There are an estimated 18.5 million veterans of the United States Armed Forces, of which approximately 8.6% are women (United States Census Bureau, 2017a, 2017b). In the United States, one out of every 17 person is a military veteran, defined as any individual who has served in any arm of the military forces (United States Census Bureau, 2017a). An estimated 6.7 million veterans are Vietnam War veterans, and this is the largest group of living veterans. There are an estimated 768,263 million veterans from World War II (United States Census Bureau, 2017b). The post-9/11 conflicts in Iraq and Afghanistan continue and there are currently 2.5 million service members, referred to as OEF/OIF/OND veterans, which stands for “Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn” (Risen, 2014). In 2016, almost 50% of male Americans 75 years or older were veterans. Veteran concentration varies by state: California has the largest number of veterans, at 2 million, but Alaska has the largest proportion of veterans (12.8%; Statista: The Statistics Portal, 2016b). Veterans are at an increased risk of many mental and physical health conditions. In this chapter, we summarize these conditions, emphasize the role of health behaviors, and provide an overview of programs offered through the Department of Veterans Affairs to address these conditions.

Who Are Military Veterans?

Military veterans come from diverse backgrounds and represent different races/ethnicities, education levels, socioeconomic status, gender, and other characteristics. In 2016, 2.15 million veterans identified as Black or African American (an estimated 11.6% of all veterans). These statistics are shifting. By 2030, it is projected that veterans identifying as racial or ethnic minorities will grow from 23.2% in 2017 to 32.8% in 2037. Veterans who identify as Hispanic will increase from 7.4% in 2017 to 11.2% in 2037 (Statista: The Statistics Portal, 2016a). The proportion of women veterans has been growing, and in 2016, there were 1,598,103 women veterans in the United States.

Active military service persons who were discharged with anything other than dishonorable discharge are considered veterans and are potentially eligible for VA benefits (U.S. Department of Veterans Affairs, 2016). Beyond this, veterans meet various criteria and are assigned to one of eight priority groups, based on two main metrics: their socioeconomic status, and whether their injury is considered “service-connected,” that is, relates to being enrolled in the military. Veterans who meet more than one priority group are assigned to the higher priority group. The lower the priority number, the higher the priority group, to ensure that the veterans with greatest healthcare and socioeconomic need are seen by the healthcare system the soonest. Priority 1 is considered the highest priority
group and is defined as the group that has a 50% or greater service-connected disability, and/or is deemed unemployable as a result of their service-connected conditions (U.S. Department of Veterans Affairs, 2016). The lowest priority group is Priority 8, which includes those veterans who earn above the gross household income limits set by the VA, adjusted for geographic region of residence.

The Veterans Health Affairs (VHA)

Most of what we know about veteran health is based on veterans who receive their healthcare through Veterans Health Affairs (VHA). The VHA is a division of the Department of Veterans Affairs, and represents the largest integrated healthcare system in the United States (United States Department of Veterans Affairs, 2016). Across its 160 medical centers and 802 community-based outpatient clinics (CBOCs), the VHA reports 16.4 million primary care encounters annually and serves nearly 10 million veterans (Rosland et al., 2013) In the 1990s, the VA underwent a major transformation of its healthcare delivery system (Kizer & Pane, 1997) and since then has systematically outperformed the private sector in cost, quality, and patient satisfaction (Jha, Perlin, Kizer, & Dudley, 2003; Kizer & Dudley, 2009; A. N. Trivedi et al., 2011).

Medical Illnesses

Veterans seen within VHA are on average, sicker, poorer, and less educated than the US population (Seal, Bertenthal, Miner, Sen, & Marmar, 2007). A report from some years ago showed that 72% of all veterans had at least one chronic condition, with 29% having three or more (Yu et al., 2003). Cardiovascular disease is the number-one killer of Americans and is the leading cause of hospitalization in the VHA. Veterans are more likely to develop new onset heart disease compared to non-veterans (Assari, 2014). The VHA reported that nearly 25% of VA patients has diabetes, compared to 8% of the US population (Department of Veterans Affairs, 2015). Sleep issues are more prevalent in the VA population compared to the general population. In 2014, 74.3% of surveyed veterans met clinical criteria for insomnia and 91% of veterans reported feeling tired, fatigued, or sleepy during the day (Polley, Frank, & Smith, 2014). In the same survey, veterans reported getting on average 5.6 hours of sleep at night compared the 6.7 hours reported by non-veterans. The prevalence of sleep apnea in US male veterans increased from 3.7% in 2005 to 8.1% 2014 (Centers for Disease Control and Prevention, 2017).

Veterans who served in Iraq and Afghanistan were exposed to smoke from burn pits, dust from sand, chemicals from exploded devices, and indoor and outdoor substances (Szema, 2013). Partially due to this, the prevalence of chronic lung disease between 2003 and 2011 increased in Iraq and Afghanistan veterans (Pugh et al., 2016) Therefore, veterans shoulder a higher burden of chronic conditions compared to the general population.

Psychiatric Illnesses

Our recent study examined the prevalence of common psychiatric conditions that are seen within VA primary care settings (R. B. Trivedi et al., 2015). Among the nearly five million veterans seen in VA primary care in 2010, 25.7% of veterans had at least one psychiatric illness, 13.5% were diagnosed with depression, 4.8% were diagnosed with anxiety, 9.3% were diagnosed with post-traumatic stress disorders (PTSD), 8.3% were diagnosed with substance use disorders, and 3.7% were diagnosed with serious mental illness, which we defined as bipolar disorder and/or schizophrenia. The comorbidity within these conditions was also high, with 48.1% of all PTSD, and 55% of all anxiety patients also had depression. The prevalence of depression was comparable to national rates reported in the National Comorbidity Study (R. C. Kessler et al., 2003, 2005; R. C. Kessler, Sonnega, Bromet,
Hughes, & Nelson, 1995). However, the rates of PTSD were much higher than those reported in national epidemiological studies (R. C. Kessler et al., 1995).

PTSD is perhaps the psychiatric condition that is most associated with being a military veteran. In the general population, the lifetime prevalence of PTSD is 7 to 8%, which is a fraction of the individuals who will experience a traumatic event (National Center for PTSD, 2017). There are important gender differences: 10% of women veterans will experience PTSD in their lifetimes compared to 4% of men. Veterans are exposed to life-threatening situations and unsurprisingly a higher proportion of military veterans are diagnosed with PTSD. Per statistics from the National Center for PTSD, 15% of Vietnam era veterans have been diagnosed with PTSD, with an estimated 30% of lifetime prevalence of PTSD in these veterans. Approximately 12% of Gulf War (Desert Storm) veterans and an estimated 11–20% of OIF/OEF veterans are diagnosed with PTSD. Within the Vietnam era veterans, there was a dramatic increase in the number of PTSD diagnoses, possibly due to recognizing PTSD as a service-connected disability (Hermes, Hoff, & Rosenheck, 2014). The higher risk of PTSD is not due to exposure to trauma alone; the politics of war and stigma around seeking psychiatric help may exacerbate the stress of already threatening and uncertain situations. Another source of PTSD among veterans is military sexual trauma (MST). Despite the significantly smaller numbers, 23% of women seen in primary care report sexual assault during their military service. Furthermore, 55% of all women and 38% of all men report that they experienced sexual harassment in the military.

Comorbidity of veterans’ health conditions is becoming increasingly relevant as multiple recent studies within the VA and outside show that a small proportion of patients are driving healthcare utilization and cost (Cohen & Uberoi, 2013; Joynt, Gawande, Orav, & Jha, 2013). Zulman et al. estimated the co-occurrence of medical conditions and its effects on cost of providing healthcare and found that the 5% highest cost patients (n = 261,699) accounted for 47% of total VA costs (Zulman et al., 2015). Approximately two-thirds of these patients had chronic conditions affecting three or more medical systems. As would be expected, psychiatric illnesses, especially depression, were commonly comorbid with other non-psychiatric conditions. The combination of psychiatric and non-psychiatric conditions also leads to worse outcomes. Several studies have showed that managing mental illnesses such as depression improved outcomes in medical conditions such as diabetes (Unutzer et al., 2002). Among veterans seen in primary care, having depression, substance use disorder, and serious mental illness was associated with worse rates of mortality, ED visits, and hospitalization rates at one-year follow-up, compared to those without a mental illness (R. B. Trivedi et al., 2015). There might also be implications for the quality of primary care for veterans with mental illness.

**Blast-Related Injuries**

A unique contributor to poor health among veterans is the physical trauma they might have experienced during combat, especially blast-related injuries. These injuries may lead to traumatic brain injuries (TBI), spinal cord injuries (SCI), loss of limbs through traumatic amputation, and their cognitive and psychiatric sequelae (Greer, Sayer, Kramer, Koeller, & Velasquez, 2016). Blast injuries are characterized by the mechanism of injury. The mechanism of injury determines the type of injury that is incurred. For instance, primary injuries are due to changes in wave pressure and typically affects body parts filled with gas, such as lungs or the gastrointestinal tract. By contrast, secondary injuries are caused by flying debris from the explosion and can affect any body part. A recent systematic review highlights the surprisingly limited empirical evidence of the psychological consequences of these types of injuries, even though the most recent conflicts post–9/11 have seen a dramatic increase in the use of explosive devices. The review found that the incidence of depression, pain, and alcohol-use disorders were similar in veteran with and without blast injuries. The evidence regarding PTSD was mixed. Only one study reported quality of life as an outcome (Greer et al., 2016).
Multiple studies show that TBIs are associated with psychiatric symptoms, especially depression, anxiety, and PTSD (Farmer et al., 2016). The psychiatric consequences of TBI may be short-term and long-term. Etiology of psychiatric illnesses among TBI patients is complex. Alcohol misuse is a common precursor to many TBIs (e.g., accidents incurred when driving while intoxicated) but may also be a consequence of having a TBI. Depending on the site of brain injury, patients may be more prone to depression, or to disruptive behavior patterns that strain their relationships, such as those to the prefrontal cortex. TBI may also cause psychiatric symptoms as patients face challenges of reintegration with society, difficulty finding employment, or difficulty initiating and maintaining interpersonal relationships. Cognitive or behavioral treatment of psychiatric illnesses among TBI patients remains nascent, since the organic damage to the brain may cause refractory symptoms as well as inhibit the patients’ ability to fully participate in treatment due to cognitive impairments.

Primary Care Initiatives to Address Veteran Health

The VA has long recognized that primary care is the first line of defense of detecting and treating not only medical but also psychiatric illness. To address the mental health and medical needs of veterans, the VA has led the way with two major initiatives: Primary Care Mental Health Integration which launched in 2007, and a medical home model for primary care called Patient Aligned Care Teams (PACT) which launched in 2010 (Post & Van Stone, 2008; Rosland et al., 2013; Zivin et al., 2010a).

In 2007, the VA became the largest healthcare system in the US to collocate mental health treatment within primary care clinics. The Primary Care Mental Health Integration (PCMHI) model required that each clinic will have a mental health specialist, which would be a psychologist, social worker, psychiatrist, or psychiatric nurse, within primary care. Primary care providers can do a “warm handoff” to these specialists that overcame the prior barriers that required patients to set up separate appointments on a different day (Post & Van Stone, 2008; Zivin et al., 2010a). Many of the screening, assessment, and treatment activities take place in primary care, including mandatory annual screening of depression, tobacco use, and alcohol use. Depression is screened using the PHQ2 and if patients screen positive, they receive the PHQ9 (Kroenke, Spitzer, & Williams, 2001). The VA has also hired 5,000 providers nationally to support the growing number of veterans with an identified mental illness. In 2010, these services were further augmented with the medical home model of primary care called Patient Aligned Care Teams (PACT), which also integrated behavioral health specialists as part of each multidisciplinary team (Rosland et al., 2013). These initiatives have improved the detection of mental illness (Zivin et al., 2010b) and there is evidence that it is improving outcome among mentally ill veterans seen in primary care (R. B. Trivedi et al., 2015).

Specialty Programs to Enhance Healthy Behaviors Among Veterans

Because of the high prevalence of overweight and obesity among veterans, the MOVE! program is designed to address weight loss in primary care settings. A recent systematic review of MOVE! showed that participation is improving and that participation in MOVE! improves weight loss (Maciejewski, Shepherd-Banigan, Raffa, & Weidenbacher, 2018). Veterans may receive specialty mental health treatment across the spectrum of psychiatric illnesses. Specialty mental health is provided through medication management, individual psychotherapy, group therapy, specialty substance use treatment, and residential treatment for substance use disorders (SUD). SUD has long been a focus of treatment within the VA. A study of Iraq and Afghanistan veterans revealed that 42.7% of study participants were non-smokers, 32.5% were current smokers, and 24.8% were former smokers (Pugh et al., 2016). This has been tied to increased risk of many chronic conditions, notably pulmonary disease, as noted earlier. Patients seen in the VA receive tobacco and alcohol-use screening (Bradley et al., 2003). The
success by which medical centers and clinics adhere to these measures is considered a clinical quality indicator, that is, adherence is used to evaluate the quality of clinical care received at the various facilities.

In the past few years, the VA has leveraged technology platforms to provide web-based and mobile application-based empirically validated treatments for PTSD and SUD. These treatments have broader reach, are easier to access, and are tailored to the specific triggers and risks for veterans (National Center for PTSD, 2017). Apart from the modernization, these platforms provide the added advantage of reaching hard to reach veterans such as those living in rural areas or those who are unable to travel. The Office of Primary Care and the Office of Rural Health have an ongoing program to provide veterans and their family members tablets to improve accessibility and connectivity. An evaluation of this program is under way and will shed light on the viability of this strategy to reach otherwise hard-to-reach veterans.

**Home and Community-Based Services**

The VA has been a leader in supporting veterans’ ability to age in place and has developed several holistic programs to support veterans and their families. The Home-Based Primary Care program provides care to veterans who are unable to travel to a facility due to disability. The Geriatric and Extended Care division provides home- and community-based respite care, and medical foster homes to qualifying veterans. An important initiative within the VA is its support of family caregivers. In 2010, the Congress passed the Family and Caregiver Omnibus Act, which established the Office of Caregiver Support (caregiver.va.org). This national entity is responsible for two important programs: the General Program of Caregiver Support, and the Program of Comprehensive Assistance for Family Caregivers. Caregivers of all veterans have access to the general program, which includes the availability of caregiver support coordinators at each medical center, a website with resources for managing patients and self-care. The Program of Comprehensive Assistance for Family Caregivers applies only to those caregivers who care for post-9/11 veterans injured in the line of duty. Caregivers apply to determine their eligibility, and eligible caregivers receive a monthly stipend to offset the cost of caregiving (Van Houtven, Oddone, & Weinberger, 2010; Van Houtven et al., Epub Ahead of Print). Family caregiving is receiving increasing attention outside of the VA as well, leading to the passing of the CARE Act in 26 states and the District of Columbia, and recent passage of RAISE Family Caregiver Act that was signed into law in 2018.

**Gaps in Veteran Care**

Despite many progressive initiatives, gaps remain. The VA employs nearly 400,000 people, and suffers from inefficiencies endemic to bureaucracies. The VA has continued to struggle with providing timely care to all patients, but especially to those with a psychiatric condition. There are several reasons for this. First, as is the case outside of the VA, hiring providers in rural and remote areas of the country is challenging. Second, the focus on ensuring appropriate access has led to unfortunate instances of gaming the system, corruption, and egregious errors in decision making, such as the Phoenix, Arizona, scandal of 2014. In at least one instance, a veteran who sought mental healthcare was turned away due to lack of availability and later took his life. In response to growing demand, Congress passed the CHOICE Act in 2014, which now allows veterans to obtain care in their community if they have a wait of greater than 30 days or if they live more than 40 miles from the nearest facility (Department of Veterans Affairs, 2014). This expanded coverage has been instrumental in improving access to timely primary and specialty care. However, preliminary evidence also suggests that veterans prefer to receive their care, especially mental healthcare, within the VA since they...
believe that VA providers are better equipped to understand their challenges. Providing access to timely treatment remains an important barrier within the VA and is part of the current Secretarial Priorities for the VA.

Stigma related to mental illnesses remain, and among military veterans may be amplified by the machismo of the military. Only 9% of all veterans seen in primary care are women, even though this number is growing due to the more women who enlist in recent conflicts (Frayne et al., 2007; Yano et al., 2006). Thus, women’s health issues remain a nascent, albeit growing, area of focus. An area that is starting to receive more attention is the mental health of lesbian, gay, bisexual, transgender, queer (LGBTQ+) military and service members. An estimated one million lesbian, gay, and bisexual individuals are veterans and service members (Gates, 2004). President Obama repealed the Don’t Ask Don’t Tell policy in 2010 allowing service members who identify as LGBTQ+ to openly serve in the military armed forces. These individuals are vulnerable to psychiatric illnesses due to their marginalized identity. A survey of VA psychologists revealed concerns regarding the existing culture, which was unsupportive, concern regarding safeguarding privacy, need to train counselors, and need for resources (Johnson & Federman, 2013). A recent case–control study of 5,135 transgender veterans seen in the VA showed significantly higher rates of depression, suicidality, serious mental illness, and PTSD, as well as reported higher rates of homelessness, military sexual trauma (MST), and incarceration (Brown & Jones, 2015).

Summary

Military veterans represent a segment of the population with highly specialized needs that can benefit from health psychology contributions. Comorbidity of psychiatric and medical illnesses is common, suggesting a strong need for health psychologists. Research opportunities in delivery and clinical science abound and many VAs offer training opportunities for internships and fellowships. Both clinical and non-clinical health psychologists can lend their expertise in the study and treatment of this vulnerable population.

References


Military Veterans Health


