discharge planning, including identifying appropriate post-discharge sober-living facilities, starting at intake or within the first few days of treatment. This strategy provided ample time to iron out any potential coverage or access issues. A representative from one VA program mentioned a preference for taking referrals from an outpatient provider "so that patients have a safety net to return to" after the inpatient program. Another strategy employed by a private facility was to have therapists involved in the intensive outpatient program frequently visit the inpatient program so that there would be familiar faces as patients "promote up."

Patients at one private facility were enrolled in an intensive outpatient program for four weeks post-discharge, but these patients generally had a place to live locally and were financially able to cover the cost. However, at a minimum, aftercare plans

involved setting up follow-up appointments for medical and therapeutic care. In addition, many programs encouraged veterans to find local support groups. One private facility had even adapted the Alcoholics Anonymous model into Warriors Anonymous groups and had started chapters near cities with a high concentration of veterans, in addition to hosting weekly meetings at its own facility. Many facilities offer outpatient programs nearby. One private facility worked closely with VA facilities to provide access to sober-living homes and outpatient services through VA. Facilities also reported connecting veterans to government agencies to make arrangements for housing, social services, and employment opportunities. One VA facility had veterans write down their planned activities based on skills learned in recreational and occupational therapy. In addition, veterans were asked to write themselves a letter, to be sent to them one month post-discharge. Therapists also called veterans to follow up on their progress and were available if veterans wanted to reach out.

A few facilities had hired or planned to hire an alumni manager. Aftercare also involved alumni involvement through buddy system support and recreational activities. Every third week, one facility hosted a veteran alumni support group. Another private facility purposely split veterans up within housing and therapeutic settings and linked them with veteran alumni for additional support and camaraderie.

A VA clinician said of aftercare, "We ask them to have high but realistic expectations of themselves," adding that "the ideal is not always easy to do in practice." With that, relapse is often considered an unfortunate but common outcome, if not a "normal" aspect of therapy. Prolonged case management helped facilities identify cases of relapse. A clinical director with decades of experience said, "It pays to be modest and skeptical of a 'cure' to manage expectations. Curing is great, but it doesn't often work that way. I have gratitude for being able to give people six weeks of sobriety, and if they come back, okay, let's do it again."

One CEO reported a personal mission to prove that relapse does not have to be a part of SUD, noting that "the three reasons people relapse is because of unresolved trauma, they stopped taking antidepressants, or they started a romantic relationship within the first year of recovery." One facility was so confident in its approach that they offered 30 days of complimentary therapy for patients who had previously completed 90 days of treatment at any facility in its nationwide network. Another VA facility noted that dropouts and relapses can occur, but it often asked veterans to wait a year before returning to the same program.

Veterans who relapse may feel ashamed to return to the facility where they initially sought care. Three therapists at one private facility believed that the fact that many who do relapse end up returning to the same facility is a testament to the high level of care they provide. Those who return after relapsing will not carry out the same course of treatment, but, rather, begin their curriculum with a "funeral" to show all that they have lost by losing sight of sobriety, including eulogies, photographs, and even an explanation that one's family could not attend "because they have already

expended so much time and energy on the veteran while they were using." That facility also performed a "relapse autopsy" to determine what might have derailed the patient's recovery. One therapist noted, "The first round of inpatient treatment saved their lives, while the second go-around helps them rebuild their lives."

Several facilities that strived to follow the most current evidence-based treatment protocols noted that treating PTSD is an important means of preventing relapse. This lends itself to the importance of programs that specifically target co-occurring disorders. However, it is important to note that tracking of outcomes post-discharge was inconsistent across facilities. There is a risk of bias with follow-up; for example, those who have relapsed may be less likely to respond to requests for follow up on outcomes. At one VA, response rates at follow-up were 50 percent, leading one therapist to note, "I wish we could do more to know how people are after discharge because they all *look* good when they leave here." Nevertheless, several facilities attempted to perform follow-up data collection, often using the PCL scale, at three intervals ranging from one to three months to three to 12 months, although this was not consistent across facilities.

Duration of Therapy

Summary: *Duration of therapy is impacted by a range of factors, including insurance coverage and whether a veteran is able to engage in outpatient care following an inpatient treatment program.*

Duration of therapy varied widely across facilities. Respondents offered average lengths of stay and ideal lengths of stay, but it was not uncommon for a patient's duration (including aftercare and sober-living options) to be constrained by insurance coverage, geographic location, and preference. On average, VA and private facilities reported a few days to one week of detoxification protocols prior to moving to inpatient programs, intensive outpatient or outpatient programs, or sober-living facilities.

Private facilities had decidedly longer inpatient and residential treatment durations than VA facilities. VA facilities in our sample offered "accelerated" CPT and PE programming over the course of three to five weeks. Most patients then go on to a recovery home for three months post-discharge together and six to nine months of once-weekly outpatient care. A clinical psychologist for a VA inpatient program added, "The advantage of the VA approach is being free from the constraints private clinics face in terms of reaching patient quotas, reimbursement, et cetera. I wouldn't want to work in an outpatient setting. This is the right kind of intensity for a month. It is deeply connected care." Another VA facility's gender-specific inpatient programs offered condensed CPT in four weeks, which the clinical director claimed was

> extremely effective as opposed to outpatient programs. Outpatient programs stir up emotions, and then you get no-shows and a lack of consistency. We know where they're sleeping in these programs. They don't have to go from one-hour therapy

> sessions back to their "normal lives." It's a year's worth of therapy in one month, and it's such a dramatic change.

The director attributed part of the program's success to its cohort model, as opposed to rolling admissions, which fostered cohesion and consistency throughout the program.

Private facilities reported considerably longer durations of inpatient care. In addition, some noted that their veteran patient populations stayed, on average, weeks longer than their nonveteran patient populations. For instance, at one private substance use treatment facility, the average inpatient stay was 19 days for nonveterans but 45 days for veterans. Two other facilities specializing in co-occurring disorders reported minimum inpatient stays of 42 and 60 days for nonveterans and veterans, respectively. If EMDR is employed, these timelines may be extended.

Duration of inpatient therapy in private facilities is often contingent on TRICARE coverage, collaboration with VA, private insurance coverage, and ability to self-pay. For example, one psychiatric facility offered a 30-day residential program, which a few veterans had completed, that was entirely self-paid. A private network of facilities stated that, on average, TRICARE covers 28 days of inpatient therapy, but some VA facilities may choose to extend this to 60–90 days, depending on what VA case managers perceive as risk of relapse among individual patients.

Both VA and private facilities offered outpatient and intensive outpatient programs that lasted, on average, for two to three months. Some patients could transition to sober-living facilities, but this option was available at only a quarter of the facilities in our sample. In addition, access to sober living facilities was constrained by patient preferences, their job status, and whether they were geographically co-located with the facility. However, the expansion of telehealth modalities forged during the COVID-19 pandemic may result in greater access for patients across the United States.

Systems-Level Themes

Summary: *The most frequently reported challenges for providers were systems-level hurdles faced in delivering care to veterans, including logistical struggles in getting veterans into care, transitioning them into stages of care, and cost-related issues.*

Continuum of Care

Clinical and program directors bemoaned the siloed approach across inpatient, partial hospitalization, intensive outpatient, outpatient, and aftercare programs. This can complicate the precarious transitions across levels of care and risk losing patients at follow-up. It is a frequent recommendation in the literature, but improved (if not seamless) communication and facilitation of payment across stages of care is highly important for increasing access and adherence to treatment.

Providers described the care continuum as rife with barriers, including inefficiencies, delays, and costs. Veterans who have lost their driver's license or cannot drive may

be less likely to adhere to intensive outpatient programs. As one VA clinician noted, "If you're struggling with ambivalence to begin with, you won't take the bus for an extra hour and a half to get treatment for PTSD. It's not so much the lack of PTSD treatment options for veterans with SUDs, but all of the other logistics that get in the way." Two VA facilities were in the process of rectifying space constraints, but this had not been straightforward. Nevertheless, a VA clinician advised that groups of more than seven patients were not clinically recommended, yet several private facilities had group therapy sessions that were two to three times that size.

Wait Times and Delays in Initiating Care

One VA facility that followed a cohort model for its inpatient program acknowledged wait times that sometimes extended beyond two weeks. It can also be challenging to get veterans within the VA network into care programs outside their Veterans Integrated Service Network (VISN), and VA facilities may face lag times in reimbursement. A VA therapist said, "The biggest headache—and I mean migraine—is dealing with veterans who have to travel to get to the program. The VA has strong regulations about sending veterans around to other VISNs." VA clinicians in our sample were supportive of the Mission Act to close the gap between treatment-seeking and obtaining appropriate treatment (with respect to distance and availability of appointments) but noted that there is little control over the quality of care when veterans are treated in the community. Unless a facility offers specific veteran programming, there are no guarantees that its providers and staff will have military cultural competence. As noted in the discussion of group therapy approaches, military cultural competence takes multiple forms, and providers must take into account diversity among post-9/11 veteran populations. However, low numbers of veteran subpopulations can preclude program directors from justifying the implementation of specific programming tailored to the diverse needs of veterans.

Costs of Treatment

The cost of therapy in private facilities is also a barrier, with some residential programs charging upward of $3,500 per day. As mentioned, four facilities offered scholarships to veterans, but this is not a sustainable means of meeting the demand for care on a broader scale. Approaches to navigating coverage through VA's Community Care Program and TRICARE varied across private facilities. "Some VA facilities are a lot easier to work with—even fantastic to work with—than others," a marketing director at a private facility remarked. This interviewee shared an anecdote of a combat veteran addicted to heroin who recently sought treatment in their facility, but the facility had lost contact with the veteran after waiting two weeks for VA to approve his referral. Receiving approval for referrals, including extending inpatient care, often relies on champions who are willing to expend the time and effort to, as many worded it, "advocate" for their patients by reaching out to VA, TRICARE, and charitable foundations. This can often be a central function of marketing directors at private facilities.

Whether or not more coverage is granted is, as one CEO put it, "hit or miss with certain VAMCs." A CEO of another private facility praised his team for streamlining at least 30 days of coverage for many patients through TRICARE but added, "This is a shifting landscape that seems to change every six months or so." This was echoed by a leader at a psychiatric facility who was frustrated by gaps in what TRICARE covered. These gaps created a disjuncture in treatment plans and unforeseen costs needed to be shouldered by facilities, patients, or both. Veterans who "bypass" VA and seek treatment in one private facility have been able to do so with the help of champions on both ends who "work out a treatment plan." The leader added that "The VA has often been willing to allow us to continue treatment. They would rather not disturb the course of treatment." Unfortunately, this level of cooperation spearheaded by individual champions at both VA and private facilities will not create a sustainable system that is able to meet the need for care among post-9/11 veterans with co-occurring disorders.

Future Opportunities and Directions

Summary: *There is a great need to perform rigorous research on the effectiveness of emerging therapeutic programs and implement data-driven approaches to care delivery.*

Providers, facility leaders, and staff members highlighted numerous opportunities to improve care and outcomes for post-9/11 veterans with co-occurring disorders. First and foremost, there is room to grow with respect to programming for co-occurring disorders. One VA clinician and researcher explained that there is a growing movement to provide treatment specific to one's type of trauma, such as survivor's guilt–based trauma. There is also interest in exploring the efficacy of virtual reality to supplement exposure therapy, which one private facility in our sample had started to implement. Written exposure therapy, a form of narrative exposure therapy, may present another opportunity for alternative means of PTSD treatment, though it needs to be evaluated in more rigorous studies. Pending Food and Drug Administration approval, there may be promise in employing methylenedioxymethamphetamine (MDMA), a psychoactive medication, as part of psychotherapy sessions (Amoroso and Workman, 2016). One VA clinician thought that this approach may help veterans with chronic, treatment-resistant problems "let their guard down enough to receive treatment." This provider referred us to a randomized, double-blind clinical trial that found that MDMA, together with psychotherapy, was effective at reducing PTSD among veterans and first responders (Mithoefer et al., 2018), although more evidence is needed.

There was also a push to modulate how treatment is delivered. A clinical director of a private trauma-centric program saw value in assessing the effectiveness of accelerated therapies, adding, "A compressed DBT program would be gold," but more RCTs are needed. Providing evidence-based treatments through telehealth modalities is also an important avenue to explore, especially in light of the COVID-19 pandemic, which

led to the suspension of in-person treatment for veterans, on top of existing barriers that veterans face in accessing care.

Other facilities expressed an interest in expanding their existing programming, including adding options for recreational therapy (e.g., equine therapy), adding specific SUD tracks to existing PTSD programming, or adding harm-reduction approaches to current programs. One trauma-centric intensive outpatient program aimed to build in a one-week harm-reduction SUD "bootcamp" that would precede a three-week intensive outpatient PTSD program. However, program representatives recognized that this would incur significant costs from adding space and additional personnel (e.g., substance use counselors). Building personnel capacity can be a challenge in many respects. Several interviewees mentioned the need to hire veterans, especially women veterans, in patient intake, clinician and therapist, and leadership positions.

One private facility had the goal of expanding its existing programming and integrating levels of care across the care continuum. For example, it saw a benefit in blending inpatient and outpatient groups as a means of keeping patients motivated and engaged to follow through with therapy. A representative from another private facility spoke of the value of "incorporating supporting spouses and loved ones in more intensive therapy" to facilitate a healthier environment for veterans to return to following inpatient and residential programs. Another private facility aimed to build out an intensive outpatient program, but scale-up was hindered by the need to subsidize and provide scholarships to several patients. To this end, the facility was striving to develop partnerships with federal agencies to increase coverage and reduce bureaucratic barriers. Yet another private facility with mixed veteran and nonveteran patient populations planned to expand its private payers to "give away care to other veterans who can't afford it."

Across the board, there is a need for more data and systematic tracking of outcomes. In the emerging space of treatment for co-occurring disorders, the research and clinical communities are limited by the quantity and quality of available data. One private facility had recently invested in a system to more efficiently and robustly track patient outcomes during therapy and post-discharge. Data-driven approaches can help place patients on appropriate therapeutic tracks early on, which could lead to reduced costs, lower rates of provider burnout, and better outcomes for post-9/11 veterans.

Summary

This qualitative research sought to provide insights into the realities of delivering care to post-9/11 veterans with co-occurring disorders. A common thread is that there is no one-size-fits-all approach. Facilities took a range of approaches to treating SUDs and to treating SUDs with co-occurring mental health disorders. Some used complementary and integrative therapies, while others offered various group therapy compositions

(including groups for veterans and nonveterans, mixed-gender groups, and groups for veterans of different eras). Treatment approaches may also vary by geographic location and whether or not a program takes a harm-reduction or abstinence-based approach. Furthermore, although system-wide challenges are consistent and persistent, provider- and patient-based challenges can vary. An additional factor not discussed in this chapter is the facility's physical space (which may have made the facilities identifiable). It is important to acknowledge the variability of styles, restrictions, and degrees of comfort (if not luxury) across facilities. Hence, the "best" facilities might not be the most appropriate fit for each veteran in need of treatment for SUD, PTSD, depression, or any combination of co-occurring disorders.

Irrespective of programmatic fit, it is important to note that there is ample room for improvement in systematizing treatment approaches and tracking proximal and distal outcomes. There is also a need for more inclusive treatment environments that accommodate the diversity of the post-9/11 veteran population, in terms of both demographics and types of trauma endured. Many interviewees noted the benefit of hiring additional veteran clinicians and therapists, but recruitment opportunities were limited. Some programs are also led by "champions," who, through their own experience, dedication, or both may be driving the relative success of a program. Although it can be of great benefit to have champions, a program would be more sustainable if the cultural, institutional, and clinical knowledge of a champion is infused across a facility.

Finally, it is also worth noting that evidence-based practices and data-driven decisionmaking were not standardized across facilities. In other words, although some facilities prioritized innovation, the weight of clinical experience in others perhaps precluded some clinic leaders and providers from implementing novel treatment approaches or adapting current approaches based on the most current evidence. Alternatively, there are inherent risks and shortcomings to implementing novel therapies before the evidence base has been adequately established. Thus, the first step in bolstering the evidence behind the treatment of co-occurring disorders is to track outcomes through robust research designs, followed by a commitment on behalf of the clinical community to disseminate evidence-based practices. The "art" of delivering care will come from being responsive to the multitude of needs and the diversity among the patient population, as well as a commitment to fostering trust in therapeutic encounters.

There is also still much to learn about the implementation and practice of providing treatment for co-occurring disorders among veterans. For example, we did not explore in depth how veterans and their caregivers perceive and experience treatment approaches. Although we did not observe any notable geographical differences, we also did not explicitly explore this factor in the site visits and interviews. It is also important to note that we did not identify any programs that were tailored to specific racial or ethnic groups. Furthermore, we identified only one program that was designed for women veterans—likely a reflection of the dearth of programs for women in general—but this fact limited the insights we could draw regarding the provision of care for this

growing subgroup of veterans (combat veterans among them). Despite these limitations, this qualitative research demonstrates the importance of understanding how evidence-based and complementary treatments are enacted in practice and the barriers and facilitators they experience.

CHAPTER SIX

Conclusions and Recommendations

In this report, we addressed essential questions related to improving access to evidence-based care for veterans with co-occurring SUDs and mental health disorders, with the goal of helping WWP identify effective, high-quality treatments for veterans. We began with a review of the unique characteristics of post-9/11 veterans, including the prevalence of co-occurring mental health disorders and SUDs among this population, and a review of the barriers that preclude these veterans from receiving necessary care. The post-9/11 veteran population experiences high rates of co-occurring disorders, particularly PTSD and depression alongside AUD and other SUDs. The combination of symptoms that these disorders present makes them difficult to treat separately. Thus, integrated care—in which both SUDs and mental health problems are addressed concurrently—is a preferred form of treatment for these veterans.

Through a review of the existing research, we identified established and promising treatments that could address the needs of post-9/11 veterans, particularly those diagnosed with co-occurring disorders. An intensive review of psychological and pharmacological treatments revealed that 12-step approaches, CBT, MET, and certain pharmacological treatments had the most supportive evidence to address SUDs among veterans. We also found that multiple treatments targeting co-occurring mental health disorders *and* SUDs led to reductions in substance use outcomes and alleviated mental health symptoms. Most studies of co-occurring disorders targeted PTSD and SUDs, with trauma-focused treatments—such as PE, COPE, CPT, Seeking Safety, ICBT, and certain pharmacological treatments—having the most consistent research support in both veteran- and nonveteran-specific studies. Given the breadth and rigor of the research base, we concluded that evidence-based integrated treatments that address both mental health symptoms and substance use behaviors among veterans with co-occurring disorders should be a first line of treatment offered to veterans with co-occurring disorders.

We also examined the number and characteristics of treatment facilities in the United States that are available to veterans with co-occurring disorders, with a focus on treatment facilities with services to address PTSD, depression, and co-occurring SUDs. Many of these treatment facilities address co-occurring disorders among veterans, and, encouragingly, many veterans in the WWP population live within a 60-minute drive

time from such facilities. However, fewer veterans have access to treatment facilities with programs specifically for veterans. VAMCs and VA-affiliated facilities were available to most of the WWP population, with a large number of these mental health and substance use treatment facilities offering specialized treatments for co-occurring PTSD and SUDs. However, it was unclear from the available data whether the treatments offered at these facilities were evidence-based.

To learn more about the types of care offered at treatment facilities that serve veterans and to identify provider- and system-level challenges that veterans with co-occurring disorders might face, we conducted interviews and site visits with treatment facilities that served veterans. The staff at these facilities offered valuable insights with regard to care delivery, including how evidence-based treatments are administered in practice to this complex population with unique needs. We used the themes garnered from our interviews, together with the knowledge gleaned from our literature reviews and facility availability data analysis, to create a list of recommendations to help improve veterans' access to treatment for co-occurring disorders. These recommendations are intended to be a guide for policymakers in developing strategies to improve access to care for veterans, for clinicians seeking to increase the efficacy and cultural appropriateness of their treatment approaches, for program directors who are considering investments to augment their existing programming, and to researchers investigating novel treatment programs and approaches. Building on these recommendations, we also created guidance for WWP (and other organizations) to use in identifying and assessing treatment approaches and facilities that might meet the needs of veterans with co-occurring disorders. This guidance is offered as a potential rubric for assessing the degree to which a facility exhibits certain characteristics we found to be associated with higher-quality care and an appropriate cultural fit for veterans.

It should be noted that while our study primarily focused on addressing co-occurring mental health disorders and SUDs among post-9/11 veterans because they are the population served by our sponsor and national data indicate they may experience high rates of some SUDs (SAMHSA, 2020), the findings and recommendations we present in this report may be relevant to veterans who experience co-occurring behavioral health problems regardless of their service era.

Recommendations

Our findings revealed several areas where actions are necessary to improve options for and access to treatment for co-occurring behavioral health disorders among veterans. These recommendations are aimed at (1) increasing adoption of evidence-based, patient-centered approaches to treating these disorders and (2) expanding the availability of such options for veterans.

Increase Adoption of Evidence-Based, Patient-Centered Treatment Approaches

Below, we outline recommendations to promote the adoption of evidence-based and patient-centered treatment approaches. Getting all treatment facilities to adopt these recommendations will require that policymakers revise standards and expectations for what constitutes minimally acceptable care. Although informing veterans and organizations about characteristics to consider when selecting treatment facilities can influence what treatment options facilities begin to offer, it is more likely that changes to accreditation standards and reimbursement policies will be needed that acknowledge the high rate of co-occurrence and the importance of addressing both mental health and SUDs in the post-9/11 veteran population. The following recommendations can inform how existing standards can be improved.

All Treatment Facilities That Serve Post-9/11 Veterans Should Screen for and Treat Co-Occurring Disorders

Mental health disorders such as PTSD, depression, and anxiety are prevalent among post-9/11 veterans, as are SUDs, such as AUD, CUD, and OUD. Moreover, it is common for these disorders to co-occur in veterans. Symptoms can interact in unique ways to exacerbate underlying distress and problems in veterans' lives. Yet, the SAMHSA databases categorize mental health treatment facilities and substance use facilities separately, and treatment facilities often identify themselves as one or the other. It is essential that treatment facilities specializing in either mental health or substance use treatment also offer programs to meet the needs of veterans with co-occurring mental health disorders and SUDs. This requires a thorough assessment to determine which symptoms a newly enrolled veteran patient is experiencing and tailoring a treatment plan to address those symptoms concurrently. Treatment facilities should also recognize that some symptoms may be underreported or not revealed until the veteran is comfortable (e.g., substance use problems, experiences with MST). Thus, mental health symptoms and substance use behaviors should be continuously assessed with validated self-report and diagnostic measures, and treatment plans should be modified if needed.

In addition, SAMHSA tracks whether the facilities in its databases screen or test for certain conditions, such as HIV or hepatitis. If information about which mental health and substance use treatment facilities screen for co-occurring disorders is included in the SAMHSA databases, it could be used to better inform decisions about which treatment facilities in the databases are assessing for co-occurring disorders at intake.

Treatment Facilities That Serve Post-9/11 Veterans Should Offer Evidence-Based Integrated Treatments That Target Both Substance Use Disorders and Co-Occurring Mental Health Disorders

A common theme throughout this report is that there are no specific treatments or facilities that could provide the perfect form of care for every veteran. The body of

literature on treatments for co-occurring disorders among veterans is large, with multiple psychological and pharmacological treatments cited as efficacious in addressing both substance use outcomes and mental health symptoms. However, despite a large research base that includes multiple systematic reviews, meta-analyses, and RCTs, no one treatment stands above the others. Even among the treatments with evidence-based support, some studies have found mixed results. However, treatments with research evidence should always be used over treatments that lack any evidence. Given that mental health symptoms and substance use behaviors interact in unique ways that can perpetuate problems, integrated treatments are preferred and recommended for veterans with co-occurring disorders. This includes both treatments that are integrated by design and those that focus on one disorder but have been shown to affect the other(s). Such recommendations are in line with those in the VA/DoD clinical practice guidelines for PTSD and SUD (VA and DoD, 2015, 2017).

We found in our interviews that many of the evidence-based treatments we identified in our literature reviews were not offered, and when they were offered, they often were modified from protocol or not assessed for fidelity. We learned that treatment programs fluctuate based on the needs of patients and the experience and preferences of clinical staff and program directors. Thus, more training in evidence-based protocols for integrated treatments appears necessary. Still, we identified several non-integrated treatments that had empirical evidence supporting effects on mental health symptoms and substance use outcomes. Such treatments should also be offered, with an overall emphasis on implementing evidence-based treatment approaches at these facilities.

The SAMHSA databases could include information on treatment types offered at a given facility, which could help inform referral decisions. However, given the number of evidence-based treatment approaches we identified, it may not be feasible for SAMHSA to catalog all the evidence-based treatments by facility. As mentioned, facilities may claim on the self-reported surveys that they use a certain treatment when they are simply using one or two components from it or otherwise not using it as designed. Thus, it would be helpful if treatment facilities identified their specific treatment approaches—or indicated whether their approaches are multicomponent or eclectic, if that is the case—both in the SAMHSA databases and in their own promotional materials (e.g., websites, advertisements). This information would be helpful to those who are looking for certain treatment approaches, who can then follow up with facilities that meet treatment approach criteria to inquire about how comprehensively the facility uses the identified treatment approach.

Treatment Facilities That Serve Post-9/11 Veterans Should Evaluate Both Substance Use and Mental Health Outcomes Regularly Over the Course of Treatment to Ensure That Both Are Addressed Adequately

Many veterans with mental health disorders, such as PTSD and depression, also have co-occurring SUDs. Even among those without diagnosed mental health disorders, it is not uncommon to drink or use drugs at hazardous levels, often to cope with

mental health symptoms. Given this, treatment facilities should assess substance use and mental health outcomes over the course of treatment to ensure that veterans are receiving treatment that adequately addresses both. If not, providers should modify the veteran's treatment plan accordingly. If neither mental health symptoms nor substance use outcomes are improving, or if the veteran is experiencing improvement in only one area, benefits from treatment may be fleeting and symptoms may return after treatment.

Structured and empirically based assessments over time are especially important in determining whether the care veterans are receiving is helping with symptom reduction. There are a number of validated self-report and clinician-administered tools to assess symptoms and provide diagnoses. Just because an empirically based treatment is being offered does not mean it is working. Assessments are also particularly important for gauging improvement over time in facilities where evidence-based care options are not offered.

Veterans' Treatment Preferences Should Be Accommodated

The literature generally suggests that specific veteran subpopulations (e.g., women, racial/ethnic minorities, those who have experienced certain types of trauma) often prefer treatment groups that are composed of individuals with similar characteristics. Providers had mixed views on treatment group composition and the benefits of cohort-specific tracks, such as all men or all women or those with combat-related trauma versus other traumas. Although some veterans in prior research studies expressed a preference for veteran-only groups, and others preferred to receive treatment alongside nonveterans, there is no compelling evidence to conclude that one mix of group therapy participants leads to better outcomes than another. In addition, studies have shown that veterans prefer a clinician who has military cultural competence and understands the military and the veteran experience.

We learned through interviews and site visits that the research community is motivated to empirically explore whether PTSD groups would benefit from stratification based on trauma type (e.g., survivor's guilt). This may identify important factors for group composition.

Veterans' treatment preferences are also driven by the relative ease (or difficulty) of accessing care. Our examination of SAMHSA's mental health and substance use treatment facility databases revealed that although treatment facilities offering co-occurring care for veterans were within about a 15-minute drive from the centroid of WWP warriors' zip codes, facilities that were either a VAMC or a VA-affiliated facility were much farther away—about a 60-minute drive, on average. Still, given that veterans may have difficulty engaging with care, it appears important to factor in veteran preferences, if resources are available and accessible. When accessing a VAMC or VA-affiliated facility is difficult, not possible, or not preferred, it is important to explore

opportunities to lower barriers to accessing alternative modes of treatment, particularly by resolving payment issues and ensuring culturally appropriate care.

Whether veterans have better outcomes in blended veteran and nonveteran treatment groups, or in groups with a mix of genders or specific traumas, remains uncertain. For this reason, those who assist veterans in seeking treatment should describe the possible advantages and disadvantages of different group settings prior to referring the veteran to an appropriate group. If resources are not available to meet the veteran's preference for a more narrowly focused group, providing the rationale for mixing groups (e.g., such groups offer an opportunity to practice interacting with others in therapy, which can translate to the community) could help increase acceptance, decrease dropout from treatment, and increase engagement.

Finally, including capacity information in the SAMHSA databases or on treatment facilities' websites would make it easier for veterans and service providers to identify appropriate treatment facilities. Information about group size and provider-to-patient ratios could help inform veterans' decisions about whether to seek care at certain facilities. Knowing what to expect in terms of individualized attention could help prevent dropout due to unmet expectations.

Treatment Facilities That Serve Post-9/11 Veterans Should Provide a Clear Plan for Aftercare Focused on Relapse Prevention

SUDs and mental health disorders are persistent and difficult for many individuals to recover from after a single course of treatment. Thus, aftercare may be a critical element of ensuring long-term recovery. Considering when and how to return to treatment should be part of the discharge planning process, and treatment providers should help veterans seek such care again without fear of stigma from others in treatment or from providers. Consistent outreach by facilities can make veterans aware of available treatment options, should they need to return to care. Such options could be formally designed aftercare programs, sober-living centers with case management and supportive therapy, or structured "alumni groups" that function as a means to check in with peers on a regular basis. Facilities may also serve as liaisons to other facilities that may be better positioned to provide the recommended level of care or match the veteran's preferences to increase the chances of recovery. We note that the SAMHSA database of substance use treatment facilities identifies those that offer discharge planning and aftercare counseling, but its mental health treatment facility database does not.

Veterans should be prepared for continued aftercare services once discharged from more-intensive services. Such programs may be part of the facility's course of treatment, but they are more likely to be offered by community providers, such as through attendance at Alcoholics Anonymous. We learned in our interviews and site visits that there is a growing movement to start Warriors Anonymous groups, as well as other veteran- and first responder–specific Alcoholics Anonymous groups, which may help facilitate retention. It is imperative that aftercare programs for substance use also

include a focus on mental health, not just SUDs. It will also be important for facilities to improve and formalize tracking post-discharge; that is, they should check with discharged patients regularly to ensure that they are continuing with their plan and experiencing symptom stabilization or improvement. Finally, more research may also be needed to explore step-up and step-down approaches that incorporate principles from evidence-based interventions to help manage continuity of care for chronic disorders, such as PTSD and SUDs.

Expand the Availability and Accessibility of Evidence-Based Treatments

Ensuring that all post-9/11 veterans have access to care for co-occurring behavioral health disorders will require concerted efforts aimed at expanding the existing capacity for delivering such treatments. It will also require that efforts decrease barriers and improve the accessibility of such treatments. Here, we highlight specific recommendations for expanding the availability and accessibility of evidence-based treatments. Implementing these recommendations will require a combination of minimal expectations for training and certification requirements for providers (e.g., requirement that providers learn certain evidence-based treatments), funding for additional research on the effectiveness of treatment, and resource support for facilities to hire, train, and support their workforce, as well as to conduct outreach and coordinate with veteran populations.

Consider Opportunities to Expand the Capacity of VAMCs and VA-Affiliated Facilities

In our interviews and site visits, we found that VAMCs and VA-affiliated facilities offered many of the evidence-based treatments identified in our literature reviews for both SUDs alone and for co-occurring disorders. Prior research also indicates that VA providers are more knowledgeable about military culture and that cultural competence is a component of high-quality care for veterans (Tanielian et al., 2014). In addition, VAMCs and VA-affiliated facilities with co-occurring disorder programs are generally accessible within the VA-recommended maximum 60-minute and 30-minute drive times for specialty and mental health care, respectively. However, it should be noted that VAMCs and VA-affiliated facilities were often much farther away from where WWP alumni lived, but other treatment facilities that offered services for both veterans and nonveterans were often more densely available. We also heard during our interviews concerns about the wait times for VA programs. To address gaps in timely access to these programs, VA should consider expanding capacity to address the needs of the veteran population with co-occurring disorders at its current facilities and establishing such programs in new locations.

Moreover, although there have been efforts to offer evidence-based care and expand care options for women veterans and racial/ethnic minority veterans, access to care could still be improved. It is difficult to determine from a website scan alone what

types of evidence-based treatments are offered at a specific VAMC or VA-affiliated facility. It would be helpful for VA to create a database that allows for easier searching for evidence-based treatments, care options for specific veteran subpopulations, and approaches tailored to common veteran preferences. For example, a women veteran who has experienced MST might seek a facility close to her home that offers women-only groups.

If there are no VAMCs or VA-affiliated facilities within time and distance constraints, or if a veteran does not have a strong preference for a particular type of treatment setting, support service providers should recommend facilities that have a strong military cultural competency training component. Such facilities often have staff with military experience, who admire veterans, feel a sense of purpose in serving those who served, and are equipped to handle the unique needs of these patients. If treatment facilities want to serve veterans, they should dedicate funding to training providers to effectively treat veterans using evidence-based approaches.

In our interviews, we learned that facility staff often modified evidence-based protocols or provided treatment for less-than-ideal durations due to limitations on insurance allowances, staff resources, or facility patient capacity. Payment models that prioritize evidence-based treatment are essential to ensuring that veterans have an opportunity to achieve recovery, decreasing the overall costs to society, and increasing capacity across the treatment community. Recent changes in Medicaid policies allow states to access federal Medicaid funds to enroll patients in residential and inpatient SUD services (Musumeci, Chidambaram, and Orgera, 2019). This could apply to veterans who are eligible for Medicaid. Moreover, if reimbursement mechanisms were sufficient, there may be increased incentives for providers to enter the workforce and for additional facilities to offer high-quality care.

As VA continues to build out its Community Care program, it will be important for the third-party administrators that manage its relationships with private providers to ensure that the VA community provider network includes a robust set of facilities that offer veteran-centered, evidence-based treatment for co-occurring disorders.

Decrease Barriers to Accessing Treatment

We described multiple barriers that prevent veterans from seeking behavioral health care, including logistical barriers, attitudes about care seeking, perceived negative reactions from others, and challenges for women and racial/ethnic minority veterans. Given the difficulty of engaging the veteran population, it is essential to reduce barriers to care to help veterans not only initiate care but also to reduce dropout once enrolled. System-level barriers, such as separation of levels of care, also increase the risk of losing veterans along the continuum of care. Co-located facilities, which offer a range of health care services in the same location, minimize the need for patients to venture to various locations to receive care for multiple problem areas. Co-located facilities and

integrated care models help make enrolling in care, completing a course of treatment, and transitioning to aftercare easier for veterans.

Additional barriers may also include veterans' abilities and preferences for stopping versus slowing substance use. An example of this is medical cannabis, which, at the time of this research, was legal in 33 states and Washington, D.C. Veterans may be hesitant to abstain from what is viewed as legitimate medical use of cannabis, and facilities may need to discuss continued/tapered use of cannabis and provide a rationale, if appropriate, for how the drug could interfere with the veteran's treatment. Hard rules about abstinence may preclude some veterans from seeking care.

Despite our finding that treatment facilities are generally located within a 30- or 60-minute drive for most WWP alumni and, specifically, for those who screened positive for PTSD and alcohol/drug misuse, geographic barriers still exist. For example, because many veterans rely on public transportation, it is essential that facilities are accessible by such means, and, if not, they should offer transportation assistance. For example, if a treatment facility is not walkable from a bus stop, there could be a service that picks the patient up from the nearest stop. If resources are available, vouchers for gas or bus fare could be provided for those with financial and transportation needs.

Support Further Research on the Effectiveness of Telehealth Programs for Substance Use Disorders and Co-Occurring Mental Health Problems

The recent coronavirus (COVID-19) pandemic in the United States has made it clear that telehealth and self-help approaches are a necessary option for mental health and SUD care for veterans when access to in-person care is limited or risky. Before the outbreak, such approaches were important for reaching patients who would not have received care otherwise, perhaps because of one or more of the barriers discussed in this report (e.g., living in a remote area, inability to take time off work or find childcare to attend appointments). Telehealth could also help integrate families and spouses into a veteran's course of treatment and foster continuity of care for outpatient programs following inpatient and residential programs. The pandemic made telehealth a necessary tool for veterans to continue treatment when they were already receiving in-person care. Previous studies have demonstrated the effectiveness of delivering some evidence-based therapies via telehealth platforms, such as CPT or PE, to treat veterans' mental health disorders (Gros et al., 2018; Morland et al., 2011; Wierwille et al., 2016; Yuen et al., 2015). However, these studies excluded veterans with co-occurring SUDs. Thus, little is still known about how integrated approaches with empirical support for use in in-person settings translate to telehealth or self-directed forms of treatment for SUDs and co-occurring SUDs and mental health disorders, particularly during acute treatment phases. There has been some study of stand-alone internet and mobile-based programs for veterans with PTSD and SUDs (e.g., Brief et al., 2013), which has generally found that internet-based self-guided treatment approaches are promising but yield small effect sizes (Doherty et al., 2017). Technology can be a capacity expanded

in times of limited availability in many health care disciplines (Kvedar, Coye, and Everette, 2014), but more comparative studies will be needed to examine how it might also help to expand capacity, availability, and accessibility for addressing co-occurring disorders among veterans. However, it could serve as an adjunct to in-person treatment or as a substitute when in-person options are unavailable or unsafe.

Increase Early Prevention Efforts, Engage Veterans Outside of Treatment Settings, and Address Substance Use Issues Early to Avoid Chronic Problems

PTSD, depression, and other mental health disorders can have a significant negative impact on the lives of post-9/11 veterans. SUDs complicate these problems and serve as barriers to recovery from mental health disorders and prevent initiation and engagement in behavioral health care. For example, despite the prevalence of mental health disorders and SUDs seen among the larger veteran population, our examination of the WWP Resource Center calls revealed that very few calls (about 1 percent) made reference to PTSD and/or substance use concerns (see Table 1.2 in Chapter One). Yet, more than half of WWP 2019 Alumni Survey respondents screened positive for PTSD, and slightly less than half screened positive for hazardous alcohol or other drug use. Thus, it is clear that, despite high rates of mental health disorders (primarily PTSD) and SUDs even within the WWP alumni population, few seek care—and this trend persists among veterans in general. Outreach efforts are essential to helping veterans identify behavioral health concerns outside of VA and other formal care settings and connecting them with care. Such efforts are important for veterans in general but also for specific veteran subpopulations, such as women and racial/ethnic minority veterans, to help engage them in care.

In addition, engaging veterans in care soon after discharge from active duty or soon after symptoms manifest is important to prevent heavy alcohol or other substance from developing into a SUD. Once substance use becomes more severe and chronic, it is more difficult to treat. Evidence-based prevention that reaches veterans outside of intensive treatment programs, such as through screening and brief intervention in primary and specialty care settings, can improve treatment initiation and retention. For substance use that may not yet meet diagnostic criteria for SUD treatment, the first-line treatment is known as Screening, Brief Intervention, and Referral to Treatment (SBIRT) (Babor et al., 2007). This approach is being increasingly adopted to treat military populations (Ahmadi and Green, 2011; Harris and Yu, 2019; Holt et al., 2017). Brief interventions that focus on discussions of alcohol-related risks and physician recommendations to abstain from alcohol are also promising (Ahmadi and Green, 2011; Babor et al., 2007; Harris and Yu, 2019; Holt et al., 2017; Dworkin et al., 2018). This approach has been adopted in primary care and mental health clinics where patients who do not respond to brief behavior change intervention alone can be referred to specialty behavioral health clinics for more intensive pharmacological or psychosocial treatment.

Guidance for Selecting Treatment Facilities for Veterans with Co-Occurring Disorders

The findings and recommendations described in this report can help WWP identify and evaluate treatment facilities that are best suited to serve veterans with co-occurring mental health disorders and SUDs. Though it may be rare to find treatment facilities that offer every one of these characteristics, and all facilities are limited to some degree by the resources they have available, the relevant attributes to be considered include the following:

Treatment Factors

- **Evidence-based integrated care** for mental health disorders and co-occurring SUDs, such as trauma-focused and CBT-based approaches, including protocols delivered as tested in empirical studies or modifications if resources are limited.
- **Measurement-based approaches** that ensure that outcomes (e.g., patient-reported measures) are regularly assessed and used to inform clinical treatment decisions in an effort to drive the best treatment decisions and optimize outcomes.
- **Services for veterans** as indicated by facilities that identify themselves as serving veterans by offering either veteran-only tracks of care or tracks that mix veterans and nonveterans but have a strong theoretical rationale for combining groups (e.g., helping veterans learn to interact with nonveterans who they will undoubtedly encounter in daily life).
- **Services that match a veteran's preferences** for groups versus individual care as well as group composition tailored toward specific genders, cohorts, and trauma-types.
- **A clear plan for evidence-based aftercare** once formal treatment at the facility ends, including connection to the facility itself (e.g., alumni groups) and vetting of aftercare programs to ensure the programs are evidence-based.
- **Involving family and caregivers in therapeutic approaches** to ensure that the context to which a veteran returns is cognizant and responsive to the healthy changes a veteran has made in his/her life.
- **Including recreational and occupational therapy in treatment plans**, which can help veterans reclaim confidence and sense of identity by identifying substance-free hobbies and skill sets.

Provider Factors

- **Strong theoretical basis for provider's philosophy** on abstinence or harm reduction from substances with some ability to tailor to the veteran's needs and abilities.

- **Training in military cultural competency** for providers, which includes increasing understanding of military culture and hierarchy but also training in strategies to successfully meet the needs of veteran patients.
- **Dedication to serve veterans,** including an understanding that working with veterans can be difficult but rewarding and a commitment to help veterans overcome unique challenges to address co-occurring disorders.
- **Willingness to seek additional competencies** that expand their skillset and enable them to implement new evidence-based treatments and practices with fidelity.
- **Adequate skills and capacities** to be responsive to veterans that need higher levels of care, such as those with SMI and suicidal ideation, and those in need of detoxification or MAT.

System Factors

- **Co-located facilities** with care for SUDs and mental health in the same building or campus, making it easier for veterans to receive all the care they need in one location.
- **Continual monitoring of patient progress** through empirical measures, including validated self-report measures and diagnostic assessments to monitor progress as well as assessment of facility-level quality indicators.
- **Ease of access to services**, including low costs, efficient care, and limited delays in setting up initial and continuing care appointments.
- **Duration and type of care that is sufficient and flexible** to meet the individual veteran's needs, such as (when indicated) limiting group size, offering individual treatment sessions, and involving supportive family members.
- **Telehealth** to reach veterans who may have otherwise been unable to seek care but also as an adjunct to in-person care should it become difficult for a veteran to continue seeking in-person care due to other responsibilities or barriers.
- **Support for providers** by facility leaders, including trainings, support groups, and other resources to reduce burnout and turnover.
- **A clear line of connection and communication** with VA and/or TRICARE representatives to facilitate delivery and reimbursement of care.
- **A process to collect and report data on types of treatment offered** to make selection of facilities easier and to ensure the facility offers the best practices available.
- **Transparency about capacity**, including number of beds for inpatient services, current patient numbers and group size, and ratio of providers to patients, so that informed decisions can be made when referring veterans to facilities that may be limited in individualized attention.

The extent to which facilities incorporate or adhere to these characteristics may vary. Our research indicates that the treatment factors will be the most relevant, followed by the provider factors for facilitating positive outcomes for veterans with co-occurring behavioral health disorders.

Conclusion

Within the post-9/11 veteran population, there is a particularly high risk for co-occurring SUDs among those with PTSD and major depressive disorder. Although veterans with co-occurring SUDs and mental health disorders report poorer functioning in multiple areas of their lives, such as in their relationships and physical health, they are not likely to pursue behavioral health treatment, often because they do not know where to seek quality care. When these veterans do seek care, some treatment facilities may require them to complete SUD treatment prior to receiving care for mental health problems, which can be difficult for veterans who use alcohol and other drugs to manage their symptoms. Discontinuing substance use may exacerbate mental health symptoms, making it important for veterans to have access to care that addresses both SUDs and co-occurring mental health disorders simultaneously.

There are several evidence-based treatments for addressing co-occurring disorders, and there is strong consensus that integrated approaches are critical for addressing the behavioral health needs of the post-9/11 veteran population. Feedback in our interviews with treatment providers emphasized that there is no one-size-fits-all approach and that multiple factors should be considered when seeking the best options for each veteran. Based on our findings, we developed guidance for individuals or organizations to use in assessing potential treatment facilities and programs. We also highlighted several recommendations for improving the availability of and access to evidence based, patient-centered, integrated treatment for veterans with co-occurring disorders. Implementing these recommendations will require policymakers, payors, and veteran advocates to work collaboratively to ensure that appropriate standards, provider training opportunities, and payment incentives are aligned to improve the adoption of such approaches and the quality of care provided to veterans across treatment facilities.

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Veterans who have served in the military since September 11, 2001, are at particularly high risk for co-occurring substance use disorders (SUDs) and mental health disorders, such as posttraumatic stress disorder and depression. Many treatment facilities require abstinence from substances prior to admission for mental health care, but the combination of symptoms that these disorders present makes them difficult to treat separately. Thus, integrated care—in which both SUDs and mental health problems are addressed concurrently—is a recommended form of treatment for these veterans.

To help improve access to effective treatment for these veterans, the authors review the literature on efficacious approaches to treating SUDs alone and alongside mental health disorders. They also present findings from an analysis of the availability of treatment centers that offer SUD care for veterans and from a series of interviews and site visits with treatment providers. The authors conclude with guidance and recommendations to support the delivery of quality care for veterans with SUDs and, ultimately, to help expand and enhance treatment opportunities for veterans with co-occurring SUDs and mental health disorders.

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