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Military Combat Deployments and Substance Use: Review and Future Directions

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Abstract

Iraq and Afghanistan veterans experience extreme stressors and injuries during deployments, witnessing and participating in traumatic events. The military has organized prevention and treatment programs as a result of increasing suicides and posttraumatic stress disorder among troops; however, there is limited research on how to intervene with alcohol misuse and drug use that accompany these problems. This review presents statistics about post-deployment substance use problems and comorbidities, and discusses the military's dual role in 1) enforcing troop readiness with its alcohol and drug policies and resiliency-building programs, and 2) seeking to provide treatment to troops with combat-acquired problems including substance abuse.

Keywords

military deployments; combat exposures; substance use; veterans; military health care system

Since 2001, approximately two million United States (U.S.) service members have deployed to the wars in Iraq and Afghanistan (Institute of Medicine [IOM], 2010b). These wars are fundamentally different from previous military operations in numerous ways including the sociodemographics of troops deployed, frequency and duration of deployments, the nature of combat, number of deaths, and types of injuries (Tanielian & Jaycox, 2008). The problem of unhealthy substance use, ranging from risky use to substance use disorders (Jackson, Alford, Dube, & Saitz, 2010; Saitz, 2005) among service members must be understood in this context. This review focuses on substance use problems among veterans of Operation Enduring Freedom (OEF; Afghanistan) and Operation Iraqi Freedom (OIF; Iraq). We present an overview of current knowledge on prevalence and risk factors for unhealthy substance use and co-occurring conditions, and programs to address these problems. We

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also describe facilitators and barriers to help-seeking, and conclude with a discussion of implications and future directions for social work professionals.

The environment and length of OEF/OIF has led to unusual work demands for military personnel, and contributed to high rates of co-occurring physical, psychological, and substance use problems among returning veterans (Hoge, 2011). Deployed service members may experience blasts from improvised explosive devices (IEDs); contend with suicide bombers or snipers; receive incoming artillery, rocket or mortar fire; engage in hand-to-hand combat; sustain serious injuries; and/or witness death or injury of comrades, combatants, or civilians (Mental Health Advisory Team IV [MHAT-IV], 2006; Tanielian & Jaycox, 2008). With a 10% mortality rate for serious injuries (Holcomb, Stansbury, Champion, Wade, & Bellamy, 2006), a record number of combat veterans are surviving serious burns, amputations, and other physical and psychological injuries (Melcer, Walker, Galarneau, Belnap, & Konoske, 2010). Consistent with low mortality and increased survival rates, OEF/OIF has resulted in unprecedented attention to the "signature injuries" or "invisible wounds" of these conflicts: posttraumatic stress disorder (PTSD), traumatic brain injury (TBI), and depression (Hoge et al., 2004; Lapierre, Schwegler, & LaBauve, 2007; Seal, Bertenthal, Miner, Sen, & Marmar, 2007; Tanielian & Jaycox, 2008). Substance use and misuse may be comorbid with any of these conditions. Additional symptoms associated with OEF/OIF experiences include subthreshold posttraumatic stress symptoms, helplessness, insomnia, shame, and survivor's guilt, which could also contribute to substance use problems (Campise, Geller, & Campise, 2006).

Reserve component members (i.e., National Guard, Reservists) and women have been deployed in unprecedented numbers. By October 2007, over 620,000 National Guard and Reservists had been activated and women represented 15% of troops in Iraq and Afghanistan (Albright et al., 2007 U. S. Government Accountability Office, 2008). Women are currently employed in over 90% of military occupations, are at-risk for combat exposures, and serve multiple, lengthy deployments similar to men (Manning & Wight, 2000; Murdoch et al., 2006). Female soldiers are more likely to screen positive for PTSD and depressive symptoms, but are less likely to develop substance use problems (Luxton, Skopp, & Maguen, 2010; Tanielian & Jaycox, 2008). Thus, service component and gender are relevant to the impact of deployments on substance use.

While both psychological injuries and unhealthy substance use are common, it is important to consider that onset of symptoms may be delayed, and that multiple deployments can have a cumulative effect. For instance, service members on their third and fourth deployments report significantly more problems than those on their first or second deployment – more acute stress, psychological and marital problems, and higher rates of using medication for combat stress (MHAT-IV, 2006).

Since 2003, the nation's response to the health care needs of OEF/OIF veterans has been evolving. The Department of Defense (DoD) and Department of Veterans Affairs (VA) have increased their attention on prevention and resilience, outreach and assessment, and counseling of service members, veterans, and families. There is a growing public health awareness that more services for unhealthy substance use and co-occurring problems must be made available (American Psychological Association, 2007). Social workers will play a vital role in providing these services. While each military service has a DoD-mandated substance abuse program (IOM, 2010b; U. S. Department of Defense, 1997), unhealthy alcohol use and smoking rates remain high (Bray et al., 2010), and there are increasing rates of amphetamine and narcotic prescriptions among active duty members, some of which may reflect substance abuse (Wagner et al., 2007).

POST-DEPLOYMENT SUBSTANCE USE PROBLEMS AND SYMPTOMS

Service members returning from deployments often engage in unhealthy substance use. These problems may be exacerbated by co-occurring psychological problems. In this section, we describe use of common substances and examine the most common co-occurring conditions. Table 1 presents summary findings from five recent population-based studies that examine the association of tobacco or alcohol use with deployment and combat exposure.

Alcohol Use

Cumulatively, deployment duration and frequency have been associated with higher rates of heavy alcohol use among active duty service members (Ong & Joseph, 2008; Spera, Thomas, Barlas, Szoc, & Cambridge, 2010). Unhealthy drinking rates and alcohol-related consequences are also correlated with intensity of combat exposure, specifically among Reserve and National Guard personnel and younger service members (Jacobson et al., 2008). As shown in Table 1, a study based on longitudinal data gathered on National Guard and Reservist members estimated increased odds of alcohol-related problems using three measures, ranging from 1.46 to 1.63 in association with deployment with combat exposure (Jacobson et al., 2008). A study of Air Force members reported a smaller range of odds increase (14% to 23%) of problem drinking, measured using the World Health Organization's Alcohol Use Disorder Identification Test (AUDIT), associated with deployment frequency and duration, respectively, independent of combat exposure (Spera et al., 2010). Finally, a study of one brigade of Army soldiers found that seeing death or injury as well as witnessing atrocities during combat in Iraq, were associated with increased positive alcohol misuse based on a two-item screen (Wilk et al., 2010). The association of alcohol-related problems with deployment and combat exposure is complicated by the long-standing culture of unhealthy drinking in the military. Service members, while stationed at their permanent bases or installations, report using alcohol to cope with stress, boredom, and loneliness (Ames & Cunradi, 2004). Binge drinking rates are high: 20% report binge drinking at least once per week in the past 30 days (Bray et al., 2010). During non-deployment periods, young enlisted, unmarried service members report the highest rates of unhealthy drinking (Ferrier-Auerbach et al., 2009).

Smoking and Tobacco Use

While there has been an overall decrease in cigarette smoking in the military (Bray et al., 2010), young service members remain more likely to be smokers than their civilian counterparts (Nelson & Pederson, 2008), and deployment appears to increase smoking initiation and recidivism (Smith et al., 2008) and smoking in the past month (Bray et al., 2010). Combat exposure as well as longer length and number of deployments are associated with increased prevalence of smoking and smoking recidivism according to analysis of longitudinal data which reports increased odds of smoking initiation (1.6) and smoking recidivism (1.3) for deployment with combat exposure compared to deployment without combat exposure (Smith et al., 2008) (see Table 1). During deployment, service members report smoking helps cope with stress, boredom, and sleep problems; endorse a belief that the dangers of smoking are insignificant compared to those of combat; and perceive smoking as socially acceptable in military culture (Poston et al., 2008). Further, use of cigars and smokeless tobacco have been increasing among military recruits (Vander Weg et al., 2008).

Other Drug Use

Illicit drug use among military personnel has varied during previous U.S. wars and combat situations, likely due to ease of access, personal stress, and the nation's cultural norms

related to specific substances (Federman, Bray, & Kroutil, 2000). Over 80% of Army soldiers during the Vietnam War used marijuana, while 45% tried narcotics (34% used heroin; 38% used opium) (Robins, 1993). Drug use upon return from deployment decreased significantly and only 5% of service members who had been addicted to drugs in Vietnam remained addicted immediately after deployment (Robins, 1993).

Widespread Vietnam-era drug use and well publicized post-war military accidents led the DoD to adopt a "zero tolerance" policy for drugs and to start a program of mandatory routine urinalysis testing for opiates, barbiturates, amphetamines, and cocaine which could result in serious sanctions including possible discharge (Bachman, Freedman-Doan, O'Malley, Johnston, & Segal, 1999). Since then, use of these substances among military personnel has declined significantly and has remained around 3% (Bray et al., 2010). However, self-report misuse of prescription medications has escalated, matching anecdotal evidence that more service members are experiencing problems with or dependence on narcotics, benzodiazepines, and other prescription medications (Army Suicide Prevention Task Force, 2010).

Self-report of non-medical use of prescription drugs increased from 4% in 2005 to 11% in 2008 (Bray et al., 2010). Improved wording on the survey may have contributed to this increase, but the trend matches the dramatic rise in the prescription of narcotics among the U.S. general population (Bray et al., 2010). Self-reported misuse in the past 30 days was 10% for pain relievers and 3% for tranquilizers and muscle relaxers (Bray et al., 2009). It is suspected, but unknown to what extent combat veterans misuse these prescription drugs as part of maladaptive coping with combat-acquired wounds, pain, or psychological injury (Dao & Frosch, 2010).

Other Comorbidities with Substance Use Disorders

Pain—Veterans with co-occurring substance use disorders (SUDs) and chronic pain (Gironda, Clark, Massengale, & Walker, 2006; Kline et al., 2010) may turn to drugs to self-medicate the pain, creating challenges for effective pain management (Larson et al., 2007; Rosenblum et al., 2003; Trafton, Oliva, Horst, Minkel, & Humphreys, 2004). The Army's Pain Management Task Force recommended providing appropriate pain management and clinical prescription drug oversight in Warrior Transition Units (WTUs) (Office of The Army Surgeon General, 2010). The impact of pain medication use in the military has not been comprehensively studied (Army Suicide Prevention Task Force, 2010).

Suicide risk—Substance use often precedes suicidal behavior in the military, as indicated by the 30% of Army suicides and over 45% of suicide attempts since 2003 that involved alcohol or drug use (U.S. Army Center for Health Promotion and Preventive Medicine, 2010). Further, the Army Suicide Prevention Task Force (2010) reported that approximately 20% of 188 high-risk behavior deaths from 2006 to 2009 that were not combat-related were due to a drug or alcohol overdose. In 2008, the active duty Army suicide rate (20.2 per 1000,000) surpassed the civilian population rate (19.6 per 100,000) (Kuehn, 2009). Rates of suicide attempts and suicidal ideation are also increasing; almost 5% of service members reported seriously considering suicide within the past year, and 2.2% reported attempting suicide within the past year, an increase from 0.8% in 2005 (Bray et al., 2009).

Posttraumatic stress disorder—Deployment intensity and multiple deployments also increase the risk of developing PTSD (Shen, Arkes, & Pilgrim, 2009), and OIF/OEF veterans who screen positive for PTSD or depression are twice as likely to report alcohol misuse as those without a positive screen (Jakupcak et al., 2010). Data from DoD post-deployment health assessments (PDHA) completed within 30 days of return, and post-

deployment health re-assessments (PDHRA) completed 90-180 days post-deployment, indicate that 7% of active duty service members endorsed PTSD symptoms immediately upon return and 9% at follow-up (Armed Forces Health Surveillance Center, 2010). Rates are higher among Reserve component service members than among those on active duty. Further, mild traumatic brain injury (mTBI) and PTSD symptoms are strongly correlated (Friedemann-Sanchez, Sayer, & Pickett, 2008; IOM, 2008), making it difficult to clinically discern the etiology of insomnia, irritability, fatigue, and hyperarousal symptoms (Hoge, Goldberg, & Castro, 2009; Stein & McAllister, 2009). Unhealthy substance use can complicate these conditions.

Behavioral Health Treatment When Deployed or Reintegrating After Deployment

In responding to substance use, military organizations have dual roles - they enforce discipline in part to maintain force readiness and they promote resilience, optimal health, and well-being of service members as part of their public health mission. DoD policies distinguish use of legal substances (alcohol and prescriptions) from illicit substances (cocaine) and unauthorized/illegal behaviors (e.g., bringing into barracks, use without prescription, sharing) in its response to substance use.

In-Theater Services—Behavioral health personnel deploy as part of combat stress units, combat support units, or as support personnel in combat units (Hoge, 2011). Although a recommended ratio of one behavioral health professional for every 700 soldiers was adopted, the Mental Health Advisory Team (MHAT-IV, 2006) reported this ratio is not maintained in all areas. Service members experiencing combat stress reactions in-theater can be referred to a “restoration program,” a structured three-to-five day curriculum designed to maximize the return-to-duty rate of those who are temporarily impaired or incapacitated. Over 90% of behavioral health providers surveyed by the MHAT-VI reported that they felt confident in their ability to assess and treat soldiers with suicidal ideation, combat stress reactions, acute stress disorder or PTSD; however, only 63% felt confident in their ability to evaluate and manage substance abuse or dependence (MHAT-VI, 2006).

Military Treatment Programs—Service members must be physically fit for duty and meet behavioral standards demonstrating self-discipline (Kelly, Mulligan, & Monahan, 2010). An alcohol-related incident (e.g., fighting while intoxicated, drinking and driving) may result in a command referral to a substance abuse program administered by the military and staffed by clinicians and service members trained to offer services. Resistance to alcohol treatment, a repeat offense, and a positive urinalysis may result in administrative action and possibly discharge from service, accompanied by treatment if alcohol dependence or abuse is diagnosed, depending on the branch of service (Kennedy, Jones, & Grayson, 2006). The Army Substance Abuse Programs (ASAPs) are organized by installation commanders and rehabilitation is designed to involve the soldier, unit commander and intermediate supervisors, as well as the counselor. Navy Substance Abuse and Rehabilitation Programs (SARP) are organized under the medical system. While military personnel can voluntarily seek treatment for SUDs at a military facility; in practice, seeking treatment begins a sequence of commander involvement that is perceived as career-ending, and because service members are released from duties to attend treatment, it is difficult to maintain confidentiality.

Military Health System--TRICARE—Separating active duty members, and de-mobilized or separating Reserve and National Guard members who are combat veterans are eligible for a 180-day transitional benefit using a military insurance benefit (i.e., TRICARE), which covers some substance abuse treatment services that are facility-based (detoxification and rehabilitation; outpatient care;, group and family therapy; and partial hospitalization).

TRICARE does not cover methadone or buprenorphine as part of a maintenance treatment program (Department of Defense, 2009).

Warrior Transition Units—WTUs provide ill and injured Army personnel with medical and support services in a special garrison unit as they transition towards medical discharge or prepare to return to duty (U.S. Department of the Army, 2009). Soldiers with polytrauma assigned to WTUs are often prescribed opiates, antidepressants, and anti-anxiety drugs. There is anecdotal report of over-prescribing, raising concerns that some WTU soldiers may be abusing prescription medications (Army Suicide Prevention Task Force, 2010).

VA Health System—Concerns about confidentiality and stigma may lead some service members to seek care outside of military treatment facilities. The VA health care system consists of hospitals, clinics, Vet Centers, and community-based outpatient clinics, and is the primary health care provider for discharged active duty personnel and combat veterans electing to enroll for services. The National Defense Authorization Act (2008) entitles combat veterans separated from active military service on or after January 28, 2003, to five years of VA enrollment eligibility and free health care services. SUDs are a major problem among veterans seen in the VA, leading to the description of the VA as “the nation’s largest provider of substance abuse services” (Chen, Wagner, & Barnett, 2001). The VA employs and trains large numbers of mental health professionals, and thus has significant impact on the professional standards of substance abuse practitioners in the U. S. (Chen et al., 2001). According to the Government Accountability Office (GAO), the VA drastically reduced its substance use disorder treatment and rehabilitation services between 1996 and 2006, and the number of veterans receiving these specialized services decreased by 18% over the same time period (GAO, 2010). About 60% of VA facilities on an annual survey reported they offer services for co-occurring substance use and psychological problems; the majority offered outpatient and intensive outpatient care, and nearly one-half offered either short-term or long-term residential care (Substance Abuse and Mental Health Services Administration, 2009). The VA may also provide medications and counseling for alcohol, tobacco, and opioid dependence to manage withdrawal symptoms, reduce cravings, and promote abstinence.

SEEKING TREATMENT: BARRIERS AND FACILITATORS

Traditional social work perspectives, such as person-in-environment, the biopsychosocial model, and systems theories—including social ecological and field theories, view individuals as embedded in physical and social contexts that have transactional relationships (Zastrow & Kirst-Ashman, 2008). A core tenet of these approaches is that individuals cannot be understood, nor their problems addressed, in isolation. Rather, there is a complex and interactive relationship between the person and his or her environment, which includes influences across the micro-macro continuum (i.e., individuals, families, groups, communities, and organizations). In the military, there are numerous individual, social, and environmental factors that may influence help-seeking behaviors. Barriers and facilitators of help-seeking for substance use and psychological problems in military organizations are discussed below.

Unique Factors of the Military Context

There are unique aspects of military organizations and culture that may affect help-seeking and utilization of services. Unlike in civilian settings, military leadership may determine a) when someone will receive help for a psychological or substance use problem, b) when a possible problem will be professionally evaluated, and, if treatment is needed, and c) when the service member can return to duty. When military leadership accurately identifies needs

and appropriately offers help, help-seeking is facilitated, but this also has the potential to become a barrier.

There are positive aspects of military culture and structure that may constitute protective factors and facilitate a service member getting help when needed. For example, the strong bonds among members of the military community can foster trust and a culture focused on protecting one's comrades. A hierarchical chain of command provides clear accountability for identifying and resolving readiness problems among service members. Unit leadership, for example, exerts considerable influence over the morale and behavior of individuals in the unit in the name of good order, discipline, and force readiness. Clear accountability is accompanied by command resources from within the DoD; for example, each military branch operates its own alcohol and drug program and most branches operate resiliency training programs.

There are also unique barriers to help-seeking for SUDs in the military. Beginning with basic training, indoctrination into military culture instills attitudes and beliefs that may also influence personal help-seeking behavior. Military values and the warrior ethos become part of a collective identity that involves loyalty, duty, respect, selfless service, honor, integrity, and personal courage. The warrior ethos, grounded in these values, refers to a code of professional conduct that involves putting mission first, never accepting defeat, never quitting, and never leaving a fallen comrade (U.S. Department of the Army, 2006). Assuming a "sick role" is contrary to this idealized self-image, and may predispose individuals to avoid seeking help for a substance use or psychological problem (DOD Task Force on Mental Health, 2007; Tanielian & Jaycox, 2008).

The warrior ethos is related to the stigma pervasive in military organizations; in that seeking help may signal perceived weakness and thus negatively impact self-concept and one's association with the collective military identity. Specific negative consequences may result from disclosing a substance use or psychological problem. While many service members are aware that alcohol misuse may have a negative impact on one's military career (Gorman, Blow, Ames, & Reed, 2011), this negative impact is not a certainty (DOD Task Force on Mental Health, 2007). Potential negative career repercussions could inhibit seeking early treatment as well. Alcohol use is prohibited during military deployments and fear of the loss of deployment and/or military status due to disciplinary action also may impede help-seeking.

A study by Hoge and colleagues (2004) observed that service members returning from OEF/OIF and screening positive for a mental health disorder indicated several attitudinal barriers to seeking treatment: being seen as weak (65%), unit leadership treating them differently (63%), unable to get time off work (55%), and negative career implications (50%). As for substance use, the study found that 24% of the Soldiers and 35% of the Marines in the study sample admitted that they used more alcohol than intended after deployment. Overall, 38-45% of respondents were interested in receiving help, while only 23-40% had received help (Hoge et al., 2004). Personnel nearing the end of their deployment may also be concerned that acknowledging a problem might delay their return home, and concerns about stigma may be greatest among those most in need of help (Tanielian & Jaycox, 2008). In sum, both public stigma and self-stigma (the internalization of public stigma) are barriers to care among military personnel (Greene-Shortridge, Britt, & Castro, 2007).

Sociodemographic factors may also carry special implications in the military context. Historically, women veterans have underutilized specialty mental health services and were found less likely to receive VA addictions treatment compared to men (Chatterjee et al., 2009; Maynard et al., 2004). The availability of a women's health clinic and having a female

physician are associated with increased use of the VA among women veterans (Washington, Yano, Simon, & Sun, 2006), and one study of OEF/OIF women veterans reported that as many as 44% were electing to utilize at least some VA services (Haskell et al., 2010).

Post-deployment Service Utilization

Analysis of several sources indicates that relatively few service members receive counseling related to a substance use problem. However, there have been no systematic studies of services received in military settings for SUDs, and the existing reports provide only limited assessment of patient problems and modalities of care. A special analysis of counseling services under TRICARE reported that, of patients who received counseling from independent mental health counselors, only 1% received a diagnosis of a substance use disorder. This study, however, included family member beneficiaries and retirees as well as service members and did not look at all professional counseling services (IOM, 2010a). A study of an Army National Guard unit one year after its Soldiers returned from Iraq, found that 62% of the unit members screened positive for 1 of 5 mental disorders, and 57% also screened positive for alcohol abuse (Stecker, Fortney, Hamilton, Sherbourne, & Ajzen, 2010). Thus, alcohol problems appear much more prominent than indicated from examination of services received from professional counselors. Of the group screening positive for any disorder, 35% had been to mental health treatment and 21% were prescribed a psychotropic medication (Stecker et al., 2010). This level of need of treatment for substance abuse and mental health is higher than other estimates.

In an anonymous military health survey of active duty members, while 19.9% reported they received some counseling from a professional (one-half of those saw a military mental health professional), only 1.6% said they had sought help for a substance use problem (Bray et al., 2009). Over one-third reported they perceived damage to their career if they sought counseling through the military. Comparable questions asked of Reserve component service members on a 2006 health survey revealed that the proportion of National Guard and Reservists who perceived a need for counseling was slightly lower than active duty members (16.3% versus 19.8%). However, self-reported use of counseling was substantially lower; only 13.3% received services from a counseling professional and only 3.6% from a military professional (compared to 19.9% and 10.1% of active duty members, respectively) (Hourani et al., 2007), and only 1% of National Guard members and Reservists sought counseling because of a substance use problem Thus, there are additional barriers to behavioral health care among Reserve component members. Some of these may barriers include: lack of health care coverage and access following military deployments, living in remote geographical areas, unfamiliarity with military and veteran health care systems, and civilian employment conflicts.

RELEVANCE TO SOCIAL WORK PRACTICE, POLICY, AND EDUCATION

Social workers in the field of addictions can play a key role in treating SUDs among OEF/OIF veterans in military and civilian settings. Moreover, social workers in other fields of practice (i.e., health, mental health, criminal justice/corrections) are in a position to identify returning veterans with substance use problems, and facilitate assessment and treatment. Knowledge about military organizations and culture is vital to these efforts. While there are similarities among the armed services (i.e., Army, Navy, Air Force, Marines, Coast Guard), each has a unique culture. Military personnel and veterans may have various affiliations with the armed services (e.g., active duty, National Guard, or Reserves) that determine access to DoD and VA benefits and services. To exhibit military cultural competency, social workers should be knowledgeable about the past and recent deployments of local units, the ratio of deployment length to time between deployments, and the range of combat experiences in Iraq and Afghanistan. The manifestation of subsequent life stressors, family

problems, and substance use patterns may be related to these deployment and combat experiences. Outlined below are social work practice, policy, and education considerations for assisting military personnel and veterans with substance use problems.

Practice Implications

Returning veterans may conceal current or previous DoD or VA substance abuse treatment, or may choose to avoid treatment altogether because of stigma. Social workers can be instrumental in community outreach and the implementation of stigma-reduction programming. Skidmore and Roy (2011) highlight the importance of distinguishing between barriers to care specific to substance use and those specific to veterans, and advise practitioners to explore with veterans the meaning of help-seeking, trust in the therapeutic relationship, and the risks and benefits of treatment. This dialogue will help social workers distinguish between behaviors traditionally labeled as non-compliance, denial, or manipulation, and the complexities of help-seeking inherent to military organizations. Adherence to military culture may also adversely impact motivation for change and acceptance of addiction as an illness. Assessing cognitions and behaviors that are motivators or impediments are essential for effective treatment planning and outcomes.

Working with returning veterans with substance use problems within military and veteran organizations can pose other unique challenges, including the circumstances of treatment referral and entry, conflicts between the client's and military organization's needs, ethical dilemmas, and treatment outcomes. As with civilian populations, involuntary military treatment referrals are not unusual and may be due to a positive urinalysis, criminal behavior (e.g., assault, domestic violence, child maltreatment), traffic violations (e.g., driving under the influence, accident), or punitive administrative action associated with any of these behaviors. If referred by their military commander, service members' confidentiality will be limited because military leadership is often informed of treatment progress, completion, and if there are conflicts or problems with attendance. Military commands may also be more supportive of short-term, outpatient treatment than inpatient treatment that keeps the service member away from regular military duties. In these instances, it is important that social workers advocate on behalf of military members by communicating to commanders evidence supporting the recommended treatment modality (e.g., inpatient) as well as the organizational benefits of successful treatment. Policies requiring the reporting of treatment progress and non-compliance to commanders may not only impede help-seeking, but negatively impact the helping relationship and full disclosure of substance use patterns and consequences. Additional ethical dilemmas may involve differential treatment options and consequences based on military rank (e.g., officers vs. enlisted).

Co-occurring Axis I diagnoses (American Psychiatric Association, 2000) and physical disorders can complicate substance use problems in returning veterans due to the complex clinical presentations of co-occurring PTSD, depression, TBI, and chronic pain. Thus, addictions social workers must take a multi-problem approach to assessment. Skidmore and Roy (2011) recommend brief screening questionnaires (e.g., AUDIT, Drug Abuse Screening Test [DAST]) followed by a biopsychosocial interview that assesses physical health, pre-military substance use, military history and stressors, post-military history, recent substance use, risk for suicide, homicide, and domestic violence, as well as strengths, social support, and coping strategies. Various integrated treatment approaches have been used with veterans, including Seeking Safety (Najavits, 2002), Transcend (Donovan, Padin-Rivera, & Kowaliw, 2001), and Substance Dependence PTSD Therapy (Triffleman, Carroll, & Kellogg, 1999). Bernhardt (2009) provides an overview of evidence-based treatments and challenges of working with OEF/OIF veterans with co-occurring PTSD and substance abuse.

Policy Implications

As social policy advocates, it is critical for social workers to be familiar with DoD and VA policies and programs. These agencies determine the scope of military and veteran benefits and services, and disseminate clinical practice guidelines. The VA/DoD Clinical Practice Guidelines for Management of Substance Use Disorders provide a framework for substance abuse treatment decision-making to improve patient outcomes (Department of Veterans Affairs and Department of Defense, 2009). Similarly, the VA/DoD Clinical Practice Guideline Working Group has adopted a Treating Tobacco Use and Dependence practice guideline (Fiore et al., 2008). The VA also has a Tobacco Cessation Support Line (1-800-QUIT-NOW). For policy updates, social workers can form alliances with State Departments of Veterans Affairs and veteran organizations such as the Iraq and Afghanistan Veterans of America, Veterans of Foreign Wars, and the American Legion. Additional resources include the Veterans Suicide Prevention Hotline [1-800-273-TALK], the VA National Caregiver Support Hotline (1-855-260-3274), and the Wounded Soldier and Family Hotline (1-800-984-8523).

Education Implications

The associations between military deployments, combat experiences, and substance use outlined in this review can assist social workers in understanding how military training and organizational culture influence behavioral manifestations, psychological stigma, and help-seeking in military and veteran populations. However, given the complexity of providing care to returning veterans, formalized professional education and training is warranted. The Council on Social Work Education developed military social work competencies in 2010 to guide professional practice (Council on Social Work Education, 2010). These competencies outline advanced knowledge and practice behaviors to provide ethical, evidence-based treatment and services to military and veteran populations. Competencies noteworthy for social work practice in addictions include the ability to (1) recognize risk and protective factors associated with military service and deployments among diverse military populations and communities, (2) implement evidence-based practices across the DoD/VA continuum of care and in community agencies, and (3) explain the stigma, risks, and benefits of help-seeking in military and veteran organizations. Schools of social work and professional education programs should be committed to providing competency-based education for substance abuse disorders, and social workers serving military personnel and veterans have an ethical obligation to continuously learn about military service including combat and humanitarian assistance deployments and other common military experiences.

Future Directions for Research

Substance use disorders and unhealthy substance use in military personnel and veterans are complex, multidimensional problems. Service members and their families will benefit from coordination among DoD, VA, and civilian organizations to ensure quality and continuity of care from the battlefield to the home front. State, federal, and non-profit organizations have been working to assist post-deployment reintegration for returning veterans and their families. Despite a wealth of programs, few reach most of the veterans in need and even fewer have been systematically evaluated and found effective. The well-publicized increase in military and veteran suicides highlights these unmet service needs. More evidence is needed to determine which programs are most efficacious in this population.

Independent review panels have identified issues needing further action or research including: unreliable use of screening and referral protocols (U. S. Government Accountability Office, 2006); perceived stigma or career-harm from seeking treatment for deployment-related and substance abuse problems (American Psychological Association, 2007); inadequate behavioral health service capacity for military members and their families

(Department of Defense Task Force on Mental Health, 2007); and infrequent use or availability of evidence-based protocols or practices in military programs (Department of Defense Task Force on Mental Health, 2007). Moreover, there is little research on factors that may contribute to clinical trajectories after deployment and an overreliance on one- or two-item screening instruments (Litz & Schlenger, 2009). For example, there is too little research focusing on predictors of a 'recovery' trajectory (i.e., one with gradual improvement), a 'delayed' trajectory (i.e., one with later symptom onset), or a 'chronic' trajectory (i.e., one with ongoing symptoms) (Litz & Schlenger, 2009). Prospective and longitudinal studies are needed to determine how substance use problems develop over time and whether early identification and intervention improves outcomes. The interactions of different types of problems are understudied despite military health surveillance and deployment data.

CONCLUSION

Military personnel and combat veterans have higher rates of unhealthy substance use than their age peers in the general population. Deployment is associated with smoking initiation and recidivism, heavy drinking and associated risky behaviors, and may contribute to reported increases in prescription drug misuse. Civilian and military social workers can play vital roles in outreach, assessment, and intervention with OEF/OIF veterans and their family members. We challenge the profession to commit to an evidence-based agenda of practice, policy, education, and research to increase military cultural competence in service provision, and to develop more empirical evidence regarding best practices to address unhealthy substance use in military personnel, veterans, and their families. Social work professionals can significantly contribute to an enhanced continuum of care that increases the delivery of evidence-based substance abuse treatment to OEF/OIF veterans.

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Table 1

Key Recent Studies Regarding the Association of Substance Use and Deployment and/or Combat Experiences

Source	Sample	Outcome Measures	Results
Bray et al. (2010)	2008 DoD Health Related Behaviors Survey among Active Duty Military Personnel. 28,546 active duty service members.	Heavy alcohol use in the past 30 days; any cigarette use in the past 30 days	Heavy alcohol use was higher among service members who had been combat deployed since 9/11/01 compared to those who had not been combat deployed (21% versus 18%). Smoking in the past month was higher among service members who had been combat deployed since 9/11/01 compared to those who had not been combat deployed (31.7% versus 27.8%).
Jacobson et al. (2008)	Millennium Cohort Longitudinal Study. 48,481 service members (26,613 active duty and 21,868 Reserve/ NG)	New onset heavy weekly drinking; binge drinking; alcohol-related problems	Reserve/NG service members who deployed with combat exposures were significantly more likely to report new onset heavy weekly drinking (OR 1.63, 95% CI, 1.36-1.96); binge drinking (OR 1.46, 95% CI, 1.24-1.71); and alcohol-related problems (OR 1.63, 95% CI, 1.33-2.01).
Smith et al. (2008)	Millennium Cohort Longitudinal Study. 48,304 service members	Smoking initiation (among baseline non-smokers); smoking recidivism (among baseline past smokers); increased/decreased daily smoking levels	Smoking initiation was 2.3% among deployers (compared to 1.3% among non-deployers). Smoking recidivism was 39.4% among deployers (compared to 28.7% of non-deployers). Smoking levels increased among 57% of deployers (compared to 44% of non-deployers). Further, those deployed with combat exposure were at 1.6 times greater odds of smoking initiation and 1.3 times greater odds of recidivism than those deployed without combat exposure.
Spera et al. (2010)	Anonymous Air Force Community Assessment Survey. 56,137 active duty Air Force members	Alcohol Use Disorders Identification Test (AUDIT) to identify problem drinking (scores of 8+)	For each increase in deployment frequency, problem drinking odds increased by 14%. Each additional year spent deployed was associated with a 23% increased odds of problem drinking.
Wilk et al. (2010)	Anonymous survey of 1,120 soldiers from brigade combat infantry teams returning from OIF.	Alcohol misuse (2-item screen) and alcohol-related problems	High rates of exposure to the threat of death/injury were associated with positive screens for alcohol misuse. Exposure to atrocities was associated with alcohol misuse and alcohol-related problems.

OR = odds ratio, CI = confidence interval

All results were significant at the $p \leq .05$ level or better