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**Chapter:** 4 Clinical Management of Mental Health Conditions at the Veterans Health Administration

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## 4

# Clinical Management of Mental Health Conditions at the Veterans Health Administration

The consequences of the Iraq and Afghanistan conflicts on the health and well-being of the wars' veterans are well documented. High-intensity combat, multiple deployments, traumatic injuries, military sexual trauma, and exposure to such stressors as long periods away from home and readjusting to civilian life are among the factors known to increase the risk of mental health problems among veterans who served in Operation Enduring

Freedom (OEF), Operation Iraqi Freedom (OIF), and Operation New Dawn (OND) (IOM, 2013a; Tanielian and Jaycox, 2008).

Now and into the future the Department of Veterans Affairs (VA) is responsible for managing care for a large number of OEF/OIF/OND veterans who have mental health conditions. As this chapter describes, for many of these veterans the diagnosis is complicated by multiple comorbidities, and while there are many evidence-based treatments that have been validated for specific conditions, there is a lack of evidence identifying effective treatments in the presence of multiple conditions. The chronic nature of many mental health problems will increasingly place demands on the system as the population ages.

In this chapter, the committee provides details about the population at risk for mental health problems and describes the VA health system's clinical management of the leading mental health conditions in OEF/OIF/OND veterans. The conditions discussed include posttraumatic stress disorder (PTSD), generalized anxiety disorder (GAD), major depressive disorder (MDD), substance use disorders (SUDs), suicidal thoughts or behavior, and various comorbid conditions.

The first major section of the chapter describes the nature of mental health in OEF/OIF/OND veterans, including the rates of the leading mental health diagnoses for OEF/OIF veterans and the factors that give rise to mental health problems. For each condition, clinical definitions, prevalence rates, and risk and protective factors are presented. The second major section summarizes VA clinical policies for identifying (screening), assessing, and treating veterans who need mental health care. [Chapter 11](#) presents the evidence that examines whether the VA is effectively providing the recommended treatments to veterans.

## **MENTAL HEALTH CONDITIONS IN OPERATION ENDURING FREEDOM, OPERATION IRAQI FREEDOM, AND OPERATION NEW DAWN VETERANS**

## Rates of Diagnosed Mental Health Conditions

Since 9/11, the rates of diagnosed mental health conditions among veterans have challenged mental health resources across the VA as well as in the Department of Defense (DoD) and community systems (Pickett et al., 2015). Among the 1.2 million OEF/OIF/OND veterans who had obtained VA health care through the third quarter of fiscal year (FY) 2015, 58 percent had a mental health diagnosis. The most common diagnoses included PTSD, depressive disorders, disorders characterized by anxiety (for example, generalized anxiety disorder), and substance (alcohol or drugs) dependence or abuse (VA, 2017a). In addition, each of these health conditions is associated with an increased risk of suicidal ideation and behavior (Moyer, 2013).

OEF/OIF/OND veterans are frequently diagnosed with more than one distinct physical health and mental health condition. Common comorbid or overlapping disorders are PTSD, SUDs, MDD, and postconcussive symptoms attributed to mild traumatic brain injury (TBI) (IOM, 2013a). Carlson et al. (2010) examined the rates of clinician-diagnosed psychiatric disorders in a sample of OIF and OEF veterans (N = 13,201) and found that over 80 percent of veterans who screened positive for TBI also had psychiatric diagnoses. In an evaluation of VA mental health programs (Watkins and Pincus, 2011), the Altarum–RAND evaluation team examined data for a FY 2008 cohort of 906,394 veterans who had at least one mental health diagnosis (PTSD, major depression, SUD, schizophrenia, and bipolar disorder). Approximately half of the veterans had a mental health diagnosis other than their cohort-qualifying diagnosis<sup>1</sup> (53 percent) or had at least one physical health comorbidity (50 percent), and 23 percent had co-occurring SUDs.

## Factors Associated with Mental Health Problems

Many veterans of the Iraq and Afghanistan conflicts do not have any adverse health effects resulting from their military experiences. Others, however, did receive physical or psychological injuries from their war-related experiences (Tanielian and Jaycox, 2008).

Research suggests that a mental health problem may result from multiple, inter-related causes. According to the Stress Vulnerability Model (Zubin and Spring, 1977), three factors contribute to the development (and the

course) of psychiatric disorders: vulnerabilities, stressors, and protective factors. Vulnerabilities can be biological (as a result of genetics), or they may be acquired as a consequence of trauma, disease, or family experiences. For example, studies have established the connection between adverse childhood experiences, such as abuse and other family dysfunctions, and poor mental health (for example, PTSD, depression, and suicide) in military members and veterans (see [McGuinness and Waldrop, 2015](#)).

Stressors are life events or circumstances that can trigger the onset of a disorder or worsen an existing disorder. Stressors can include experiencing the death of a loved one, a difficult personal relationship, substance abuse, or witnessing violence. *Protective factors* reduce an individual's vulnerability and stress. Protective factors can include medication that controls symptoms, abstention from drugs and alcohol, personal coping skills, social support, and meaningful life structures, such as employment.

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<sup>1</sup> Cohorts consisted of veterans whose Veterans Health Administration (VHA) use records contained at least one of 38 study-relevant ICD-9-CM diagnosis codes for the five study conditions (MDD, PTSD, SUD, schizophrenia, and bipolar disorder) and at least one inpatient episode or two outpatient visits annually for any diagnosis.

Understanding a veteran's risk for mental health problem requires assessing all sources of possible vulnerabilities, resilience (for example, social supports), other health conditions, and relationships.

Military service, which often begins at a relatively young age, is an important developmental experience that can have positive and negative effects throughout adulthood. Theories of life-span development suggest that a health condition observed after military service may have consequences for a wide range of outcomes and can give rise to further difficulties throughout a veteran's life ([Kang et al., 2016](#)). For example, a mental health condition that impairs interpersonal functioning negatively alters the way that a veteran interacts with family, friends, and colleagues. The condition may also result in outcomes that significantly shape the veterans future, such as incarceration, substance abuse, and unemployment ([Tanielian and Jaycox, 2008](#)).

## Clinical Definitions

The definitions for PTSD, GAD, MDD, SUDs, and suicidal thoughts or behavior, derived from the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5)* (APA, 2013), are summarized below. Differences in the clinical criteria between DSM-5 and the previous edition, *DSM Fourth Edition, Text Revision (DSM-IV-TR)* (APA, 2000), are noted where applicable because these differences may lead to changes in the number of people that meet the qualifying criteria to receive a diagnosis. The section Prevalence, Risk Factors, and Protective Factors, below, discusses this and other sources of variation in published estimates of mental health disorders in the veteran population.

### Posttraumatic Stress Disorder

PTSD is a psychiatric disorder that can develop after the direct personal experience of or the witnessing of an event that poses a perceived threat of death or serious injury (Criterion A, see [Table 4-1](#)). DSM-5 categorizes four different domains of PTSD symptoms: intrusion symptoms (re-experiencing symptoms such as flashbacks, nightmares, and reactivity to trauma reminders) (Criterion B); avoidance of trauma-related thoughts, feelings, or external trauma reminders (Criterion C); negative alterations in cognitions and mood (for example, negative beliefs and emotions, self-blame, and constricted affect) (Criterion D); and arousal and reactivity (for example, hypervigilance, irritability, excessive startle response, sleep disturbance, and concentration difficulties) (Criterion E). The manual states that if the symptoms persist for 3 days to 4 weeks, the diagnosis is acute stress disorder, while if the symptoms endure for more than 1 month, the diagnosis is PTSD.

According to DSM-5, the onset of PTSD usually begins within 3 months of exposure to the traumatic event, but it may occur months later. “Delayed expression” refers to cases in which some symptoms appear soon after the trauma but take months (or even years) to meet the full diagnostic criteria (APA, 2013). Military-related traumatic events that may trigger PTSD include exposure to war, threatened or actual physical assault, threatened or actual sexual assault, being taken hostage, torture, incarceration as a prisoner of war, and motor vehicle accidents (APA, 2013). DSM-5

also includes certain indirect exposures through professional duties, such as clearing body parts, engaging in first-responder activities, and experiencing accidental or violent death of a friend or relative, as possible triggers of PTSD.

Individuals with PTSD often display a heightened startle response in reaction to unexpected stimuli (such as a loud noise or unexpected movement). Additionally, many with PTSD have difficulty remembering daily events and have difficulty concentrating or staying focused on tasks (APA, 2013). PTSD can be chronic and have no remission, or it can be recurrent with periods of remission and recurrence (Friedman, 2013).

**TABLE 4-1** Comparison of DSM-IV-TR Criteria to DSM-5 Criteria for Post-traumatic Stress Disorder (PTSD)

<b>PTSD in DSM-IV-TR (Anxiety Disorders Chapter)</b>	<b>PTSD in DSM-5 (Trauma- and Stressor-Related Disorders Chapter)</b>
A. Traumatic stressor (need 2 of 2): 1. experienced, witnessed, or was confronted with a traumatic event 2. intense fear, helplessness, or horror <sup>a</sup>	A. Traumatic stressor (need 1 of 4): 1. direct exposure 2. witnessing 3. indirectly, by learning a close relative or close friend was exposed 4. repeated/extreme indirect exposure in the course of professional job (not through media)
B. Re-experiencing symptoms (need 1 of 5): 1. recurrent and intrusive distressing recollections 2. recurrent distressing dreams 3. flashbacks 4. intense psychological distress at exposure to cues 5. psychological reactivity on exposure to cues	B. Intrusion symptoms (need 1 of 5): 1. recurrent, involuntary, intrusive memories 2. recurrent distressing dreams 3. flashbacks 4. intense/prolonged distress at exposure to cues 5. physiologic reactivity upon exposure to cues
C. Avoidance and numbing symptoms (need 3 of 7):	C. Avoidance symptoms (need 1 of 2):



## PTSD in DSM-IV-TR (Anxiety Disorders Chapter)

1. efforts to avoid thoughts, feelings
  2. efforts to avoid activities, places, or people
  3. inability to recall an important aspect of the trauma
  4. diminished interest/participation in activities
  5. feeling of detachment/estrangement
  6. restricted affect
  7. sense of a foreshortened future
- D. Increased arousal symptoms (need 2 of 5):
1. difficulty falling/staying asleep
  2. irritability/outbursts of anger
  3. difficulty concentrating
  4. hypervigilance
  5. exaggerated startle response

## PTSD in DSM-5 (Trauma- and Stressor-Related Disorders Chapter)

1. avoidance of trauma-related thoughts/feelings
  2. avoidance of trauma-related external reminders
- D. Negative alterations in cognitions and mood symptoms (need 2 of 7):
1. inability to recall key features of the trauma
  2. negative beliefs about oneself, the world
  3. distorted blame of self, others<sup>b</sup>
  4. persistent negative emotional state<sup>b</sup>
  5. diminished interest/participation in activities
  6. feeling of detachment/estrangement
  7. persistent inability to experience positive emotions
- E. Alterations in arousal and reactivity symptoms (need 2 of 6):
1. irritable behavior and angry outbursts
  2. self-destructive/reckless behavior<sup>b</sup>
  3. hypervigilance
  4. exaggerated startle response
  5. problems with concentration
  6. sleep disturbance

### NOTES:

<sup>a</sup>Removed from DSM-5 criteria.

<sup>b</sup>New symptoms in DSM-5; symptoms must persist for more than 1 month for both versions.

SOURCES: Friedman, 2013; Levin et al., 2014.

**Table 4-1** shows a comparison of the previously used DSM-IV-TR criteria with DSM-5 criteria. Of note in the DSM-5 is the elimination of criterion A2 and the splitting of criteria category C into two categories (C and D). Other criteria in categories D and E have been added and are noted in **Table 4-1**. PTSD has become part of a new DSM chapter titled Trauma- and Stressor-Related Disorders and is no longer considered an anxiety disorder, as it was in DSM-IV-TR.

## Generalized Anxiety Disorder

GAD is characterized by persistent and uncontrollable anxiety and worry. As described below, studies have found high rates of GAD in the veteran population. GAD is one of seven anxiety disorders in DSM-5. The six others are separation anxiety disorder, selective mutism, specific phobia, social phobia, panic disorder, and agoraphobia. (PTSD, formerly classified as an anxiety disorder in DSM-IV-TR, was reclassified as a trauma- and stressor-related disorder in DSM-5.)

The DSM-5 diagnostic criteria for GAD are as follows: (1) excessive anxiety and worry, occurring more days than not for at least 6 months; (2) the individual finds it difficult to control the worry; (3) in adults, the anxiety and worry are associated with at least three of the following symptoms: restlessness, feeling keyed up or on edge, being easily fatigued, difficulty concentrating, irritability, muscle tension, and sleep disturbance; (4) the anxiety, worry, or physical symptoms cause clinically significant distress or impairment in important areas of functioning; (5) the disturbance is not due to the physiological effects of a substance or medical condition; and (6) the disturbance is not better explained by another medical disorder (APA, 2013).

## Major Depressive Disorder

MDD is characterized by a depressed mood most of the day (nearly every day) or a loss of interest or pleasure, or both, accompanied by at least four the following symptoms: marked unintentional weight loss or weight gain; insomnia or hypersomnia; psychomotor agitation or retardation observ-



able by others; fatigue nearly every day; diminished concentration or increased indecisiveness; and recurrent thoughts of death, or suicidal ideation (APA, 2013). According to DSM-5, to receive a major depression diagnosis, five of the above symptoms must be present nearly every day for at least 2 weeks and one of the symptoms must be depressed mood or loss of interest or pleasure.

## Substance Use Disorders

SUDs include the misuse of intoxicating substances, including alcohol, illicit drugs, prescription drugs, and other toxic agents. A major feature of SUDs is “an underlying change in brain circuits that may persist beyond detoxification, particularly in individuals with severe disorders” (APA, 2013). According to DSM-5, “[t]he behavioral effects of these brain changes may be exhibited in the repeated relapses and intense drug craving when the individuals are exposed to drug-related stimuli. These persistent drug effects may benefit from long-term approaches to treatment” (APA, 2013, p. 483).

A diagnosis of a substance use disorder is based on an individual's pattern of behavior and usage of the substance and is marked by a cluster of cognitive, behavioral, and physiological symptoms. An individual with a substance use disorder will continue using the substance despite the presence of substance-related symptoms and the problems they cause. In DSM-5, symptoms associated with a substance use disorder fall into four major groupings: impaired control, social impairment, risky use, and pharmacological criteria (that is, tolerance and withdrawal).

Although the previous definitions of SUDs (for which most prevalence data are currently available) made a distinction between “abuse” and “dependence,” DSM-5 abandoned this dichotomy and classifies the disorder by severity based on the number of symptoms present: mild substance use disorder (two to three symptoms), moderate substance use disorder (four to five symptoms), or severe substance use disorder (six or more symptoms). Additionally, DSM-5 removed the criterion for legal problems and added one for cravings. DSM-5 establishes eight types of substances that these criteria may apply to:

**TABLE 4-2** Comparison of DSM-IV-TR Criteria to DSM-5 Criteria for Substance Use Disorders (SUDs)**SUDs in DSM-IV-TR****SUDs in DSM-5****Substance-Related and Addictive Disorders Chapter**

<p>A. Substance abuse (need 1 of 4):</p> <ol style="list-style-type: none"> <li>1. failure to fulfill obligations</li> <li>2. hazardous use</li> <li>3. recurrent legal problems due to use<sup>a</sup></li> <li>4. continued use despite recurrent social or interpersonal problems</li> </ol> <p>B. Substance dependence (need 3 of 7):</p> <ol style="list-style-type: none"> <li>1. increased tolerance (increased amount; decreased effect)</li> <li>2. experienced withdrawal symptoms</li> <li>3. unintended use</li> <li>4. unsuccessful attempts to reduce or stop use</li> <li>5. excessive time spent to obtain, use, and recover from use</li> <li>6. reduction in important social, occupational, or recreational activities</li> <li>7. continued use despite experiencing adverse consequences</li> </ol>	<p>A. Substance use disorder (need 2 of 11):</p> <ol style="list-style-type: none"> <li>1. unintended use</li> <li>2. unsuccessful attempts to reduce or stop use</li> <li>3. excessive time spent to obtain, use, and recover from use</li> <li>4. craving or strong desire to use<sup>b</sup></li> <li>5. failure to fulfill obligations</li> <li>6. continued use despite recurrent social or interpersonal problems</li> <li>7. reduction in important social, occupational, or recreational activities</li> <li>8. hazardous use</li> <li>9. continued use despite experiencing adverse consequences</li> <li>10. increased tolerance (increased amount; decreased effect)</li> <li>11. experienced withdrawal symptoms</li> </ol> <p>Severity scale:</p> <p>Mild: 2–3 symptoms</p> <p>Moderate: 4–5 symptoms</p> <p>Severe: 6 or more symptoms</p>
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## NOTES:

<sup>a</sup>Removed from DSM-5 criteria.<sup>b</sup>New symptom in DSM-5; symptoms must persist for more than 1 year for both versions.

SOURCES: APA, 2013; NIH, 2015.

alcohol; cannabis; hallucinogens; inhalants; opioids; sedatives, hypnotics, or anxiolytics; stimulants; and tobacco (Horvath et al., 2015).

Table 4-2 shows a comparison of the previously used DSM-IV-TR criteria with DSM-5 criteria for SUDs.

## Suicidal Ideation and Behavior

The Centers for Disease Control and Prevention (CDC) has developed a uniform classification system for self-directed violence in order to improve public health information in this area (Crosby et al., 2011). The standardized definitions enhanced data quality for public health surveillance, research, and clinical management purposes. The VA has adopted CDC's nomenclature for self-directed violence (Brenner et al., 2011a).

According to CDC, suicidal thoughts and suicidal behavior should be addressed separately because these two aspects of self-directed violence "are vastly different in occurrence, associated factors, consequences, and interventions" (Crosby et al., 2011, p. 23). Along these lines, CDC considers terms which refer simultaneously to thoughts and behavior, such as "suicidality," unacceptable in the self-directed violence nomenclature.

In CDC's nomenclature, the term suicidal ideation is used to describe a person's thoughts of engaging in suicide-related behavior that may or may not involve suicidal intent. Suicidal behavior is "acts or preparation towards making a suicide attempt" or behavior that "deliberately results in injury or the potential for injury to oneself" with evidence of suicidal intent. The precise definition of suicide is "death caused by self-directed injurious behavior with any intent to die as a result of the behavior" (Crosby et al., 2011).

The DSM has never included a separate diagnostic category for suicidal ideation or behavior. DSM-5 (APA, 2013) states that suicidal behavior disorder as a condition warrants more research before it might be considered a formal disorder. Discussions of suicide risk are spread throughout the DSM-5 within various disorders to highlight suicide risk as a cross-cutting issue of mental disorders.

## Prevalence, Risk Factors, and Protective Factors

There is widespread variation in published estimates of mental health disorders in the veteran population (see Ramchand et al., 2015, for a com-

prehensive summary of the epidemiology of mental health problems among Iraq and Afghanistan war veterans). Variations in prevalence estimates might be explained by study design factors, such as differences in the methods and diagnostic criteria used to identify cases as well as differences between samples in the subjects' level of combat exposure, military occupation, and time and place of deployment (Ramchand et al., 2015). The discussion of different studies may also confound 30-day, 12-month, and lifetime prevalence rates. Another factor in prevalence estimates is that findings from mental health studies that use VA patient data may not be generalizable to all veterans because a large number of veterans do not receive mental health care at VA facilities, and there are significant sociodemographic differences and observed differences in behaviors between veterans who use the VA and those who do not use it (SAMSHA, 2016). Comparisons between the veteran and non-veteran populations may be misleading if prevalence rates do not control for demographic factors.

Table 4-3 shows the prevalence rates for PTSD, GAD, MDD, and SUDs and the suicide rates in the veteran and non-veteran populations. For purposes of comparison, Table 4-3 reflects data from the National Survey on Drug Use and Health (NSDUH) (SAMHSA, 2015, 2016). NSDUH uses a nationally representative dataset to produce estimates of substance use and mental health issues among veterans and non-veterans and to provide comparisons that adjust for the significant demographic differences between these populations. More details about the prevalence rates in Table 4-3 and a discussion of risk factors and protective factors for each condition follow.

## Posttraumatic Stress Disorder

### *Prevalence*

The prevalence of PTSD has been widely documented in U.S. service members after their deployments during the recent operations in Iraq and Afghanistan. In stark contrast with the U.S. general population, where lifetime prevalence of PTSD estimates are about 7 percent (Kessler et al., 2005), the VA's National Center for PTSD estimates that between 11 and 20 percent of OEF/OIF veterans have PTSD in a given year (VA, 2015a). This figure is consistent with a recent Institute of Medicine (IOM) report on

PTSD in military and veteran populations that reported PTSD prevalence estimates of 13 to 20 percent among service members who have served since 2001 (IOM, 2014b). However, a more recent study by the VA estimates that, on average, 23 percent of these veterans have received a diagnosis of PTSD (Fulton et al., 2015). Few studies that have examined the question of how the change in PTSD

**TABLE 4-3** Prevalence of Mental Health Conditions and Suicide Rates in Veteran and Non-Veteran Populations

	<b>Veteran Population (%)</b>	<b>Non-Veteran Population (%)</b>
PTSD	11–23 <sup>a, b, c</sup>	6.8 <sup>d</sup>
GAD	8–12 <sup>e, f</sup>	6 <sup>f</sup>
MDD	4.7–6.5 <sup>g, h</sup>	4.6 <sup>g</sup>
SUD	6.6–12.7 <sup>i</sup>	8.6 <sup>i</sup>
Alcohol	6.3 <sup>g</sup>	6.4 <sup>g</sup>
Any Illicit Drug	8.4 <sup>g</sup>	10.5 <sup>g</sup>
Marijuana	6.3 <sup>g</sup>	7.8 <sup>g</sup>
Pain		
Relievers/Opioids	2.4 <sup>g</sup>	3 <sup>g</sup>
Suicide Rate	35.3/100,000 <sup>j</sup>	15.2/100,000 <sup>j</sup>

NOTES: Suicide rates were not adjusted for age and sex. GAD = generalized anxiety disorder; MDD = major depressive disorder; PTSD = posttraumatic stress disorder; SUD = substance use disorder.

SOURCES:

<sup>a</sup>VA, 2015a.

<sup>b</sup>IOM, 2014b.

<sup>c</sup>Fulton et al., 2015.

<sup>d</sup>Kessler et al., 2005.

<sup>e</sup>Barrera et al., 2014.

<sup>f</sup>Milanak et al., 2013.

<sup>g</sup>SAMHSA, 2016.

<sup>h</sup>Management of Major Depressive Disorder Working Group, 2016.

<sup>i</sup>VA and DoD, 2016; SAMHSA, 2015.

<sup>j</sup>VA, 2016a.

criteria from the DSM-IV-TR to the DSM-5 (shown in [Table 4-1](#)) affected the number of people who meet the qualifying criteria to receive a PTSD diagnosis, and the few studies that exist have reported varying results. Both [Miller et al. \(2013\)](#) and [Kilpatrick et al. \(2013\)](#) estimated that using DSM-5 criteria would yield a lower prevalence of PTSD. On the other hand, [O'Donnell et al. \(2014\)](#) found rates of PTSD were higher when using the DSM-5 criteria, although the difference was not statistically significant. And [Zoellner et al. \(2013\)](#) concluded that the criteria changes were not likely to alter the overall prevalence of people receiving a PTSD diagnosis at all, but suggested that the changes might affect the heterogeneity of the individuals receiving a DSM-5 diagnosis.

## Risk Factors

Many risk factors are associated with an increased likelihood of PTSD in men and women who were members of the armed forces. Specifically, the [IOM \(2013a\)](#) reported that being under age 25, being single, and being of junior rank are risk factors for PTSD in OEF and OIF service members and veterans ([Lapierre et al., 2007](#); [Phillips et al., 2010](#); [Seal et al., 2009](#)). On the other hand, National Guardsmen over age 40 had significantly higher risks of PTSD (adjusted relative risk = 1.18; 95% confidence interval [CI] = 1.11–1.27) than National Guard and Reserve veterans under age 25 (adjusted for gender, age group, race/ethnicity, marital status, rank, service branch, multiple deployments, and time period) ([Seal et al., 2009](#)). Among those who deployed, the [IOM \(2013a\)](#) reported that combat exposure, certain deployment-related stressors (such as troubles at home, lack of privacy, and problems with leadership),

military sexual trauma, prior traumatic experiences, a history of psychological health conditions, and severe physical injury were all risk factors for PTSD. These are discussed individually below.

## Combat Exposure

Combat exposure is a well-known risk factor for PTSD in veterans. In their review of 29 studies of OEF and OIF military personnel, [Ramchand et](#)



al. (2010) found that the only factor that was consistently significantly associated with PTSD was combat exposure and that other factors that often appear to be associated with PTSD may simply be surrogates of combat exposure. Vasterling et al. (2010) found that deployed soldiers who had high combat exposure (according to the Deployment Risk and Resilience Inventory [DRRI] scale) showed the greatest increase in PTSD symptoms. Similarly, using the DRRI, Barrera et al. (2013) found that those veterans who reported higher levels of combat exposure were likely to be subsequently diagnosed with PTSD (odds ratio = 1.17; 95% CI = 1.10-1.25).

The types of combat experiences that are associated with an increased risk of PTSD include killing someone (Maguen et al., 2011), the threat of personal harm (Kolkow et al., 2007; Peterson et al., 2010; Phillips et al., 2010), witnessing someone from one's unit or an ally unit being seriously wounded or killed, and experiencing "friendly" fire (Pietrzak et al., 2011). Severe combat stressors that are specific to this OEF/OIF/OND cohort of veterans "include an increased number of unpredictable insurgent attacks in the form of suicide and car bombs, improvised explosive devices (IEDs), sniper fire, and rocket-propelled grenades" (IOM, 2012, p. 2).

## *Deployment-Related Stressors*

Deployment and deployment-related stressors, including concerns back home, issues with leadership, and lack of privacy, have been associated with an increased risk of PTSD (Booth-Kewley et al., 2010; Seal et al., 2009). The IOM notes that stressors such as longer deployments, multiple deployments with shorter rest and recovery times between deployments, and greater time away from base camp are also risk factors for PTSD (IOM, 2012). Moreover, some investigations have indicated that National Guard soldiers, who often do not benefit from being located near military installation amenities and supportive communities, suffer disproportionately from deployment (Milliken et al., 2007; Thomas et al., 2010). Deployment-related factors associated with National Guardsmen and PTSD (and depression) include financial hardships, job loss, and a lack of employer support (Riviere et al., 2011).

## *Military Sexual Trauma*

Military sexual trauma (MST) is defined by the VA as “sexual assault or repeated, threatening sexual harassment that occurred while the Veteran was in the military” (VA, 2015b), and it appears to be a notable risk factor for PTSD (Dutra et al., 2011; Himmelfarb et al., 2006; Maguen et al., 2012; Suris and Lind, 2008; VA, 2015b).

A representative sample of 108,478 service members found that in 2012, 6.1 percent of active-duty women and 1.2 percent of active-duty men experienced unwanted sexual contact, defined as sexual touching only, attempted or completed intercourse, or attempted or completed anal or oral sex (DoD, 2013). Sixty-seven percent of the women (among the 6.1 percent) and 73 percent of the men (among the 1.2 percent) reported that the unwanted sexual contact had occurred at their military installations, while 19 percent of women (of the 6.1 percent) and 26 percent of men (of the 1.2 percent) reported

that the unwanted contact had occurred while they were deployed to a combat zone. Thirty-three percent of the women and 10 percent of the men who experienced unwanted sexual contact reported the incident to a DoD authority (DoD, 2013). Data solely from OEF/OIF veterans screened at the VA suggests that 15.1 percent of women and 0.7 percent of men using VA services reported MST (Kimerling et al., 2010).

After reviewing electronic medical records of 108,149 male and 17,580 female OEF and OIF veterans, Kimerling et al. (2010) found that those who were victims of MST were significantly more likely to have received a PTSD diagnosis and to have other psychological health disorders (for example, depression, other anxiety disorders, and substance use disorders) than those who did not have a history of abuse. The odds ratios remained significant even after adjustment for other significant associations. Leard-Mann et al. (2013a) examined the risk factors associated with sexual assault or harassment in a cohort of 13,262 active- and reserve-component women. The authors found that women who were deployed and experienced combat reported the highest cumulative 3-year incidence of sexual harassment (19.9 percent) and assault (4.0 percent). Being born in 1980 or later, prior sexual stressors, being recently divorced, and having prior psychological health disorders were also associated with an increased risk of experiencing sexual assault or harassment (or both).

## Other Risk Factors

**Traumatic experiences prior to joining military.** Veterans who had traumatic experiences prior to experiencing combat appear to be more susceptible to developing PTSD than those who do not have such a history. [Phillips et al. \(2010\)](#) found that two or more exposures to violence before entering the military increased the likelihood of screening positive for PTSD. Also, multiple studies have found an association between adverse childhood experiences—such as physical, sexual, and psychological abuse or exposure to a person in the home who was mentally ill, an alcoholic, or violent—and the psychiatric symptoms of PTSD, anxiety, or depression ([Cabrera et al., 2007](#); [Dedert et al., 2009](#); [Fritch et al., 2010](#); [Gahm et al., 2007](#)).

**A history of psychological health conditions.** Military personnel who were diagnosed with a psychological health condition, particularly PTSD, prior to deployment are at greater risk for a repeat diagnosis in theater ([Larson et al., 2011](#)). Using self-report data, [Sandweiss et al. \(2011\)](#) assessed the relationship between postdeployment PTSD and predeployment (baseline) psychiatric conditions and injury severity among 22,630 military personnel who had been deployed to Iraq or Afghanistan. PTSD was found to be significantly associated with baseline psychiatric conditions; service members who had one or more baseline psychiatric conditions were 2.52 times more likely to report PTSD symptoms than those who had no baseline psychiatric conditions.

**Injury severity and neurologic dysfunction.** The conflicts in Iraq and Afghanistan have left veterans with serious IED blast injuries that often coincide with mild traumatic brain injury and ultimately, an increased risk of developing comorbid PTSD ([IOM, 2014b](#)). [Grieger et al. \(2006\)](#) evaluated seriously injured soldiers and found that severe physical problems were significantly associated with PTSD. [MacGregor et al. \(2009\)](#) also observed a positive association between injury severity and PTSD and other psychological health diagnoses. While not all studies have shown a link between PTSD and the severity of an injury, there are still numerous links noted between injuries in general and an increased risk of PTSD ([Koren et al., 2005](#)). The committee notes that when measuring the association between an exposure and an outcome, these findings are not necessarily causal.

## *Protective Factors*

Besides the many risk factors noted above, there is also some evidence of protective/resilience factors that have decreased the risk of PTSD. Protective factors for PTSD include good leadership, unit support, training, positive deployment experience, and organizational commitment while in the military (Booth-Kewley et al., 2013; IOM, 2012). Additionally, Polusny et al. (2011) found postdeployment social support to be a significant protective factor, specifically for National Guard soldiers.

## **Generalized Anxiety Disorder**

### *Prevalence*

Studies from the early years of the conflicts showed elevated rates of GAD in veterans following deployment to Iraq and Afghanistan (Hoge et al., 2004). More recently, Barrera and colleagues (2014) examined VA-wide patient data for 292,244 veterans, looking for those veterans who had received a new anxiety disorder diagnosis in fiscal year 2010 and reported that about 8 percent of patients had received a GAD diagnosis. Also, in a sample of 884 veterans from primary care clinics in four VA medical centers (VAMCs), Milanak et al. (2013) found that veterans had a greater risk for developing GAD than civilians; 12 percent of veterans met the diagnostic criteria for GAD, which is twice that found in civilian primary care settings.

Despite the high rates of GAD among veterans, research and data specifically about GAD in the veteran population are lacking. This is in part because study designs have often grouped the various anxiety disorders together (reflecting the older diagnostic criteria in DSM-IV-TR) or grouped anxiety with other mental health conditions. Robust information about GAD is also impeded by the non-existence of VA clinical practice guidelines for anxiety and the lack of a policy for standardized screening; by contrast, there is standardized screening in VA primary care settings for PTSD, MDD, and SUD.

Improved detection, diagnosis, and treatment of anxiety disorders within VA primary care settings would be helped by the development of clinical guidance, routine standardized screening, and procedures for the appro-

priate referral of veterans based on anxiety type and severity level (Barrera et al., 2014; Milanak et al., 2013).

## *Risk and Protective Factors*

Risk factors for GAD include female gender, lower socioeconomic class, and experiencing adversity in childhood (such as physical or sexual abuse, neglect, or living in a household with alcoholism, drug use, or interpersonal violence). Physical punishment in childhood is also associated with an increased risk of GAD in adulthood. Strong social support and a stable childhood are protective factors for GAD later in life. Many of these risk and protective factors are not specific to GAD and are also factors for other anxiety and mood disorders (Stein and Sareen, 2015).

## **Major Depressive Disorder**

### *Prevalence*

According to combined 2005 to 2012 data collected from the National Survey on Drug Use and Health, there were no overall differences between veterans and non-veterans in past-year major depressive episodes (4.7 versus 4.6 percent, respectively); however, differences were seen by age group. The

percentages of veterans with a major depressive episode were 9.6 percent among those aged 18 to 25 and 7.7 percent among those aged 26 to 54; these rates are higher than the percentages of non-veterans in the same age groups, 6.9 and 6.1 percent, respectively (SAMSHA, 2016). Among veterans served by the VA, the prevalence of MDD is somewhat higher at 6.5 percent (Management of Major Depressive Disorder Working Group, 2016).

### *Risk Factors*

The factors that increase one's risk for depression can be genetic, biological, environmental, and psychological, and they often act together in various combinations (VA, 2011). Among U.S. military personnel, Gadermann et al. (2012) found that being female, young (17 to 25 years old), un-

married, and having less than a college education increased the likelihood of depression. Other risk factors that have been reported in the literature include military sexual trauma and childhood physical abuse and other adverse childhood experiences (Cabrera et al., 2007; Fritch et al., 2010; Kimerling et al., 2010; Suris and Lind, 2008). Having been on a deployment and exposure to combat have also been shown to be associated with a diagnosis of depression (Gadernann et al., 2012; IOM, 2013a; Wells et al., 2010).

## **Substance Use Disorder**

### *Prevalence*

Misuse of alcohol and drugs has been a problem for many generations of veterans, including the OEF/OIF cohort. Veterans of the Iraq and Afghanistan wars have a higher risk of substance use disorders compared with military personnel who never deployed or were not deployed in those conflicts (Kelsell et al., 2015). According to the 2013 National Survey on Drug Use and Health (SAMSHA 2015), 1.5 million veterans aged 17 or older, 6.6 percent of this population, had a substance use disorder in the past year, whereas the national average among persons aged 17 or older was 8.6 percent. Notably, the rate of substance use disorders among post-9/11 veterans was 12.7 percent, which is higher than the rate for veterans of other eras (which range from 3.7 to 6.7 percent depending on the era) and the national average.

Data on types of substances from the National Survey on Drug Use and Health (using 2002 to 2012 data) found that among all adults, past-year prevalence was lower for veterans than for non-veterans for illicit drug use (8.4 versus 10.5 percent), marijuana use (6.3 versus 7.8 percent), and non-medical use of pain relievers (2.4 versus 3.0 percent) after adjusting for age, gender, and race/ethnicity. The lower prevalence for veterans as compared with non-veterans for these substance use measures was found only among males; female veterans and nonveterans had similar substance use estimates. Compared to their non-veteran counterparts, younger veterans are at greater risk of abusing alcohol and drugs: veterans aged 18 to 25 had higher past-year rates of alcohol abuse or dependence (19.1 versus 21.2),



non-medical use of pain relievers (12.9 versus 14.8 percent), and methamphetamine use (1.4 versus 2.3 percent).

## *Risk Factors*

Among those who have served in the military, there are a large number of risk factors for substance abuse and misuse. Notably, the nature of the military itself and military culture can contribute to an increased risk for substance abuse/misuse (for example, exposure to stressful and traumatic events, serious injuries, combat involvement, multiple deployments, camaraderie around the availability of alcohol on or near bases, etc.) (IOM, 2013a,b). Furthermore, SUD can be comorbid with many of the

other conditions commonly found in this cohort of veterans, such as PTSD, depression, and TBI (IOM, 2014b). Similarly, the many veterans who had wartime injuries and survived often have medical conditions that lead them to receive frequent prescriptions for controlled substances, which further increases the risk for addiction or misuse among this group (IOM, 2013b). Demographically, at-risk substance abusers tend to be young, single, male veterans or members of the National Guard or Reserve (IOM, 2013b; Seal et al., 2011).

## *Protective Factors*

There has not been much research on protective factors for alcohol and substance use disorders, particularly in military and veteran populations. However, an IOM study that focused on SUDs in the Armed Forces reported that factors such as resiliency, attachment, positive temperament, having a support system, and religiosity all can help to mediate or moderate the risk (IOM, 2013b). Similarly, a study of war veterans from Bosnia and Herzegovina found that stronger religious moral beliefs result in “a healthier and more efficient mechanism of tobacco and alcohol misuse control” (Hasanovic and Pajevic, 2010). Green and colleagues (2014) also found in a sample of Iraq and Afghanistan veterans that increased psychological resilience served as a protective factor against alcohol misuse over time.

## Suicidal Ideation and Behavior

### *Prevalence*

In July 2016, the VA released updated statistics about veteran suicide (VA, 2016a). It estimated there were 7,403 suicides among veterans in 2014, an average of 20 veteran suicides per day. That figure replaces prior VA estimates of 22 veteran suicides per day, which had been called into question on the basis of the data limitations cited in the earlier report (Kemp and Bossarte, 2012). The recent comprehensive analysis included more than 50 million veterans' records from 1979 to 2014 from every state.

The VA study found that the highest suicide rates occur among veterans who do not participate in the VA's mental health programs; on average, in 2014, 6 of the estimated 20 veterans who died from suicide each day were users of VA services. The study also found that two-thirds of all veteran deaths from suicide were the result of firearm injuries. The suicide rate among all veterans was 35.3 per 100,000 people and the rate of suicide among U.S. civilian adults was 15 per 100,000 people. When compared to their non-veteran peers, most veterans are at an increased risk for suicide. After adjusting for differences in age and gender, risk for suicide was 21 percent higher among veterans when compared to U.S. civilian adults. Both male and female veterans are more likely to commit suicide than their U.S. civilian counterparts. In 2014, the rate of suicide among veteran males was 37.0 per 100,000, while the rate of suicide among civilian adult males was 26.2 per 100,000. Among veteran females, the rate of suicide was 18.9 per 100,000 and the rate of suicide among civilian adult females was 7.2 per 100,000 (VA, 2016a).

A recent study of veteran and military personnel suicide looked at suicide patterns by county and state in an effort to determine potential focal points for prevention efforts (Logan et al., 2016). Researchers used data from the National Violent Death Reporting System from 2005 to 2012 from 16 states. Suicide decedents between 18 and 35 who had ever served in the military were included in the analysis (1,178 veterans out of a total of 2,026). One-third of all veteran suicides occurred in 33 high-density counties (out of 963 total counties), 28 of which had VA facilities. Another third of veteran suicides occurred in 93 medium-density counties. The authors suggest that focusing suicide prevention efforts by county may be beneficial.

## Risk Factors

Risk factors for suicide and suicidal ideation are often concurrent with risk factors for PTSD, depression, and SUD; in fact, having a diagnosis of any of these illnesses can be a risk factor for suicidal behavior (Britton et al., 2012; Ilgen et al., 2012; IOM, 2013a; LeardMann et al., 2013b; Lemaire and Graham, 2011). Furthermore, studies have found that the risk factors for suicide in the OEF/OIF veteran population include being an older veteran, having experienced prolonged combat or a combat injury, and having a diagnosis of TBI or a psychiatric disorder (Bruce, 2010; Kang and Bullman, 2009). A more recent study by Kang et al. (2015) found that “in both male and female veteran groups, the suicide risk was higher among younger, white, unmarried, enlisted, and Army/Marine veterans” (p. 98) and that deployment was not a contributing factor. Having a history of traumatic brain injury has also been shown to contribute to an increased risk of suicide (Brenner et al., 2011b; Bryan and Clemans, 2013).

## Protective Factors

The protective factors that decrease the likelihood of suicide are not as well studied as its risk factors, and most of the research has been carried out in civilian populations. However, the most recognized protective factors include social support, including strong interpersonal bonds with family members and unit members and responsibility to one's family; psychological factors, such as resilience, good impulse control, and good problem-solving skills; and receiving psychological health treatment (Bryan and Hernandez, 2013; Nock et al., 2013; VA and DoD, 2013). In military populations, unit cohesion is one example of social support that buffers against the adverse effects of stress, the development of PTSD, and potentially suicidal behavior (Brailey et al., 2007). In a 3-year longitudinal study of veterans, resilience (being able to thrive in the face of adversity) was found to protect against suicidal thoughts and suicide attempts (Youssef et al., 2013a). In a related study of Iraq/Afghanistan-era military and veterans, resilience was found to be negatively associated with depressive symptoms and suicidal ideation (Youssef et al., 2013b). Spirituality or some sort of religious faith can also be a protective factor for suicide and suicide ideation

as well as for stress-related disorders, depression, and substance abuse (Bonelli and Koenig, 2013; Bryan et al., 2015; Kopacz, 2014).

## SCREENING, ASSESSMENT, AND TREATMENT

This section reviews the clinical practices the VA employs for identifying (screening), assessing, and treating veterans who need mental health care. Regarding prevention practices, the committee notes that two previous IOM committees had examined the evidence pertaining to DoD and VA programs that target prevention of mental problems. IOM (2012) found that no PTSD prevention programs have evidence for their effectiveness in preventing or reducing PTSD or stress in service members or their families. In examining broad-based, universal prevention efforts aimed at military service members and their families to reduce mental health and relationship problems, IOM (2014a) found that most of the available interventions have been developed and tested in civilian communities and lack evidence of their effectiveness for military families. Nonetheless, mental health screening, discussed below, as well as other strategies employed by the VA discussed throughout the report, such as integration of mental health in primary care, complementary and alternative approaches to wellness, peer-support models, and suicide prevention programs, support early detection of risks for mental illness and allow for timely interventions to promote health and well-being.

**TABLE 4-4** Example of the Scope of Mental Health Practice for Five Main Types of Health Care Providers

Type of Provider	Mental Illness–Related Scope of Practice			
	Diagnoses Mental Health Disorders	Provides Psychosocial Treatment	Does Psychological Testing	Prescribes Medicines
Licensed clinical social worker (LCSW)	X	X		

Type of Provider	Mental Illness–Related Scope of Practice			
	Diagnoses Mental Health Disorders	Provides Psychosocial Treatment	Does Psychological Testing	Prescribes Medicines
Clinical psychologist	X	X	X	<sup>a</sup>
Marriage and family therapist (MFT)/ licensed professional counselor (LPC)	X	X		
Psychiatrist	X	X		X
Advanced practice psychiatric nurse (APPN)	X	X		X
Primary care provider (PCP) (physicians, advanced practice registered nurses, and physician assistants)	X	X		X

NOTES:

<sup>a</sup>In New Mexico, Louisiana, Guam, the Department of Defense (DoD) system, the Indian Health Service, and the U.S. Public Health Service, licensed psychologists who obtain additional training can apply to have prescription writing privileges as part of their scope of practice.

SOURCES: CRS, 2015; Dundon et al., 2011.

This section begins with an overview of the clinical guidance that the VA uses for the management of mental health conditions in veterans, then follows that with a summary of VA processes for identifying and diagnosing veterans with mental health conditions. The evidence-based treatments recommended for each mental health diagnosis are outlined at the end of the section.

VA employs various types of providers to deliver mental health services to veterans. Table 4-4 shows the scope of practice for the types of providers who deliver mental health services to patients at the VA. Chapter 8 discusses workforce issues and the availability of providers within the VA.

## Clinical Practice Guidelines in the Department of Veterans Affairs

The VA collaborates with DoD and other professional organizations to develop clinical practice guidelines (CPGs)<sup>2</sup> for the management of a number of different physical health and mental health conditions. The guidelines document evidence-based procedures for the screening, assessment, diagnosis, and treatment of adults who are seen in any VA or DoD clinical setting. VA/DoD joint guidelines exist for the four conditions addressed in this report, PTSD, MDD, SUD, and suicide risk. They are, respectively: *VA/DoD Clinical Practice Guideline for the Management of Post-Traumatic Stress Disorder* (VA and DoD, 2010), *VA/DoD Clinical Practice Guideline for the Management of Major Depressive Disorder* (Management of Major Depressive Disorder Working Group, 2016), *VA/DoD Clinical Practice Guideline for the Management of Substance Use Disorders* (Management of Substance Use Disorders Work Group, 2015), and *VA/DoD Clinical Practice Guideline for Assessment and Management of Patients at Risk for Suicide* (VA and DoD, 2013).

The VA/DoD guideline development process, documented in *Guideline for Guidelines* (VA, 2016b), follows external standards for clinical guideline management, such as those published by the IOM (IOM,

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<sup>2</sup> CPGs are statements and recommendations for clinical care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.

2011) and by the Guidelines International Network (Qaseem et al., 2012). For example, the VA/DoD guideline process is well defined and structured, and the project team includes guideline champions and other subject-matter experts who are required to make conflict-of-interest disclosures. In addition, the evidence reviews use standardized systems to grade the strength of the evidence<sup>3</sup> for recommendations, and a peer-review process involves experts from outside organizations.

VA/DoD guidelines are routinely updated, typically every 3 to 5 years, or sooner if major changes in evidence occur (VA, 2016b). The 2009 editions of the VA/DoD MDD and SUDs guideline were updated in 2016 and 2015, respectively, and reflect DSM-5 clinical criteria that are described in a previous section of this chapter. At the time of the writing of this report, an update to the 2010 VA/DoD PTSD guideline (which is based on the former PTSD criteria in DSM-IV-TR) was in progress. The VA/DoD guideline for



the assessment and management of patients at risk for suicide, published in 2013, is the first VA/DoD CPG related to suicide risk.

## Mental Health Screening and Assessment in the Department of Veterans Affairs

Within the Veterans Health Administration (VHA) of the VA, patients are screened for the signs and symptoms of mental health problems. Those who have a positive result on a screening test are evaluated further and, if found to have a mental health problem, offered treatment.

VA policy requires that all new patients seen in the VA health system be screened for PTSD, MDD, and alcohol misuse. There is no evidence for the value of universal screening for substances other than alcohol and tobacco (Lanier and Ko, 2008; Saitz et al., 2014), so the VA endorses targeted case-finding methods to identify patients who use illicit drugs or misuse prescription or over-the-counter agents (VA, 2015c).<sup>4</sup> Positive screens for PTSD or MDD, in particular, are followed by a suicide risk assessment to confirm suspected suicide risk (Management of Major Depressive Disorder Working Group, 2016; VA and DoD, 2010). Patients in primary care are re-screened annually for PTSD, MDD, and alcohol misuse, unless there is a clinical need for more frequent assessment.

The VA identifies those who are at risk for a mental health condition using various brief screening instruments that have been validated in studies of veteran populations (IOM, 2013a). Use of the screening instruments is facilitated by a clinical reminder system at the point of care that is embedded in the electronic medical record (VA, 2007). Clinicians accessing a veteran's medical record are prompted to complete the screening tests that are appropriate for that patient based on his or her medical history. Table 4-5 summarizes the frequency of health screening and the screening instruments commonly used for each of the mental health conditions addressed in this report.

It is worth noting that in many cases the first contact that OIF/OEF/OND veterans have with the VA is through a compensation and pension examination (C&P exam), which is a necessary step in the process of obtaining disability benefits from the Veterans Benefits Administration (VBA). C&P exams differ from standard clinical examinations in the VA, as

their core function is to provide VBA staff with the evidentiary foundation with which a claim for a service-connected disability can be rated or denied (IOM and NRC, 2007). The focus of the C&P exam is on data collection rather than on the medical management of a veteran's health condition; there is no formal connection between VBA evaluations for service-connected PTSD claims and the VA assessments of the need for treatment. Some argue that the VA

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<sup>3</sup> Depending on the guideline, the evidence rating system is either the U.S. Preventive Services Task Force (USPSTF) system or the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system.

<sup>4</sup> Methods include an evaluation of the signs and symptoms of substance use in patients with other relevant conditions, such as other mental health disorders, hepatitis C, or HIV disease.

**TABLE 4-5** Mental Health Screening in the VA

	<b>PTSD</b>	<b>MDD</b>	<b>Alcohol Misuse</b>	<b>Suicide Risk</b>
	All new patients seen at a VA medical facility.	All new patients seen at a VA medical facility.	All new patients seen at a VA medical facility.	
Frequency	Annual rescreen for the first 5 years and every 5 years after that.	Annual rescreen for patients seen in a primary care setting.	Annual rescreen for patients seen in primary care, medical specialty, and mental health care settings.	Mandatory screening for suicide risk if a patient screens positive for PTSD or MDD. <sup>a</sup>
Instrument	The Primary Care PTSD Screen (PC-PTSD) (Prins et al., 2004) is incorporated into the VHA clinical reminder system.	Patient Health Questionnaire-2 (PHQ-2) (Kroenke et al., 2003) is incorporated into the VHA clinical reminder system.	Alcohol Use Disorders Identification Test Consumption (AUDIT-C) <sup>b</sup> (Bush et al., 1998) is incorporated into the VHA clinical reminder system.	Instruments used can vary widely across the VA system (Doran et al., 2016).

NOTES: MDD = major depressive disorder; PTSD = posttraumatic stress disorder; VA = Department of Veterans Affairs; VHA = Veterans Health Administration.

<sup>a</sup>According to the U.S. Preventive Services Task Force, suicide risk screening is more productive for high-risk individuals with known mental illnesses or substance use disorders; there is insufficient evidence to support suicide risk screening for the general population in a primary care setting (O'Connor et al., 2013).

<sup>b</sup>The VA/DoD guideline recommends annual screening with either the AUDIT-C or the Single-Item Alcohol Screening Questionnaire (SASQ) recommended by NIAAA (2008).

SOURCES: Management of Major Depressive Disorder Working Group, 2016; Management of Substance Use Disorders Work Group, 2015; VA, 2010; VA and DoD, 2013.

may be missing opportunities to provide treatment to veterans and that the VA should make it a priority to engage veterans in treatment as part of the VBA compensation examination process (Rosen, 2010).

VA clinical standards indicate that a veteran with a positive result on a mental health screening test receives a comprehensive clinical assessment, performed by a mental health professional, to evaluate symptoms, symptom severity, and effects on daily functioning. VA/DoD CPGs recommend various evidence-based instruments to assist a clinician in confirming a suspected mental health condition and determining the diagnosis (IOM, 2013a); however, the choice of the assessment instrument is up to the care provider. The section at the end of this chapter, Assessment of Clinical Practices for Screening, Assessment, and Treatment in the VA, summarizes findings from recent evaluations of the VA's implementation of health screening and assessment standards discussed above. The following is a brief description of the clinical assessment instruments recommended by the VA/DoD guidelines for each condition addressed in this report.

## Posttraumatic Stress Disorder

For making a diagnosis of PTSD, VA/DoD guideline recommendations include using the Clinician-Administered PTSD Scale (CAPS), considered the gold standard for diagnosing PTSD, and a self-report instrument known as the PTSD checklist (PCL). The 2010 VA/DoD PTSD guideline pre-dates the release of revised PTSD clinical criteria in DSM-5; consequently, the guideline refers to CAPS and PCL versions corresponding DSM-IV-TR criteria. The updated instruments, CAPS-5 (Weathers et al., 2013a) and PCL-5 (Weathers et al., 2013b), support a PTSD diagnosis on the basis of DSM-5 diagnostic criteria.

The National Center for PTSD reports that the change in the rating scale for the PCL combined with the increase from 17 to 20 items means that PCL-5 scores are not compatible with PCL for DSM-IV scores and cannot be used interchangeably. Psychometric work on the PCL-5 to determine the scoring thresholds is in process. Although the National Center for PTSD gives initial scoring guidelines, it cautions that the information may be subject to change until further psychometric work is available (National Center for PTSD, 2014).

## Major Depressive Disorder

The VA/DoD guideline for depression management recommends that clinicians assess patients who are diagnosed with depression using the Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001). PHQ-9 is a validated self-report or interviewer-administered instrument that serves as an indicator of depression severity or of a patient's response to treatment. The PHQ-9 is integrated into the VA clinical reminder system, which prompts clinicians to perform the PHQ-9 test if a PHQ-2 test is positive (VA, 2007).

## Substance Use Disorder

For patients who screen positive for unhealthy alcohol use, the VA/DoD guideline recommends assessing current alcohol consumption relative to the limits established by the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2008).<sup>5</sup> If the limits are exceeded, brief alcohol counseling by a clinician or counselor (often termed brief intervention) is recommended. Brief interventions can be a single session or multiple sessions involving motivational interviewing techniques focused on drinking-related consequences and the benefits of reducing alcohol use.

The VA/DoD guideline recommends referral to specialty SUD care for addiction treatment for a patient who has an Alcohol Use Disorders Identification Test Consumption score of 8 or higher (on a scale of 0–12) or who meets one of the following criteria: needs additional evaluation, does not respond to a brief intervention, has a DSM diagnosis of alcohol or other substance dependence, or has received previous treatment for SUDs.

## Suicidal Ideation and Behavior

According to the 2013 VA/DoD *Clinical Practice Guideline for Assessment and Management of Patients at Risk for Suicide* (VA and DoD, 2013), “any person who is identified as being at possible suicide risk should be formally assessed for suicidal ideation, plans, intent and behavior, the availability of lethal means, and the presence of risk factors and warning signs” (p. 8). In addition, the level of suicide risk (high acute risk, intermediate acute risk,

and low acute risk) should be determined, and a formulation of the care setting should be decided upon.

As reported in the VA/DoD guideline, there is insufficient evidence to recommend any specific measurement scale to determine suicide risk. Several instruments have demonstrated the capability of detecting important risk factors for suicide; however, the evidence for the effectiveness of available suicide assessment instruments to predict suicide attempts and suicide is very limited and inconclusive (Fowler, 2012; Haney et al., 2012). Instruments like the PHQ-9, which assesses depression severity and

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<sup>5</sup> NIAAA recommends maximum alcohol limits of no more than 14 drinks in a week and no more than 4 drinks in a day for men and no more than 7 drinks in a week and no more than 3 drinks in a day for women. Drinking above the recommended limits is called risky or hazardous drinking.

includes a question regarding the presence of suicidal ideation, are widely accepted and administered to patients in VA primary care settings.

## Suicide Prevention

In addition to issuing VA/DoD clinical guidance about suicide risk screening and assessment, VA has implemented a number of other strategies to support veterans at risk of suicide (Bagalman, 2016). VA policy requires every VAMC to have at least one suicide prevention coordinator with a full-time commitment to suicide prevention activities, including tracking and reporting on veterans at high risk for suicide and coordinating clinical care for high-risk veterans.

According to VA policy, it is the responsibility of suicide prevention coordinators to submit suicide behavior reports for all known suicide events (deaths, attempts, and serious suicidal ideation). They submit these reports to a centralized database, the VA Suicide Prevention Applications Network (SPAN). An entry of a suicide event into SPAN results in the placement of the veteran on the VA high-risk list, the use of treatment flags in the electronic medical record system, and enhancements to care and case management. Hoffmire et al. (2016) assessed VA data on suicide attempts and found that the use of SPAN substantially increased the collection of data on



suicide attempters as compared with the use of medical records alone, but neither SPAN nor the VA's medical records identify all suicide attempters. The author concluded that additional research is needed to better understand how to optimize VA information systems for comprehensive surveillance of suicide attempts among VA service users (Hoffmire et al., 2016).

Another VA suicide prevention activity is the implementation of a safety planning protocol for use with high-risk patients. A safety plan is a written document developed jointly by a patient and a clinician that identifies strategies for coping in a crisis (Stanley and Brown, 2008). As used in the VA, the safety plan involves the following elements in episodes of suicidal ideation: recognizing signs of increasing risk; using specific coping strategies; getting support from social contacts; seeking assistance from family members, friends, or professionals; and reducing access to lethal means such as firearms (Claassen and Knox, 2011). VA protocol requires that the plan be included in the patient's medical record and that a copy be given to the patient.

To reach veterans in the community, in 2007 the VA established the Veterans Crisis Line (VCL) which veterans can access by calling a national toll-free number, connecting to online chat, or sending a text message. A 2016 Government Accountability Office (GAO) report reviewed VA's administration of the VCL found that the "VA cannot ensure that the VCL is providing consistent, high-quality services to callers and cannot effectively track and publicly report progress or results" (GAO, 2016, p. 2). In April 2017, VA Secretary David Shulkin announced that less than 1 percent of calls were now being rerouted to back-up centers (VA, 2017c). While lawmakers commended this improvement, they also cautioned that other improvements were still needed, such as filling the director position of the VCL (Ogrysko, 2017). Similarly, the Government Accountability Office and the VA Office of Inspector General have both recently identified continued problems related to wait times, leadership, and performance monitoring (GAO, 2017; VA Office of Inspector General, 2017). VA has raised awareness about the Veterans Crisis Line and suicide prevention through awareness campaigns such as Power of One and Be There.

In the VA's ongoing effort to prevent veteran suicides, VA Secretary Shulkin announced in 2017 that the VA would offer emergency mental health care to veterans with an other-than-honorable (OTH) discharge status (VA, 2017d). As described in Chapter 6, veterans with an OTH discharge

are routinely denied health care services unless they request an eligibility adjudication from the VBA, asking that their discharge be ruled not dishonorable. Very few requests for eligibility adjudication are granted ([Swords to Plowshares, 2016](#)). Under the new initiative, veterans with OTH discharges will be eligible

to seek treatment at a VA emergency department or Vet Center or to contact the Veterans Crisis Line. For individuals requiring emergency mental health care, a full array of mental health services, including inpatient mental health care and follow-up outpatient, residential, and substance use disorder services, may be provided for up to 90 days. If longer-term services are needed, the VA will coordinate a transition to community-based care, but it does not have the legal authority to provide ongoing care to veterans with OTH discharges at the VA's expense ([VA, 2017b](#)).

Within the VHA, research on suicide prevention is supported by three research components: the Office of Research and Development, a center of excellence in suicide prevention, and a mental illness research, education, and clinical center on suicide prevention. The research components conduct veteran-specific research to identify characteristics associated with higher rates of suicide (that is, risk factors) and lower rates of suicide (that is, protective factors) as well as research evaluating the effectiveness of suicide prevention interventions ([Bagalman, 2016](#)).

International experts who reviewed the literature on suicide-prevention interventions have concluded that restriction of access to lethal means is one of the few suicide-prevention policies that has proven effectiveness. A systematic review on suicide prevention by [Mann et al. \(2005\)](#) concluded that among the methods used to reduce suicide (physician education, restricting lethal means, public education, screening programs, and mass-media education), restricting access to lethal methods and the education of physicians in depression recognition and treatment were found to prevent suicide.

The VA promotes safe use of firearms as part of its comprehensive suicide prevention strategy. The VA has distributed over 3 million gunlocks nationwide since 2010 and disseminates a safety video and brochure ([VA, 2017b](#)).<sup>6</sup> See [Chapter 6](#) for a discussion of veteran treatment-seeking behavior as it relates to firearms.

# Treatment Interventions at the Department of Veterans Affairs

As described above, VA policy indicates that if a clinical assessment confirms a mental health diagnosis, a veteran is to be offered treatment. The following is summary of treatment interventions that are recommended in the VA/DoD joint guidelines for each condition. Refer to [Chapter 11](#) for a detailed discussion about whether veterans who have mental health care needs and use VA services are receiving the treatments described here. Below, details about relevant VA policy or findings from recent studies supplement the discussion about recommended treatments; however, a systematic review of randomized controlled trials addressing the efficacy of various treatments is beyond the scope of the committee's charge and is not included in the discussion of the literature.

## Posttraumatic Stress Disorder

Determining the appropriate treatment for PTSD can be complicated because PTSD presents with varied psychosocial morbidity and functional impairment and is often comorbid with other psychiatric disorders, particularly SUD, major depression, and mild TBI. In general, the treatment for PTSD symptoms includes three broad intervention categories: psychotherapy (based on psychology techniques), pharmacotherapy (using prescription medication), and education (including the teaching of coping mechanisms for the patient and family members).

The first-line psychotherapy treatment recommended by the VA/DoD guideline for PTSD ([VA and DoD, 2013](#)) is trauma-focused psychotherapy that includes components of exposure or cognitive

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<sup>6</sup> See [www.veteranscrisisline.net](http://www.veteranscrisisline.net).

restructuring or stress inoculation training (SIT). Specifically, the approach may include an exposure-based therapy, such as prolonged exposure (PE); a cognitive-based therapy, such as cognitive processing therapy (CPT); stress management therapy (such as SIT); or eye-movement desensitiza-

tion and reprocessing. In addition, the guideline identifies other approaches as having possible benefits in treating for PTSD, including relaxation techniques, imagery-reversal therapy, brief psychodynamic therapy, hypnosis, and group therapy. However, the VA/DoD guideline for PTSD indicates there is insufficient evidence to recommend for or against dialectical behavioral therapy (a type of cognitive-behavioral psychotherapy) or family and couples therapy as first-line treatments for PTSD. Of the various psychotherapies, VA policy requires that CPT and PE must be available to all veterans with PTSD who need and want it (VA, 2015c).

As discussed in more detail in [Chapter 14](#), the use of technology for the delivery of psychotherapy treatment for PTSD is increasing. The VA/DoD PTSD guideline supports the use of telephone delivery and videoconferencing—clinical videoconferencing technology (CVT)—particularly to overcome geographic distance or other barriers to care. Randomized clinical trials published since the 2010 VA/DoD PTSD guideline have demonstrated that PTSD outcomes with CVT delivery of trauma-focused therapies are generally comparable to outcomes associated with traditional service delivery methods (Morland and Ruzek, 2015). On the other hand, the VA/DoD guideline does not recommend Internet-based interventions for treatment for PTSD. More research is needed to establish the efficacy of both online tools and mobile applications (apps) that provide either educational information, screening and self-assessment, treatment, or social support. However, researchers indicate it is reasonable to use such tools—for example, VA’s app called PTSD Coach—to augment psychotherapy or case management and to provide initial psychoeducation as these tools pose no risk and have advantages over paper and pencil tools (Morland and Ruzek, 2015).

Among the pharmacotherapy interventions, the first-line agents recommended by the VA/DoD guideline are mainly two closely related classes of antidepressants, selective serotonin reuptake inhibitors (SSRIs) and serotonin norepinephrine reuptake inhibitors (SNRIs). When necessary, the guideline suggests that the use of second-line agents, such as mirtazapine, nefazodone, tricyclic antidepressants (TCAs), and monoamine oxidase inhibitors (MAOIs), be considered. In addition, the guideline recommends the atypical antipsychotics risperidone or olanzapine as adjunctive treatment with antidepressants.

The VA/DoD guideline cautions against treating the primary symptoms of PTSD using benzodiazepines, a type of anti-anxiety medication, due to

the lack of efficacy data and the potential risk of tolerance and dependence. Yet VA data show that these medications are prescribed often, presumably to manage secondary symptoms of PTSD such as insomnia and anxiety, suggesting a gap between guideline recommendations and actual clinical care (Bernardy, 2013). Evidence of efficacy is growing for prazosin, an alpha-1 adrenergic antagonist, in the treatment of nightmares and sleep disturbance among veterans with PTSD (De Berardis et al., 2015; George et al., 2016).

## Major Depressive Disorder

For initial treatment for mild or moderate MDD, the VA/DoD guideline advocates the use of monotherapy—either psychotherapy or pharmacotherapy with a single antidepressant (Management of Major Depressive Disorder Working Group, 2016). A combination treatment with pharmacotherapy and psychotherapy should be used for moderate to severe MDD or for patients who have a poor response to monotherapy. The guideline advises that patients who receive a diagnosis of mild or moderate MDD may be treated with the use of the collaborative care model in primary care (see Chapter 12 for more

information about VA collaborative care). Patients who have severe MDD or any complicated MDD and comorbidities should be referred to specialty care for treatment.

The VA/DoD guideline indicates that the evidence does not support recommending a specific evidence-based psychotherapy or pharmacotherapy over another. The recommended first-line medications include SSRIs (excluding fluvoxamine), SNRIs, bupropion, and mirtazapine. Most people need to be on medication for at least 6 to 12 months after adequate response to prevent relapses.

The recommended first-line psychotherapies include cognitive behavioral therapy (CBT), behavioral therapy/behavioral activation, interpersonal therapy (IPT), mindfulness-based cognitive therapy, and problem-solving therapy and acceptance and commitment therapy (ACT). Of these treatments, a VA policy directive states that all veterans who have depression (or anxiety disorders) must have access to ACT, as well as CBT and IPT (VA,



2015c). In addition, the VA's initiative to disseminate evidence-based psychotherapies includes ACT on a priority list, and the VA has already provided training in ACT to hundreds of its clinicians. It is worth noting that while VA policy and the joint VA and DoD MDD guideline promote ACT as a first-line treatment for depression, there is a debate in the scientific community about the strength of the evidence (Zettle, 2015). While the *Society of Clinical Psychology* (2016) considers the current empirical support of ACT in the treatment of depression to be modest, some recent reviews have concluded that additional research with more rigorous methodological designs is needed before definitive claims can be made about the efficacy of ACT for depression (Montgomery et al., 2011; Ost, 2014). The results of a recent randomized clinical trial of ACT for the treatment of distress in OEF/OIF/OND veterans suggest that ACT may not be a first-line therapy for veterans with anxiety and depression (Lang et al., 2016). The study involved 160 veterans from five VAMCs with a diagnosis of anxiety or depressive disorder who were randomized to ACT or to present-centered therapy (PCT) (another manualized psychotherapy). Participants were assessed before, during, and after treatment and during a 3- to 12-month follow-up. The trial found that, overall, veterans did not respond differently to ACT than they did to PCT. Although ACT led to greater improvement in insomnia than did PCT (standard deviation = 0.63 and 0.08, respectively), the response to the two interventions did not differ on the primary outcome or on most secondary outcomes.

The VA/DoD MDD guideline recommends that the first-line psychotherapies be offered in an individual or group format based on patient preference. The guideline also cites computer-based CBT as an alternative to traditional individual or group psychotherapy. The guideline authors noted that next revision of the guideline should formally review the literature on the broader array of telehealth approaches and incorporate this information into the guideline, as supported by the evidence.

For patients who have severe MDD, additional treatments that should be considered include electroconvulsive therapy, and the two classes of medications, MAOIs and TCAs.

Among the possible complementary and integrative health modalities for depression, the VA/DoD guideline recommends the use of exercise as an adjunct to other empirically supported treatments. For patients who have mild MDD, light therapy can be considered to treat seasonal affective dis-



order, and St. John's wort may be used by those who prefer herbal treatments. The guideline indicates there is insufficient evidence to recommend for or against acupuncture, yoga, tai chi, or qi gong as treatments for MDD. The VA offers a variety of complementary and integrative health interventions that have almost no evidence base in the treatment of depression, but which have been used for relaxation in other settings.

## Substance Use Disorder

The goals of SUD treatment include abstinence or reduction in substance use, relapse prevention, and improvement in psychologic and social functioning. The specific type of intervention or treatment

chosen will depend on the type of substances used, the intensity of use, and the patient's individual needs. SUDs commonly occur with other mental health conditions (such as PTSD and depression) and with chronic medical illnesses (such as diabetes) that also require treatment. For many, a SUD is a chronic disorder that requires multiple interventions and continuing monitoring.

Detoxification and withdrawal management is often a necessary first step toward treatment of those who have SUDs. Pharmacologically supervised withdrawal is warranted only for alcohol, sedative hypnotics, and opioids; it is not warranted for stimulant and cannabis disorders.

For inpatient treatment for alcohol withdrawal, the VA/DoD guideline (VA and DoD, 2009) recommends the use of benzodiazepines as first-line treatment, with other agents (such as beta-blockers and clonidine) as adjuncts in some patients. For opioid withdrawal, the guideline recommends initial stabilization and then short or extended tapering with buprenorphine and naloxone or methadone in 4 to 7 days in an inpatient setting. Withdrawal management should be followed by appropriate pharmacologic maintenance or behavioral therapies.

For patients with alcohol use disorders, the first-line pharmacotherapies recommended by the VA/DoD guideline are oral naltrexone and acamprosate; both are Food and Drug Administration (FDA) approved for this indication. The guideline discusses psychosocial interventions that research has shown to be effective: behavioral couples counseling, cognitive behav-

ioral coping skills training, community reinforcement, motivational enhancement, and 12-step facilitation.

For patients who are dependent on opioids, the VA/DoD guideline recommends as first-line treatment methadone or the sublingual combination product of buprenorphine and naloxone. Those medications are used in opioid-agonist treatment (OAT), which consists of administering one of the opioid-agonist medications in combination with a variety of medical, counseling, and rehabilitative services. OAT can be delivered through a VA-licensed OAT clinic or through office-based treatment; however, buprenorphine is the only medication approved for office-based OAT. As adjunct interventions with pharmacotherapy, the guideline identifies CBT and contingency management as effective psychosocial therapies for opioid dependence.

The VA/DoD guidance regarding the management of cocaine and marijuana use is limited to recommendations for psychosocial interventions. CBT, behavioral couples therapy, and contingency management are identified as the interventions that are supported by the most evidence of effectiveness in treating cocaine dependence. For cannabis, the guideline indicates that there is some evidence that CBT is effective.

## Suicidal Ideation and Behavior

This section describes the recommendations for treating patients at risk for suicide as identified by the 2013 VA/DoD *Clinical Practice Guideline for Assessment and Management of Patients at Risk for Suicide* (VA and DoD, 2013). The guideline first recommends developing a treatment plan with the patient in mind and notes that patients with suicidal thoughts most often benefit from a combination of different treatments. The main treatments discussed in the VA/DoD guideline are psychotherapy, pharmacotherapy, and electroconvulsive therapy. Research shows that 90 percent of people who committed suicide had psychiatric and mood disorders and that more than 80 percent had not received treatment at the time of death (Mann et al., 2005). Thus, a primary component of suicide prevention is prompt evidence-based treatment for the relevant psychiatric illness.

Psychotherapy is first discussed in the VA/DoD guideline in the context of suicide-focused psychotherapy, then in the context of psychotherapy for co-occurring mental disorders associated with suicide risk. Evidence-

based cognitive therapies are found to be used in both settings. In patients who have a history of suicide attempts, CBT is recommended for reducing the risk of further

suicide attempts. The guideline notes that one randomized controlled trial found that 10 sessions of CBT led to 50 percent fewer suicide attempts than enhanced usual care (tracking and referral) without reducing rates of suicidal ideation (Brown et al., 2005). Similarly, Rudd et al. (2015) found that “brief CBT was effective in preventing follow-up suicide attempts among active-duty military service members with current suicidal ideation and/or a recent suicide attempt” (p. 441). A specific type of cognitive therapy called problem-solving therapy (PST) has proven to be a suitable suicide-focused psychotherapy for at-risk patients. Hawton et al. (2016) conducted two systematic reviews based on multiple studies and found that PST contributed to decreases in deliberate self-harm in suicidal patients.

Psychotherapies for co-occurring mental disorders associated with suicide risk are discussed in relation to borderline personality disorder, schizophrenia, and SUD. The VA/DoD guideline notes that in cases of treating co-occurring mental disorders the treatment plan should be modified to specifically address the risk of suicide. Dialectical behavior therapy (DBT) is said to be “the most thoroughly studied treatment of existing psychotherapies for suicidal behavior” (VA and DoD, 2013, p. 97). A number of studies support the use of DBT for decreasing the reoccurrence of suicide-like behaviors (e.g., Mann et al., 2005; Tarrier et al., 2008).

While the evidence for the use of pharmacotherapy to explicitly address suicide risk is limited and drug treatment as a specific intervention for preventing suicide is not recommended, there are pharmacological treatments that can be included in a treatment plan to address suicide risk for patients with established mental illnesses. The guideline cites evidence for the benefits of lithium in reducing suicide risk and suicide attempt relapses in patients with major depressive disorder and bipolar disorder. In a review of 372 randomized, double-blind, placebo-controlled trials, the FDA found that although there is no indication that prescribing antidepressants to patients with mood disorders helps to lessen the risk of suicide, antidepressants were not shown to increase the risk of suicidal ideation or behavior in patients over age 25 either (Stone et al., 2009).

The final treatment discussed in the VA/DoD guideline is electroconvulsive therapy (ECT). ECT should be considered in cases where other treatments have not proven effective or when an immediate resolution of suicidal symptoms is needed. This therapy can be used on patients with certain types of MDD, manic episodes, bipolar disorder, depression, PTSD, and acute schizophrenia. The VA/DoD guideline for PTSD (2010) suggests considering ECT for severe, medication- and psychotherapy-resistant PTSD.

## Comorbid Conditions

As discussed at the beginning of the chapter, military service members and veterans are often diagnosed with more than one mental health condition. Conditions that frequently occur simultaneously are commonly referred to as “comorbid” and “co-occurring” conditions. Comorbid mental health conditions are important to recognize because they can modify the clinical determinations of prognosis, patient or provider treatment priorities, the selection of interventions, and the setting where care will be provided (Lew et al., 2008). Current evidence-based practices to identify and treat people for conditions may be less accurate or effective when conditions co-occur (Carlson et al., 2009).

As described in previous chapter sections, substantial evidence-based clinical guidance exists for the management of individual mental health conditions that are prevalent among veterans. However, much less is known about the best clinical practices for patients with multiple mental health diagnoses that occur simultaneously.

The literature is insufficient to determine whether the diagnostic or even screening instruments commonly used for assessing the symptoms of a particular condition perform accurately when a person has more than one condition. Nor does the literature support the use of any one instrument over others (Carlson et al., 2011; Guillamondegui et al., 2011). In addition, there is a gap in knowledge about whether evidence-based treatments for a single condition are effective when conditions co-occur or whether unique therapies are necessary for people who have multiple conditions. There are no empirically validated therapies for comorbid PTSD, MDD, SUD, and postconcussive disorders (Lew et al., 2008).

## Co-Occurring Substance Use Disorder

There is a growing body of empirical data on interventions for patients diagnosed with PTSD or MDD and co-occurring SUD. For example, studies have shown positive results for Seeking Safety, a treatment model for co-occurring SUD and PTSD (Boden et al., 2012; Desai et al., 2008). To test how Seeking Safety fares when incorporated into the VA SUD programs, Boden et al. (2012) conducted a randomized controlled effectiveness trial with 117 veterans who had diagnoses of SUD and co-occurring PTSD symptoms. They concluded that their findings provided support for the feasibility and benefit of addressing PTSD and SUD simultaneously and early in SUD treatment as opposed to requiring separate or sequential treatments or a period of abstinence before PTSD-focused care. A review of the evidence by the National Center for PTSD was more tempered: the authors noted that the results of randomized controlled trials, although promising, were equivocal, and they thus concluded that Seeking Safety should probably be combined with other treatments to ensure that all problematic behaviors decrease (Gulliver and Steffen, 2010).

Studies have also examined pharmacological treatment approaches for patients diagnosed with MDD and co-occurring SUD. For example, the findings of one controlled trial (Pettinati et al., 2010) show positive results from treating alcohol-dependent patients diagnosed with MDD with sertraline (an antidepressant) combined with naltrexone (to treat alcohol dependence). On the other hand, evidence of the efficacy and safety of antidepressants for treating MDD in people who are dependent on opioids (such as morphine and heroin, codeine, oxycodone, and hydrocodone) is inconclusive, according to one systematic review of the literature on this topic (Pani Pier et al., 2010).

There are a few clinical trials that have examined the efficacy of psychotherapy for co-occurring MDD and SUD. Hides et al. (2010) reviewed the research and concluded that there is minimal evidence for CBT being effective either alone or in combination with antidepressant medication for treating co-occurring MDD and SUD.

Individually the VA/DoD clinical guidelines for MDD, PTSD, and SUD acknowledge that few published trials can provide clinicians with guidance in treating conditions that are complicated by comorbid illness. Given the lack of evidence on efficacious treatments for comorbid conditions, the



best practices involve treating for symptoms regardless of etiology. Experts agree that clinical judgment informed by available clinical guidance, systematic symptom monitoring, and the clinician–patient relationship is needed in deciding which specific treatments to implement, for which patients, and under which treatment conditions (Brenner et al., 2009; National Center for PTSD, 2010a,b; Otis et al., 2011).

In 2009 the VA Office of Mental Health and Suicide Prevention and the VA Office of Rehabilitation Services sponsored two consensus panels to make practice recommendations related to the diagnosis and management of common comorbid conditions in veterans. One panel addressed comorbid PTSD, pain, and mild TBI (National Center for PTSD, 2010b), and another panel addressed comorbid SUD and PTSD (National Center for PTSD, 2010a). Both panels concluded that the existing guidance in the individual VA/DoD CPGs was appropriate for treating patients who simultaneously meet the diagnostic criteria for

these disorders. In addition, the consensus panel addressing comorbid SUD and PTSD (National Center for PTSD, 2010a) urged VA SUD and PTSD specialists to use effective first-stage treatment strategies, such as the use of motivational interviewing principles and Seeking Safety, a treatment for co-occurring SUD and PTSD (discussed above), which is recommended in the *VHA Handbook for Uniform Mental Health Services in VA Medical Centers and Clinics* (VA, 2015c).

## **Assessment of Clinical Practices for Screening, Assessment, and Treatment in the Department of Veterans Affairs**

In 2013 the IOM released *Returning Home from Iraq and Afghanistan, Assessment of the Readjustment Needs of Veterans, Service Members and Their Families* (IOM, 2013a). As part of its charge, the authoring committee (“IOM Readjustment Committee”) examined the efficacy of the health screening and assessment practices and treatment interventions that DoD and the VA use in the management of mental health conditions. The IOM Readjustment Committee reviewed approaches recommended by VA/DoD CPGs



for PTSD, MDD, and SUDs and compared them with clinical guidelines developed by leading scientific and professional organizations from the United States, the United Kingdom, and Australia.<sup>7</sup> That committee also reviewed the research and policy literature as a basis for discussing standard-of-care recommendations that were presented in its report. Among the major studies informing the IOM Readjustment Committee was an evaluation of VA mental health programs by the RAND–Altarum research team (Watkins and Pincus, 2011). Their analysis revealed, among other factors, low documented use of evidenced-based practices and variation in many of the performance indicators assessed with regard to specific populations, services, and locations.

The review by the IOM Readjustment Committee suggested that the screening, diagnostic assessment, and treatments for PTSD, MDD, SUD, and suicide risk at the VA are consistent with current standards and guidelines for care. In its report the Readjustment Committee stated: “Overall, the VA/DoD clinical guidelines for screening, assessment, and treatment are in line with the available evidence base and the state-of-the-art CPGs put forth by various professional organizations” (IOM, 2013a, p. 236). In addition, that committee found that the screening and assessment instruments that VA clinicians use have adequate psychometric properties and are among those advocated by experts in the field.

Although VA clinical guidance for mental health reflects the state of the current evidence, the Readjustment Committee emphasized that the presence of clinical guidelines does not ensure that veterans will receive optimal evidence-based care. The committee identified shortcomings in the implementation of the guidelines and also inconsistent use of the recommended guidance by VA providers. The committee found that “[t]he available data suggest that patients who need evidence-based care may not be receiving it” (IOM, 2013a, p. 237). Since the evaluations by the IOM Readjustment Committee and RAND–Altarum research team, this committee has found that gaps remain in the VA’s implementation of evidence-based care. Many veterans who need mental health care may not be receiving adequate treatment. Chapter 11 examines more fully the extent to which the VA is implementing evidence-based mental health care to veterans in the health system.

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<sup>7</sup> The Readjustment Committee did not review the VA/DoD guideline for the management of suicide risk as that CPG was released after the committee's report had been published.

## SUMMARY

This chapter summarizes details about the population at risk for mental health problems and describes the VA health system's clinical management of the leading mental health conditions in OEF/OIF/OND veterans.

- VA processes for developing and updating clinical practice guidelines are defined and consistent with guideline development standards.
- The clinical practices the VA uses for screening, diagnostic assessment, and treatments for PTSD, MDD, SUD, and suicide risk are mostly consistent with current standards and guidelines for care.
  - One notable exception is the priority the VA places on using ACT in the treatment of depression.
  - The strength of the evidence for ACT is equivocal and calls into question the VA's recommendation for the use of ACT as first-line treatment for depression.
- Gaps exist in the level of understanding about the extent of GAD in the veteran population seeking care at the VA. The VA currently does not have clinical guidelines for managing GAD, nor are veterans routinely and systematically screened for GAD.
- There is no formal connection between VBA evaluations for service-connected PTSD claims and VA assessments of the need for treatment.
- The disconnect between VBA compensation exams and the VA mental health system may lead to missed opportunities to provide treatment to veterans.

## REFERENCES

APA (American Psychiatric Association). 2000. *Diagnostic and statistical manual of mental disorders, 4th ed. (DSM-IV-TR)*. Washington, DC: American Psychiatric Association.

can Psychiatric Association.

- APA. 2013. *Diagnostic and statistical manual of mental disorders, fifth ed.* (DSM-V). Washington, DC: American Psychiatric Association.
- Bagalman, E. 2016. *Health care for veterans: Suicide prevention.* Washington, DC: Congressional Research Service.
- Barrera, T. L., D. P. Graham, N. J. Dunn, and E. J. Teng. 2013. Influence of trauma history on panic and posttraumatic stress disorder in returning veterans. *Psychological Services* 10(2):168–176.
- Barrera, T. L., J. M. Mott, N. E. Hundt, J. Mignogna, H. J. Yu, M. A. Stanley, and J. A. Cully. 2014. Diagnostic specificity and mental health service utilization among veterans with newly diagnosed anxiety disorders. *General Hospital Psychiatry* 36(2):192–198.
- Bernardy, N. C. 2013. The role of benzodiazepines in the treatment of post-traumatic stress disorder (PTSD). *PTSD Research Quarterly* 23(4)1–3.
- Boden, M. T., R. Kimerling, J. Jacobs-Lentz, D. Bowman, C. Weaver, D. Carney, R. Walser, and J. A. Trafton. 2012. Seeking safety treatment for male veterans with a substance use disorder and post-traumatic stress disorder symptomatology. *Addiction* 107(3):578–586.
- Bonelli, R. M., and H. G. Koenig. 2013. Mental disorders, religion and spirituality, 1990 to 2010: A systematic evidence-based review. *Journal of Religion and Health* 52(2):657–673.
- Booth-Kewley, S., G. E. Larson, R. M. Highfill-McRoy, C. F. Garland, and T. A. Gaskin. 2010. Correlates of posttraumatic stress disorder symptoms in marines back from war. *Journal of Traumatic Stress* 23(1):69–77.
- Booth-Kewley, S., E. A. Schmied, R. M. Highfill-McRoy, G. E. Larson, C. F. Garland, and L. A. Ziajko. 2013. Predictors of psychiatric disorders in combat veterans. *BMC Psychiatry* 13:130.
- Brailey, K., J. J. Vasterling, S. P. Proctor, J. I. Constans, and M. J. Friedman. 2007. PTSD symptoms, life events, and unit cohesion in US soldiers: Baseline findings from the neurocognition deployment health study. *Journal of Traumatic Stress* 20(4):495–503.
- Brenner, L. A., R. D. Vanderploeg, and H. Terrio. 2009. Assessment and diagnosis of mild traumatic brain injury, posttraumatic stress disorder, and other polytrauma conditions: Burden of adversity hypothesis. *Rehabilitation Psychology* 54(3):239–246.

- Brenner, L. A., R. E. Breshears, L. M. Betthausen, K. K. Bellon, E. Holman, J. E. Harwood, M. M. Silverman, J. Huggins, and H. T. Nagamoto. 2011a. Implementation of a suicide nomenclature within two VA healthcare settings. *Journal of Clinical Psychology in Medical Settings* 18(2):116–128.
- Brenner, L. A., R. V. Ignacio, and F. C. Blow. 2011b. Suicide and traumatic brain injury among individuals seeking Veterans Health Administration services. *Journal of Head Trauma Rehabilitation* 26(4):257–264.
- Britton, P. C., M. A. Ilgen, M. Valenstein, K. Knox, C. A. Claassen, and K. R. Conner. 2012. Differences between veteran suicides with and without psychiatric symptoms. *American Journal of Public Health* 102(Suppl 1):S125–S130.
- Brown, G. K., T. Ten Have, G. R. Henriques, S. X. Xie, J. E. Hollander, and A. T. Beck. 2005. Cognitive therapy for the prevention of suicide attempts: A randomized controlled trial. *JAMA* 294(5):563–570.
- Bruce, M. L. 2010. Suicide risk and prevention in veteran populations. In *Psychiatric and neurologic aspects of war*. Vol. 1208, *Annals of the New York Academy of Sciences*, edited by J. D. Barchas and J. Difede. Pp. 98–103.
- Bryan, C. J., and T. A. Clemans. 2013. Repetitive traumatic brain injury, psychological symptoms, and suicide risk in a clinical sample of deployed military personnel. *JAMA Psychiatry* 70(7):686–691.
- Bryan, C. J., and A. M. Hernandez. 2013. The functions of social support as protective factors for suicidal ideation in a sample of air force personnel. *Suicide and Life-Threatening Behavior* 43(5):562–573.
- Bryan, C. J., E. Graham, and E. Roberge. 2015. Living a life worth living: Spirituality and suicide risk in military personnel. *Spirituality in Clinical Practice* 2(1):74–78.
- Bush, K., D. R. Kivlahan, M. B. McDonell, S. D. Fihn, and K. A. Bradley. 1998. The audit alcohol consumption questions (AUDIT-C): An effective brief screening test for problem drinking. Ambulatory Care Quality Improvement Project (ACQUIP). Alcohol use disorders identification test. *Archives of Internal Medicine* 158(16):1789–1795.
- Cabrera, O. A., C. W. Hoge, P. D. Bliese, C. A. Castro, and S. C. Messer. 2007. Childhood adversity and combat as predictors of depression and post-traumatic stress in deployed troops. *American Journal of Preventive Medicine* 33(2):77–82.

- Carlson, K., N. Greer, S. Kehle, R. MacDonald, L. Meis, I. Rutks, and T. J. Wilt. 2009. *The assessment and treatment of individuals with history of traumatic brain injury and post-traumatic stress disorder: A systematic review of the evidence*. Minneapolis, MN: Evidence-based Synthesis Program Center.
- Carlson, K. F., D. Nelson, R. J. Orazem, S. Nugent, D. X. Cifu, and N. A. Sayer. 2010. Psychiatric diagnoses among Iraq and Afghanistan war veterans screened for deployment-related traumatic brain injury. *Journal of Traumatic Stress* 23(1):17–24.
- Carlson, K. F., S. M. Kehle, L. A. Meis, N. Greer, R. Macdonald, I. Rutks, N. A. Sayer, S. K. Dobscha, and T. J. Wilt. 2011. Prevalence, assessment, and treatment of mild traumatic brain injury and posttraumatic stress disorder: A systematic review of the evidence. *Journal of Head Trauma Rehabilitation* 26(2):103–115.
- Claassen, C. A., and K. L. Knox. 2011. **Chapter 5:** Assessment and management of high-risk suicidal states in postdeployment Operation Enduring Freedom and Operation Iraqi Freedom military personnel. In *Caring for veterans with deployment-related stress disorders: Iraq, afghanistan and beyond*, edited by J. I. Ruzek, P. P. Schnurr, J. J. Vasterling, and M. J. Friedman. Washington, DC: American Psychological Association. Pp. 109–127.
- Crosby, A. E., L. Ortega, and C. Melanson. 2011. *Self-directed violence surveillance: Uniform definitions and recommended data elements*. Atlanta, GA: Centers for Disease Control and Prevention.
- CRS (Congressional Research Service). 2015. *The mental health workforce: A primer*. Washington, DC: Congressional Research Service.
- De Berardis, D., S. Marini, N. Serroni, F. Iasevoli, C. Tomasetti, A. de Bartolomeis, M. Mazza, D. Tempesta, A. Valchera, M. Fornaro, M. Pompili, G. Sepede, F. Vellante, L. Orsolini, G. Martinotti, and M. Di Giannantonio. 2015. Targeting the noradrenergic system in posttraumatic stress disorder: A systematic review and meta-analysis of prazosin trials. *Current Drug Targets* 16(10):1094–1106.
- Dedert, E. A., K. T. Green, P. S. Calhoun, R. Yoash-Gantz, K. H. Taber, M. M. Mumford, L. A. Tupler, R. A. Morey, C. E. Marx, and R. D. Weiner. 2009. Association of trauma exposure with psychiatric morbidity in military veterans who have served since September 11, 2001. *Journal of Psychiatric Research* 43(9):830–836.

- Desai, R. A., I. Harpaz-Rotem, L. M. Najavits, and R. A. Rosenheck. 2008. Impact of the Seeking Safety program on clinical outcomes among homeless female veterans with psychiatric disorders. *Psychiatric Services* 59(9):996–1003.
- DoD (Department of Defense). 2013. *Department of Defense annual report on sexual assault in the military. Fiscal year 2012. Volume 2*. Washington, DC: Department of Defense Sexual Assault Prevention and Response Office.
- Doran, N., S. De Peralta, C. Depp, B. Dishman, L. Gold, R. Marshall, D. Miller, S. Vitale, and M. Tiamson-Kassab. 2016. The validity of a brief risk assessment tool for predicting suicidal behavior in veterans utilizing VHA mental health care. *Suicide and Life Threatening Behavior* 46(4):471–485.
- Dundon, M., K. Dollar, M. Schohn, and L. J. Lantinga. 2011. *Primary care-mental health integration co-located, collaborative care: An operations manual*. Buffalo, NY: Center for Integrated Healthcare.
- Dutra, L., K. Grubbs, C. Greene, L. L. Trego, T. L. McCartin, K. Kloezezan, and L. Morland. 2011. Women at war: Implications for mental health. *Journal of Trauma & Dissociation* 12(1):25–37.
- Fowler, J. C. 2012. Suicide risk assessment in clinical practice: Pragmatic guidelines for imperfect assessments. *Psychotherapy (Chicago)* 49(1):81–90.
- Friedman, M. J. 2013. Finalizing PTSD in DSM-5: Getting here from there and where to go next. *Journal of Traumatic Stress* 26(5):548–556.
- Fritch, A. M., M. Mishkind, M. A. Reger, and G. A. Gahm. 2010. The impact of childhood abuse and combat-related trauma on postdeployment adjustment. *Journal of Traumatic Stress* 23(2):248–254.
- Fulton, J. J., P. S. Calhoun, H. R. Wagner, A. R. Schry, L. P. Hair, N. Feeling, E. Elbogen, and J. C. Beckham. 2015. The prevalence of posttraumatic stress disorder in Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans: A meta-analysis. *Journal of Anxiety Disorders* 31:98–107.
- Gadernann, A. M., C. C. Engel, J. A. Naifeh, M. K. Nock, M. Petukhova, P. N. Santiago, B. Wu, A. M. Zaslavsky, and R. C. Kessler. 2012. Prevalence of DSM-IV major depression among U.S. military personnel: Meta-analysis and simulation. *Military Medicine* 177(8S):47–59.



- Gahm, G. A., B. A. Lucenko, P. Retzlaff, and S. Fukuda. 2007. Relative impact of adverse events and screened symptoms of posttraumatic stress disorder and depression among active duty soldiers seeking mental health care. *Journal of Clinical Psychology* 63(3):199–211.
- GAO (Government Accountability Office). 2016. *Veteran crisis line: Additional testing, monitoring, and information needed to ensure better quality service*. Washington, DC: Government Accountability Office.
- GAO. 2017. *Veterans crisis line: Further efforts needed to improve service*. Washington, DC: Government Accountability Office.
- George, K. C., L. Kebejian, L. J. Ruth, C. W. T. Miller, and S. Himelhoch. 2016. Meta-analysis of the efficacy and safety of prazosin versus placebo for the treatment of nightmares and sleep disturbances in adults with post-traumatic stress disorder. *Journal of Trauma & Dissociation* 17(4):494–510.
- Green, K. T., J. C. Beckham, N. Youssef, and E. B. Elbogen. 2014. Alcohol misuse and psychological resilience among U.S. Iraq and Afghanistan era veterans. *Addictive Behaviors* 39(2):406–413.
- Grieger, T. A., S. J. Cozza, R. J. Ursano, C. Hoge, P. E. Martinez, C. C. Engel, and H. J. Wain. 2006. Posttraumatic stress disorder and depression in battle-injured soldiers. *American Journal of Psychiatry* 163(10):1777–1783.
- Guillamondegui, O. D., S. A. Montgomery, F. T. Phibbs, M. L. McPheeters, P. T. Alexander, R. N. Jerome, J. N. McKoy, J. J. Seroogy, J. J. Eicken, S. Krishnaswami, R. M. Salomon, and K. E. Hartmann. 2011. *Traumatic brain injury and depression*. Rockville, MD: Agency for Health Care Research and Quality.
- Gulliver, S. B., and L. E. Steffen. 2010. *Towards integrated treatments for PTSD and substance use disorders*. Washington, DC: National Center for PTSD.
- Haney, E., M. O’Neil, S. Carson, A. Low, K. Peterson, L. Denneson, C. Oleksiewicz, and D. Kansagara. 2012. *Suicide risk factors and risk assessment tools: A systematic review*. Portland, OR: VA Evidence-Based Synthesis Program.
- Hasanovic, M., and I. Pajevic. 2010. Religious moral beliefs as mental health protective factor of war veterans suffering from PTSD, depressiveness, anxiety, tobacco and alcohol abuse in comorbidity. *Psychiatria Danubina* 22(2):203–210.
- Hawton, K., K. G. Witt, T. L. T. Salisbury, E. Arensman, D. Gunnell, P. Hazell, E. Townsend, and K. van Heeringen. 2016. Psychosocial interventions fol-

- lowing self-harm in adults: A systematic review and meta-analysis. *Lancet Psychiatry* 3(8):740–750.
- Hides, L., S. Samet, and D. I. Lubman. 2010. Cognitive behaviour therapy (CBT) for the treatment of co-occurring depression and substance use: Current evidence and directions for future research. *Drug and Alcohol Review* 29(5):508–517.
- Himmelfarb, N., D. Yaeger, and J. Mintz. 2006. Posttraumatic stress disorder in female veterans with military and civilian sexual trauma. *Journal of Traumatic Stress* 19(6):837–846.
- Hoffmire, C., B. Stephens, S. Morley, C. Thompson, J. Kemp, and R. M. Bossarte. 2016. VA suicide prevention applications network: A national health care system-based suicide event tracking system. *Public Health Reports* 131(6):816–821.
- Hoge, C. W., C. A. Castro, S. C. Messer, D. McGurk, D. I. Cotting, and R. L. Koffman. 2004. Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine* 351(1):13–22.
- Horvath, T., K. Misra, A. K. Epner, and G. M. Cooper. 2015. *The diagnostic criteria for substance use disorders (addiction)*. <http://www.amhc.org/1408-addictions/article/48502-the-diagnostic-criteria-for-substance-use-disorders-addiction> (accessed May 6, 2016).
- Ilgen, M. A., J. F. McCarthy, R. V. Ignacio, A. S. Bohnert, M. Valenstein, F. C. Blow, and I. R. Katz. 2012. Psychopathology, Iraq and Afghanistan service, and suicide among Veterans Health Administration patients. *Journal of Consulting and Clinical Psychology* 80(3):323–330.
- IOM (Institute of Medicine). 2011. *Clinical practice guidelines we can trust*. Washington, DC: The National Academies Press.
- IOM. 2012. *Treatment for posttraumatic stress disorder in military and veteran populations: Initial assessment*. Washington, DC: The National Academies Press.
- IOM. 2013a. *Returning home from Iraq and Afghanistan: Assessment of readjustment needs of veterans, service members, and their families*. Washington, DC: The National Academies Press.
- IOM. 2013b. *Substance use disorders in the U.S. armed forces*. Washington, DC: The National Academies Press.

- IOM. 2014a. *Preventing psychological disorders in service members and their families: An assessment of programs*. Washington, DC: The National Academies Press.
- IOM. 2014b. *Treatment for posttraumatic stress disorder in military and veteran populations: Final assessment*. Washington, DC: The National Academies Press.
- IOM and NRC (National Research Council). 2007. *PTSD compensation and military service*. Washington, DC: The National Academies Press.
- Kang, H. K., and T. A. Bullman. 2009. Is there an epidemic of suicides among current and former U.S. military personnel? *Annals of Epidemiology* 19(10):757–760.
- Kang, H. K., T. A. Bullman, D. J. Smolenski, N. A. Skopp, G. A. Gahm, and M. A. Reger. 2015. Suicide risk among 1.3 million veterans who were on active duty during the Iraq and Afghanistan wars. *Annals of Epidemiology* 25(2):96–100.
- Kang, S., C. M. Aldwin, S. Choun, and A. Spiro, 3rd. 2016. A life-span perspective on combat exposure and PTSD symptoms in later life: Findings from the VA Normative Aging Study. *Gerontologist* 56(1):22–32.
- Kelsall, H. L., M. Wijesinghe, M. Creamer, D. McKenzie, A. Forbes, M. Page, and M. Sim. 2015. Alcohol use and substance use disorders in Gulf War, Afghanistan, and Iraq War veterans compared with nondeployed military personnel. *Epidemiologic Reviews* 37(1):38–54.
- Kemp, J., and R. Bossarte. 2012. *Suicide data report, 2012*. Washington, DC: Department of Veterans Affairs.
- Kessler, R., P. Berglund, O. Demler, R. Jin, K. Merikangas, and E. Walters. 2005. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry* 62(6):593–602.
- Kilpatrick, D. G., H. S. Resnick, M. E. Milanak, M. W. Miller, K. M. Keyes, and M. J. Friedman. 2013. National estimates of exposure to traumatic events and PTSD prevalence using DSM-IV and DSM-5 criteria. *Journal of Traumatic Stress* 26(5):537–547.
- Kimerling, R., A. E. Street, J. Pavao, M. W. Smith, R. C. Cronkite, T. H. Holmes, and S. M. Frayne. 2010. Military-related sexual trauma among Veterans Health Administration patients returning from Afghanistan and Iraq. *American Journal of Public Health* 100(8):1409–1412.

- Kolkow, T. T., J. L. Spira, J. S. Morse, and T. A. Grieger. 2007. Post-traumatic stress disorder and depression in health care providers returning from deployment to Iraq and Afghanistan. *Military Medicine* 172(5):451–455.
- Kopacz, M. S. 2014. The spiritual health of veterans with a history of suicide ideation. *Health Psychology and Behavioral Medicine* 2(1):349–358.
- Koren, D., D. Norman, A. Cohen, J. Berman, and E. M. Klein. 2005. Increased PTSD risk with combat-related injury: A matched comparison study of injured and uninjured soldiers experiencing the same combat events. *American Journal of Psychiatry* 162(2):276–228.
- Kroenke, K., R. L. Spitzer, and J. B. Williams. 2001. The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine* 16(9):606–613.
- Kroenke, K., R. L. Spitzer, and J. B. Williams. 2003. The Patient Health Questionnaire-2: Validity of a two-item depression screener. *Medical Care* 41(11):1284–1292.
- Lang, A. J., P. P. Schnurr, S. Jain, F. He, R. D. Walser, E. Bolton, D. M. Benedek, S. B. Norman, P. Sylvers, L. Flashman, J. Strauss, R. Raman, and K. M. Chard. 2016. Randomized controlled trial of acceptance and commitment therapy for distress and impairment in OEF/OIF/OND veterans. *Psychological Trauma* 9(Suppl 1):74–84.
- Lanier, D., and S. Ko. 2008. *Screening in primary care settings for illicit drug use: Assessment of screening instruments*. Rockville, MD: Agency for Healthcare Research and Quality.
- Lapierre, C. B., A. F. Schwegler, and B. J. LaBauve. 2007. Posttraumatic stress and depression symptoms in soldiers returning from combat operations in Iraq and Afghanistan. *Journal of Traumatic Stress* 20(6):933–943.
- Larson, G. E., P. S. Hammer, T. L. Conway, E. A. Schmied, M. R. Galarneau, P. Konoske, J. A. Webb-Murphy, K. J. Schmitz, N. Edwards, and D. C. Johnson. 2011. Predeployment and in-theater diagnoses of American military personnel serving in Iraq. *Psychiatric Services* 62(1):15–21.
- LeardMann, C. A., A. Pietrucha, K. M. Magruder, B. Smith, M. Murdoch, I. G. Jacobson, M. A. Ryan, G. Gackstetter, T. C. Smith, and M. C. S. Team. 2013a. Combat deployment is associated with sexual harassment or sex-

- ual assault in a large, female military cohort. *Women's Health Issues* 23(4):e215–e223.
- LeardMann, C. A., T. M. Powell, T. C. Smith, M. R. Bell, B. Smith, E. J. Boyko, T. I. Hooper, G. D. Gackstetter, M. Ghamsary, and C. W. Hoge. 2013b. Risk factors associated with suicide in current and former U.S. military personnel. *JAMA* 310(5):496–506.
- Lemaire, C. M., and D. P. Graham. 2011. Factors associated with suicidal ideation in OEF/OIF veterans. *Journal of Affective Disorders* 130(1–2):231–238.
- Levin, A. P., S. B. Kleinman, and J. S. Adler. 2014. DSM-5 and posttraumatic stress disorder. *Journal of the American Academy of Psychiatry and the Law Online* 42(2):146–158.
- Lew, H. L., R. D. Vanderploeg, D. F. Moore, K. Schwab, L. Friedman, J. A. Yesavage, T. M. Keane, D. L. Warden, and B. J. Sigford. 2008. Overlap of mild TBI and mental health conditions in returning OIF/OEF service members and veterans. *Journal of Rehabilitation Research & Development* 45(3):xi–xvi.
- Logan, J. E., K. A. Fowler, N. P. Patel, and K. M. Holland. 2016. Suicide among military personnel and veterans aged 18–35 years by county—16 states. *American Journal of Preventive Medicine* 51(5):S197–S208.
- MacGregor, A. J., R. A. Shaffer, A. L. Dougherty, M. R. Galarneau, R. Raman, D. G. Baker, S. P. Lindsay, B. A. Golomb, and K. S. Corson. 2009. Psychological correlates of battle and nonbattle injury among Operation Iraqi Freedom veterans. *Military Medicine* 174(3):224–231.
- Maguen, S., D. S. Vogt, L. A. King, D. W. King, B. T. Litz, S. J. Knight, and C. R. Marmar. 2011. The impact of killing on mental health symptoms in Gulf War veterans. *Psychological Trauma* 3(1):21–26.
- Maguen, S., B. Cohen, L. Ren, J. Bosch, R. Kimerling, and K. Seal. 2012. Gender differences in military sexual trauma and mental health diagnoses among Iraq and Afghanistan veterans with posttraumatic stress disorder. *Womens Health Issues* 22(1):e61–e66.
- Management of Major Depressive Disorder Working Group. 2016. *VA/DoD clinical practice guideline for the management of major depressive disorder*. Washington, DC: Department of Defense and Department of Veterans Affairs.
- Management of Substance Use Disorders Work Group. 2015. *VA/DoD clinical practice guideline for the management of substance use disorders*.

Washington, DC: Department of Defense and Department of Veterans Affairs.

- Mann, J. J., A. Apter, J. Bertolote, A. Beautrais, D. Currier, A. Haas, U. Hegerl, J. Lonnqvist, K. Malone, A. Marusic, L. Mehlum, G. Patton, M. Phillips, W. Rutz, Z. Rihmer, A. Schmidtke, D. Shaffer, M. Silverman, Y. Takahashi, A. Varnik, D. Wasserman, P. Yip, and H. Hendin. 2005. Suicide prevention strategies: A systematic review. *JAMA* 294(16):2064–2074.
- McGuinness, T. M., and J. R. Waldrop. 2015. Adverse childhood experiences and the mental health of veterans. *Journal of Psychosocial Nursing & Mental Health Services* 53(6):23–26.
- Milanak, M. E., D. F. Gros, K. M. Magruder, O. Brawman-Mintzer, and B. C. Frueh. 2013. Prevalence and features of generalized anxiety disorder in Department of Veterans Affairs primary care settings. *Psychiatry Research* 209(2):173–179.
- Miller, M. W., E. J. Wolf, D. Kilpatrick, H. Resnick, B. P. Marx, D. W. Holowka, T. M. Keane, R. C. Rosen, and M. J. Friedman. 2013. The prevalence and latent structure of proposed DSM-5 posttraumatic stress disorder symptoms in U.S. national and veteran samples. *Psychological Trauma* 5(6):501.
- Milliken, C. S., J. L. Auchterlonie, and C. W. Hoge. 2007. Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. *JAMA* 298(18):2141–2148.
- Montgomery, K. L., J. S. Kim, and C. Franklin. 2011. Acceptance and commitment therapy for psychological and physiological illnesses: A systematic review for social workers. *Health & Social Work* 36(3):169–181.
- Morland, L., and J. Ruzek. 2015. Technology and PTSD care: An update. *PTSD Research Quarterly* 26(2):1–3.
- Moyer, C. S. 2013. DSM-5 guides doctors on suicide risks and prevention. <http://www.amednews.com/article/20130826/health/130829985/6/> (accessed November 10, 2015).
- National Center for PTSD. 2010a. Report of (VA) consensus conference: Practice recommendations for treatment of veterans with comorbid substance abuse and PTSD. Washington, DC: Department of Veterans Affairs.
- National Center for PTSD. 2010b. Report of (VA) consensus conference: Practice recommendations for treatment of veterans with comorbid TBI, pain, and PTSD. Washington, DC: National Center for PTSD, Department of Veterans Affairs.



- National Center for PTSD. 2014. *Using the PTSD checklist for DSM-IV (PCL)*. Washington, DC: Department of Veterans Affairs.
- NIAAA (National Institute on Alcohol Abuse and Alcoholism). 2008. *Helping patients who drink too much: A clinician's guide*. Washington, DC: National Institutes of Health.
- NIH (National Institutes of Health). 2015. *Alcohol use disorder: A comparison between DSM-IV and DSM-5*. <https://pubs.niaaa.nih.gov/publications/dsmfactsheet/dsmfact.pdf> (accessed November 7, 2017).
- Nock, M. K., C. A. Deming, C. S. Fullerton, S. E. Gilman, M. Goldenberg, R. C. Kessler, J. E. McCarroll, K. A. McLaughlin, C. Peterson, and M. Schoenbaum. 2013. Suicide among soldiers: A review of psychosocial risk and protective factors. *Psychiatry* 76(2):97–125.
- O'Connor, E., B. Gaynes, B. U. Burda, C. Williams, and E. P. Whitlock. 2013. *Screening for suicide risk in primary care: A systematic evidence review for the U.S. Preventive Services Task Force*. Rockville, MD: Agency for Healthcare Research and Quality.
- O'Donnell, M. L., N. Alkemade, A. Nickerson, M. Creamer, A. C. McFarlane, D. Silove, R. A. Bryant, and D. Forbes. 2014. Impact of the diagnostic changes to post-traumatic stress disorder for DSM-5 and the proposed changes to ICD-11. *British Journal of Psychiatry* 205(3):230–235.
- Ogrysko, N. 2017. *Lawmakers see progress in veterans crisis hotline, but it's still far from "fixed."* <https://federalnewsradio.com/hearingoversight/2017/04/lawmakers-see-progress-veterans-crisis-hotline-still-far-fixed/> (accessed May 11, 2017).
- Ost, L. G. 2014. The efficacy of acceptance and commitment therapy: An updated systematic review and meta-analysis. *Behaviour Research and Therapy* 61:105–121.
- Otis, J., R. McGlinchey, J. Vasterling, and R. Kerns. 2011. Complicating factors associated with mild traumatic brain injury: Impact on pain and posttraumatic stress disorder treatment. *Journal of Clinical Psychology* 18(2):145–154.
- Pani Pier, P., R. Vacca, E. Trogu, L. Amato, and M. Davoli. 2010. Pharmacological treatment for depression during opioid agonist treatment for opioid dependence. *Cochrane Database of Systematic Reviews* (9):CD008373.

- Peterson, A. L., V. Wong, M. F. Haynes, A. C. Bush, and J. E. Schillerstrom. 2010. Documented combat-related mental health problems in military noncombatants. *Journal of Traumatic Stress* 23(6):674–681.
- Pettinati, H. M., D. W. Oslin, K. M. Kampman, W. D. Dundon, H. Xie, T. L. Gallis, C. A. Dackis, and C. P. O'Brien. 2010. A double-blind, placebo-controlled trial combining sertraline and naltrexone for treating co-occurring depression and alcohol dependence. *American Journal of Psychiatry* 167(6):668–675.
- Phillips, C. J., C. A. LeardMann, G. R. Gumb, and B. Smith. 2010. Risk factors for posttraumatic stress disorder among deployed US male Marines. *BMC Psychiatry* 10(1):52.
- Pickett, T., D. Rothman, E. F. Crawford, M. Brancu, J. A. Fairbank, and H. S. Kudler. 2015. Mental health among military personnel and veterans. *North Carolina Medical Journal* 76(5):299–306.
- Pietrzak, R. H., J. M. Whealin, R. L. Stotzer, M. B. Goldstein, and S. M. Southwick. 2011. An examination of the relation between combat experiences and combat-related posttraumatic stress disorder in a sample of Connecticut OEF-OIF veterans. *Journal of Psychiatric Research* 45(12):1579–1584.
- Polusny, M. A., C. R. Erbes, M. Murdoch, P. A. Arbisi, P. Thuras, and M. B. Rath. 2011. Prospective risk factors for new-onset post-traumatic stress disorder in National Guard soldiers deployed to Iraq. *Psychological Medicine* 41(4):687–698.
- Prins, A., P. Ouimette, R. Kimerling, R. P. Camerond, D. S. Hugelshofer, J. Shaw-Hegwer, A. Thrailkill, F. D. Gusman, and J. I. Sheikh. 2004. The Primary Care PTSD screen (PC-PTSD): Development and operating characteristics. *Primary Care Psychiatry* 9(1):9–14.
- Qaseem, A., F. Forland, F. Macbeth, G. Ollenschläger, S. Phillips, and P. van der Wees. 2012. Guidelines international network: Toward international standards for clinical practice guidelines. *Annals of Internal Medicine* 156(7):525–531.
- Ramchand, R., T. L. Schell, B. R. Karney, K. C. Osilla, R. M. Burns, and L. B. Caldarone. 2010. Disparate prevalence estimates of PTSD among service members who served in Iraq and Afghanistan: Possible explanations. *Journal of Traumatic Stress* 23(1):59–68.
- Ramchand, R., R. Rudavsky, S. Grant, T. Tanielian, and L. Jaycox. 2015. Prevalence of, risk factors for, and consequences of posttraumatic stress

- disorder and other mental health problems in military populations deployed to Iraq and Afghanistan. *Current Psychiatry Reports* 17(5):37.
- Riviere, L. A., A. Kendall-Robbins, D. McGurk, C. A. Castro, and C. W. Hoge. 2011. Coming home may hurt: Risk factors for mental ill health in U.S. reservists after deployment in Iraq. *British Journal of Psychiatry* 198(2):136–142.
- Rosen, M. I. 2010. Compensation examinations for PTSD—An opportunity for treatment? *Journal of Rehabilitation Research & Development* 47(5):xv–xxii.
- Rudd, M. D., C. J. Bryan, E. G. Wertenberger, A. L. Peterson, S. Young-McCaughan, J. Mintz, S. R. Williams, K. A. Arne, J. Breitbach, K. Delano, E. Wilkinson, and T. O. Bruce. 2015. Brief cognitive-behavioral therapy effects on post-treatment suicide attempts in a military sample: Results of a randomized clinical trial with 2-year follow-up. *American Journal of Psychiatry* 172(5):441–449.
- Saitz, R., T. P. Palfai, D. M. Cheng, D. P. Alford, J. A. Bernstein, C. A. Lloyd-Travaglini, S. M. Meli, C. E. Chaisson, and J. H. Samet. 2014. Screening and brief intervention for drug use in primary care: The ASPIRE randomized clinical trial. *JAMA* 312(5):502–513.
- SAMHSA (Substance Abuse and Mental Health Services Administration). 2015. *The CBHSQ report: 1 in 15 veterans had a substance use disorder in the past year*. Rockville, MD: U.S. Health and Human Services.
- SAMHSA. 2016. *CBHSQ data review: Prevalence of past year substance use and mental illness by veteran status in a nationally representative sample*. Rockville, MD: U.S. Health and Human Services.
- Sandweiss, D., D. Slymen, C. LeardMann, B. Smith, M. White, E. Boyko, T. Hooper, G. Gackstetter, P. Amoroso, and T. Smith. 2011. Preinjury psychiatric status, injury severity, and postdeployment posttraumatic stress disorder. *Archives of General Psychiatry* 68(5):496–504.
- Seal, K. H., T. J. Metzler, K. S. Gima, D. Bertenthal, S. Maguen, and C. R. Marmar. 2009. Trends and risk factors for mental health diagnoses among Iraq and Afghanistan veterans using Department of Veterans Affairs health care, 2002–2008. *American Journal of Public Health* 99(9):1651–1658.

- Seal, K. H., G. Cohen, A. Waldrop, B. E. Cohen, S. Maguen, and L. Ren. 2011. Substance use disorders in Iraq and Afghanistan veterans in VA health-care, 2001–2010: Implications for screening, diagnosis and treatment. *Drug & Alcohol Dependence* 116(1–3):93–101.
- Society of Clinical Psychology. 2016. *Acceptance and commitment therapy for depression*. <http://www.div12.org/psychological-treatments/treatments/acceptance-and-commitment-therapy-for-depression/> (accessed April 4, 2017).
- Stanley, B., and G. K. Brown. 2008. *Safety plan treatment manual to reduce suicide risk: Veteran version*. Washington, DC: Department of Veterans Affairs.
- Stein, M. B., and J. Sareen. 2015. Clinical practice. Generalized anxiety disorder. *New England Journal of Medicine* 373(21):2059–2068.
- Stone, M., T. Laughren, M. L. Jones, M. Levenson, P. C. Holland, A. Hughes, T. A. Hammad, R. Temple, and G. Rochester. 2009. Risk of suicidality in clinical trials of antidepressants in adults: Analysis of proprietary data submitted to U.S. Food and Drug Administration. *BMJ* 339:b2880.
- Suris, A., and L. Lind. 2008. Military sexual trauma: A review of prevalence and associated health consequences in veterans. *Trauma, Violence, & Abuse* 9(4):250–269.
- Swords to Plowshares. 2016. *Presentation to the Commission on Care*. <http://commissiononcare.sites.usa.gov/files/2016/03/Presentation-on-OTH-Discharges.pdf> (accessed July 20, 2016).
- Tanielian, T. L., and L. H. Jaycox. 2008. *Invisible wounds of war. Psychological and cognitive injuries, their consequences, and services to assist recovery*. Santa Monica, CA: RAND Corporation.
- Tarrier, N., K. Taylor, and P. Gooding. 2008. Cognitive-behavioral interventions to reduce suicide behavior: A systematic review and meta-analysis. *Behavior Modification* 32(1):77–108.
- Thomas, J. L., J. E. Wilk, L. A. Riviere, D. McGurk, C. A. Castro, and C. W. Hoge. 2010. Prevalence of mental health problems and functional impairment among active component and national guard soldiers 3 and 12 months following combat in Iraq. *Archives of General Psychiatry* 67(6):614–623.
- VA (Department of Veterans Affairs). 2007. *VistA clinical reminders: User manual*. Washington, DC: Health Provider Systems Office of Information & Technology, Department of Veterans Affairs.

- VA. 2010. *VHA handbook 1160.03: Programs for veterans with post-traumatic stress disorder*. Washington, DC: Veterans Health Administration.
- VA. 2011. What is major depression? [http://www.mirecc.va.gov/visn22/depression\\_education.pdf](http://www.mirecc.va.gov/visn22/depression_education.pdf) (accessed September 28, 2015).
- VA. 2015a. How common is PTSD? <http://www.ptsd.va.gov/PTSD/public/PTSD-overview/basics/how-common-is-ptsd.asp> (accessed June 11, 2015).
- VA. 2015b. Military sexual trauma. <http://www.mentalhealth.va.gov/msthome.asp> (accessed September 25, 2015).
- VA. 2015c. *Uniform mental health services in VA medical centers and clinics*. Washington, DC: Department of Veterans Affairs.
- VA. 2016a. *VA suicide prevention program: Facts about veteran suicide*. Washington, DC: Department of Veterans Affairs.
- VA. 2016b. *VA/DoD clinical practice guidelines*. Washington, DC: Department of Veterans Affairs.
- VA. 2017a. *Analysis of VA health care utilization among Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), and Operation New Dawn (OND) veterans: Cumulative from 1st qtr FY 2002 through 3rd qtr FY 2015 (October 1, 2001–June 30, 2015)*. Washington, DC: Department of Veterans Affairs.
- VA. 2017b. *Response to committee request for information*. Washington, DC: Department of Veterans Affairs.
- VA. 2017c. VA fixes veterans crisis line. <https://www.va.gov/opa/pressrel/pressrelease.cfm?id=2872> (accessed May 11, 2017).
- VA. 2017d. VA secretary announces intention to expand mental health care to former service members with other-than-honorable discharges and in crisis. Washington, DC: Department of Veterans Affairs. <https://www.va.gov/opa/pressrel/pressrelease.cfm?id=2867> (accessed November 7, 2017).
- VA and DoD. 2009. *Management of substance use disorders (SUD)*. Washington, DC: Management of Substance Use Disorders Working Group, Department of Veterans Affairs and Department of Defense.
- VA and DoD. 2010. *VA/DoD clinical practice guideline for management of post-traumatic stress*. Washington, DC: Management of Post-Traumatic Stress Working Group, Department of Defense and Department of Veterans Affairs.

- VA and DoD. 2013. *VA/DoD clinical practice guideline for the assessment and management of suicide risk*. Washington, DC: Department of Veterans Affairs and Department of Defense.
- VA Office of Inspector General. 2017. *Healthcare inspection: Evaluation of the Veterans Health Administration Veterans Crisis Line*. Washington, DC: VA Office of Inspector General.
- Vasterling, J. J., S. P. Proctor, M. J. Friedman, C. W. Hoge, T. Heeren, L. A. King, and D. W. King. 2010. PTSD symptom increases in Iraq-deployed soldiers: Comparison with nondeployed soldiers and associations with baseline symptoms, deployment experiences, and postdeployment stress. *Journal of Traumatic Stress* 23(1):41–51.
- Watkins, K., and H. Pincus. 2011. *Veterans Health Administration mental health program evaluation: Capstone report*. Arlington, VA: RAND Corporation.
- Weathers, F. W., D. D. Blake, P. P. Schnurr, D. G. Kaloupek, B. P. Marx, and T. M. Keane. 2013a. *The clinician-administered PTSD scale for DSM-5 (CAPS-5)*. Washington, DC: Department of Veterans Affairs.
- Weathers, F. W., B. T. Litz, T. M. Keane, P. A. Palmieri, B. P. Marx, and P. P. Schnurr. 2013b. *The PTSD checklist for DSM-5 (PCL-5)*. Washington, DC: Department of Veterans Affairs.
- Wells, T. S., C. A. LeardMann, S. O. Fortuna, B. Smith, T. C. Smith, M. A. Ryan, E. J. Boyko, and D. Blazer. 2010. A prospective study of depression following combat deployment in support of the wars in Iraq and Afghanistan. *American Journal of Public Health* 100(1):90–99.
- Youssef, N. A., K. T. Green, J. C. Beckham, and E. B. Elbogen. 2013a. A 3-year longitudinal study examining the effect of resilience on suicidality in veterans. *Annals of Clinical Psychiatry* 25(1):59–66.
- Youssef, N. A., K. T. Green, E. A. Dedert, J. S. Hertzberg, P. S. Calhoun, M. F. Dennis, and J. C. Beckham. 2013b. Exploration of the influence of childhood trauma, combat exposure, and the resilience construct on depression and suicidal ideation among U.S. Iraq/Afghanistan era military personnel and veterans. *Archives of Suicide Research* 17(2):106–122.
- Zettle, R. 2015. Acceptance and commitment therapy for depression. *Current Opinion in Psychology* 2:65–69.
- Zoellner, L. A., M. A. Bedard-Gilligan, J. J. Jun, L. H. Marks, and N. M. Garcia. 2013. The evolving construct of posttraumatic stress disorder (PTSD):



DSM-5 criteria changes and legal implications. *Psychological Injury and Law* 6(4):277–289.

Zubin, J., and B. Spring. 1977. Vulnerability: A new view of schizophrenia. *Journal of Abnormal Psychology* 86(2):103–126.



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