Mental Health Among Military Personnel and Veterans

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This commentary describes the prevalence of mental health problems affecting military service members and veterans in North Carolina and the rest of the nation, with a special emphasis on those who served in the recent wars in Iraq and Afghanistan. Approximately 1.9 million of these veterans have become eligible for Veterans Affairs health care since 2002, and an estimated 1.16 million veterans have registered for this care.

he recent succession of military conflicts—Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), and Operation New Dawn (OND)—represents the longest sustained military operation in United States history. Since the inception of these operations, over 2 million veterans have deployed, with an average of over 1 deployment per service member [1]. Table 1 gives data on the number of active-duty soldiers, reserve soldiers, National Guard soldiers, and veterans in North Carolina and nationwide.

Combat operations have been characterized by use of improvised explosive devices (IEDs) by guerilla insurgents, multiple and extended deployments, high utilization of the National Guard, an all-volunteer military force, and increased injury survival rates due to advances in battlefield medical care [2-4]. Rates of observed mental health conditions among post-9/11 service members have challenged mental health resources across the Department of Defense (DoD), Veterans Health Administration (VHA), and community systems, requiring significant enhancement and expansion.

Incidence, Prevalence, and Base Rates

Approximately 1.9 million OEF/OIF/OND veterans have become eligible for Veterans Affairs (VA) health care since 2002. Of these, an estimated 1.16 million veterans have registered for VA health care. As of December 2014, 57.2% (662,722) received at least a provisional mental health diagnosis, with the most common conditions being post-traumatic stress disorder (PTSD; 55%), depressive disorders (45%), and anxiety disorders other than PTSD (43%) [5]. Other studies have found a 23% prevalence of PTSD among OEF/OIF/OND veterans [6] and high rates of adjustment and substance use disorders (SUDs) [7, 8]. A 2015 metanalysis by Kelsall and colleagues revealed a significantly

greater incidence of SUDs among OEF/OIF/OND veterans compared with a matched non-deployed sample [9]. In fact, the number of veterans presenting for VA care with PTSD and a comorbid SUD has increased by 76% since 2008 [10, 11]. Rates of general reintegration difficulties among post-9/11 service members range from 45% among non-VHA users to 62% among users of VHA health care offerings [12]. Within the Veterans Integrated Service Network 6 (VISN 6) catchment area—which encompasses North Carolina, Virginia, and portions of West Virginia—30,214 OEF/OIF/OND veterans sought care specifically for PTSD between October 1, 2001 and December 31, 2014 [13]. Among these veterans, 60.5% presented to North Carolina-based VHA facilities.

The OEF/OIF/OND conflicts and combat methods have also resulted in a high incidence of traumatic brain injury (TBI). According to a 2013 report from the Department of Veterans Affairs, from 2007–2013, a total of 185,437 veterans self-reported a history of TBI on a brief screening instrument [14]. The Defense and Veterans Brain Injury Center (DVBIC) recently reported that there have been 327,299 TBI cases among service members since 2000 [15], with 5,912 cases

TABLE 1. Number of Soldiers in North Carolina Compared to the Country as a Whole

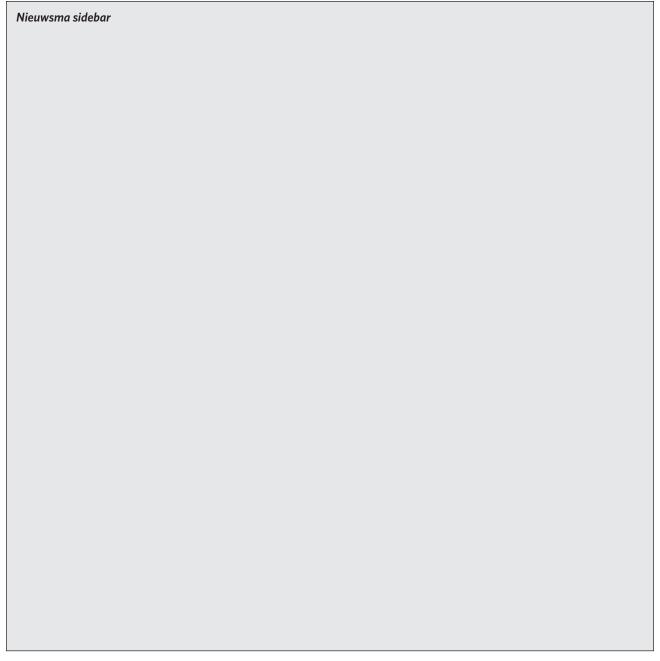
Nationwide	Numbers
Active-duty soldiers	1,382,400 [74]
Reserve soldiers	834,700 [74]
National Guard soldiers	459,600 [75]
OEF/OIF/OND veterans	1,906,754 [5]
North Carolina/VISN 6	
Total active-duty soldiers in North Carolina	116,000 [68]
Total reserve/National Guard soldiers in North Carolina	22,000 [68]
Total number of veterans in North Carolina	766,000 [68]
Total number of OEF/OIF veterans in VISN 6	95,077 [5]

Note. OEF, Operation Enduring Freedom; OIF, Operation Iraqi Freedom; OND, Operation New Dawn; VISN 6, Veterans Integrated Service Network 6.

Electronically published November 13, 2015.

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N C Med J. 2015;76(5):299-306. ©2015 by the North Carolina Institute of Medicine and The Duke Endowment. All rights reserved. 0029-2559/2015/76505



occurring during the first quarter of 2015 [16]. It is worth noting that these data reflect both combat- and non-combat-related TBI, and that these are worldwide rates for military service members.

Veterans with a history of TBI present treatment challenges when postconcussive symptoms co-occur with mental health diagnoses. The complex and sometimes life-threatening nature of TBI/polytrauma secondary to the OEF/OIF/OND conflicts resulted in the designation of the VA Polytrauma System of Care (PSC). The PSC offers a continuum of interdisciplinary rehabilitation spanning acute, transitional, outpatient, and community-based services [17]. A full continuum of PSC services exists in VISN 6 at the

Hunter Holmes McGuire VA Medical Center in Richmond, Virginia [18].

High rates of mental health disorders exist among active-duty service members. According to a 2013 report, an estimated 10% of OEF active-duty soldiers met criteria for a diagnosable mental health condition [19]. A 2009 report by the same office estimated that 13.3% of OIF service members met diagnostic criteria for a mental health condition [20]. Interestingly, when new military recruits (non-deployed) were assessed over a 12-year period (2000-2012), only about 50,000 (2.4%) had been diagnosed with a mental health disorder upon initial military enlistment [21], which highlights a substantial difference



between pre- and post-deployment mental health diagnosis rates. Prolonged deployments are associated with increased likelihood of developing a mental health condition, which may account for the high rate of mental health diagnoses among OEF/OIF/OND veterans [22].

Related to specific disorders, a recent report found that within 3 years after returning from deployment, 4.9% of active-duty service members had been diagnosed with PTSD [23]. According to some studies, rates of PTSD diagnosis among service members deployed after 9/11 range from 6.2% to 19.9%, depending on the psychometric cut scores used [24]. Startlingly, rates of diagnosable anxiety disorders among active-duty service members increased 425% between 2000 and 2012 [25], and rates of diagnosable depression ranged from 5% to 16% among active-duty and National Guard service members [26]. Another trend is the increased need for acute psychiatric intervention. One epidemiological study showed that there have been 162,921 psychiatric hospitalizations since the inception of the OEF/OIF/OND conflicts [27]. Acuity of psychiatric distress among post-9/11 service members and veterans is

punctuated by high rates of suicide. Between 2010 and 2012, 2,553 active-duty soldiers attempted suicide and, of these, 812 died [28]. In one study, an estimated 7% of service members reported seriously considering suicide after joining the military [29].

Department of Defense Programs

The influx of post-9/11 service members and veterans presenting with mental health disorders has prompted the development of a broad array of DoD and VHA programs and initiatives. Integration of mental health services within primary care settings has occurred in all military service branches and throughout VHA. Primary care-mental health (PC-MH) integration allows individuals with mental health concerns to be promptly assessed and treated during routine visits with their primary care physician, either directly or by co-located mental health clinicians [30]. Such integration results in improved detection of mental health conditions and improved treatment outcomes [31, 32]. Following a similar strategy, the Navy's Operational Stress Control and Readiness (OSCAR) initiatives embed psychologists within

regiments during the pre-deployment phase and provide continuity of support through all deployment phases [33-36]. The Army's RESPECT-Mil program is an innovative program that provides systematic, evidence-based care to service members with symptoms of depression and PTSD in the primary care setting, emphasizing compliance with VA/DoD clinical practice guidelines [37-39]. DoD mental health programs emphasize prevention of mental health conditions through fostering resilience, while simultaneously supporting the acute care needs of service members and their families.

Chaplains play a vital role in providing spiritual care and facilitating mental health care in DoD [40]. Studies show that chaplains play a key role in suicide prevention among active-duty soldiers [41]. In a 2013 study, Nieuwsma and colleagues found that 65% of DoD chaplains believed that active-duty service members who sought chaplaincy services did so because of concerns about confidentiality in traditional mental health settings [42].

Families of active-duty service members also have a need for mental health services. According to Tanielian and colleagues, approximately 700,000 children will have had at least 1 parent deploy in association with OEF/OIF/OND conflicts [43]. Joining Forces is a program that uses a public health model to foster a community of care for military children. A White House initiative promoted by First Lady Michelle Obama and Dr. Jill Biden, Joining Forces is committed to improving outcomes through employment, education, a focus on wellness, and fostering resilience among military families [44]. A summary of DoD, VA, and community programs that support military children and their families was recently provided by Kudler and Porter [45].

Veterans Health Administration

As service members transition out of active duty, they may become eligible for VHA care. In North Carolina—and throughout the rest of the nation—VHA offers a wide range of programs focused on outreach, engagement, assessment, early intervention, and treatment of mental health conditions among veterans from all eras. The Uniform Mental Health Services Handbook (UMHSH) guides mental health services within VHA by outlining the essential components of the national mental health program to ensure that all veterans, wherever they seek care in VHA, have access to needed mental health services. VHA services are recoveryoriented and integrated across services and locations [46]. VHA is a leader in dissemination and implementation of evidence-based psychotherapies [47, 48]. Multiple studies have demonstrated effectiveness with evidence-based psychotherapies for PTSD, TBI, and other mental health conditions [49].

Other UMHSH guidance includes provision of urgent mental health services 24/7 and the availability of inpatient psychiatric services regardless of where a veteran presents for evaluation and treatment. For veterans requiring services in more structured settings, Mental Health

Residential Rehabilitation Treatment Programs are offered [50]. These programs have demonstrated effectiveness for veterans with PTSD [51] and SUDs [52]. Veterans with serious mental illnesses such as schizophrenia or bipolar I disorder can access Rehabilitation and Recovery Centers (RRCs) at larger VA facilities. RRCs are transitional centers that support recovery and community integration through evidence-based psychotherapies, social skills training, psychoeducation, peer support, and maintenance of a wellness perspective [53]. Compensated work therapy and homeless programs complement the aforementioned continuum of mental health services and emphasize recovery principles, meaningful community participation, and reintegration [54]. Expansion of telehealth services increases clinical capabilities and treatment options. Studies have demonstrated the effectiveness of telehealth-mediated interventions for PTSD [55, 56] and other mental health conditions [57]. Finally, the Veterans Access, Choice, and Accountability program allows veterans to access care in the community if distance or long wait times present a barrier to timely access to VA services [58].

Nationwide, VHA's Readjustment Counseling Service operates 300 Vet Centers and 80 Mobile Vet Centers. Vet Centers are community-based locations staffed by mental health professionals and peer outreach workers. Over 70% of Vet Center staff are veterans. Vet Centers offer outreach and readjustment counseling services to veterans and their families [59]. They differ from VHA in the sense that veterans' records and information are maintained separate from the VHA system of care, and it is not necessary to enroll in VHA to receive readjustment counseling services.

Veterans seeking VHA services within North Carolina can access any of 4 Veterans Affairs Medical Centers (VAMCs)—in Asheville, Durham, Fayetteville, or Salisbury. There are an additional 6 outpatient clinics, 17 community-based outpatient clinics (CBOCs), and 6 Vet Centers in North Carolina [60].

DoD and VHA Collaborations

The Defense Centers of Excellence (DCoE) for Psychological Health and Traumatic Brain Injury are responsible for identifying and translating evidence-based practices, aggregating outcomes data associated with these treatments, and supporting research. Component centers associated with DCoE include DVBIC, the Deployment Health Clinical Center, and the National Center for Telehealth and Technology [61]. DCoE's "Real Warriors" campaign is a multimedia awareness initiative geared towards stigma reduction, and it encourages service members and families to seek psychological care when needed [62].

Both DoD and VHA have integrated peer-support specialists to facilitate recovery-oriented mental health care. Peer-support specialists are veterans with a lived experience of mental illness and/or deployment. They support other veterans presenting for mental health care by sharing and

building upon their personal experiences to provide support and guidance [63]. A 2015 study of the peer-support program found that veterans who worked with a peer-support specialist had increased behavioral activation, a factor associated with improved mental health outcomes [64].

To further facilitate collaboration and continuity between DoD and VHA, VHA liaisons work within 18 DoD medical centers. These individuals (typically social workers or nurses) facilitate care transitions for patients with complex discharge planning issues who are preparing to return to civilian status. They also provide practical information to service members and their families transitioning from DoD- to VHA-based care [65].

VHA, DoD, and State- and Community-Based Programs in North Carolina

With support from several groups-VA's Mid-Atlantic Region Mental Illness Research, Education, and Clinical Center (MIRECC); the North Carolina Area Health Education Centers (AHECs); the National AHEC Organization; and the US Health Resources and Services Administration—the Citizen Soldier Support Program, based at the University of North Carolina at Chapel Hill, created a series of trainings entitled "Painting a Moving Train: Working with Veterans of Iraq and Afghanistan and their Families," and "Treating the Invisible Wounds of War" [66]. Since their inception, over 20,000 individuals have completed at least one of these trainings. Duke University's "Welcome Back Veterans Initiative" implemented the Veteran Culture and Clinical Competencies program to train existing community-based providers in outreach and access strategies for engaging veteran, National Guard, and reserve members and their families [67]. Such programs focus on building bridges between the community and military families to address an array of mental health concerns.

Another North Carolina program, the North Carolina Veterans Working Group, established a state-level DoD/VHA/state and community partnership. This program

has sponsored trainings and workshops, raised awareness of mental health services, and provided resources for active-duty service members, veterans, and families across North Carolina [68]. Other North Carolina-based initiatives offer advocacy groups (ie, The North Carolina National Guard, the National Military Family Association, and the Military Child Education Coalition) to help address the mental health challenges that may be faced by military children [69, 70].

An overarching concern across DoD and VHA is how to increase help-seeking behaviors among OEF/OIF/OND veterans. Studies show that many post-9/11 veterans opt against seeking mental health services due to concerns about stigma, privacy, and confidentiality; career-related issues including jeopardizing promotion; and a preference for relying upon personal resources and coping strategies [32, 71, 72]. Coaching into Care is a program that helps families and loved ones by providing information, resources, and instructions framed in terms adapted from motivational interviewing; the goal of the program is to help service members and veterans overcome reluctance to seek out mental health care and connect with appropriate resources [73]. Table 2 summarizes DoD, VHA, government, and community programs.

Summary

National and North Carolina-based programs and initiatives are positively influencing mental health care possibilities for service members and their families. DoD, VHA, and community-based agencies and providers are continuously adapting to address prevalent mental health diagnoses and functional impairments. Improvements in the standard of care continue through efforts to develop, implement, integrate, and evaluate a broad array of mental health programs in what may be the nation's most military- and veteran-friendly state. NCM

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Program	Agency	Link to website
Defense Centers of Excellence	DoD/VHA	www.dcoe.mil/
Real Warriors	DoD/VHA	www.realwarriors.net/
Military Child Education Coalition	Community	www.militarychild.org/
National Military Family Association	Community	www.militaryfamily.org/info-resources/
Governor's Working Group on Veterans, Service Members, and Their Families	NC Government/ Community/VHA/DoD	http://ncveteransworkinggroup.org/
Vet Center	VHA	www.vetcenter.va.gov/
Citizen Soldier Support Program	Community/NC	www.citizensoldiersupport.org/
Coaching into Care	VHA	www.mirecc.va.gov/coaching/
Polytrauma System of Care	VHA	www.polytrauma.va.gov/
National Center for PTSD	VHA	www.ptsd.va.gov/

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Acknowledgments

Potential conflicts of interest. All authors have no relevant conflicts

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