Suicide Prevention in the United States Military

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Standardized Suicide Surveillance Across the Department of Defense

Suicide remains a significant public health problem within the Department of Defense (DoD). Since 2012, suicide has been the leading cause of death among military personnel; prior to 2012 (i.e., in 2009–2012), suicide was the second leading cause of death (AFHSC, 2014). Since 1998,

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suicide has consistently been among the top three leading causes of death (AFHSC, 2014). Given the significance of military suicide, in January 2008, the DoD developed and launched a standardized suicide surveillance system, the annual DoD Suicide Event Reports (DoDSER; http://t2health. dcoe.mil/programs/dodser). Collaborations across the DoD's Suicide Prevention and Risk Reduction Committee (SPARRC), the Suicide Prevention Program Managers across all branches of service, and the National Center for Telehealth and Technology (T2) have contributed to the development of the DoDSER immensely (for additional

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historical information, please refer to Ireland, Ghahramanlou-Holloway, & Brown, 2013).

According to the DoDSER for calendar year 2014 (Pruitt et al., 2016), the unadjusted military suicide rate was 19.9 per 100,000 for the active Duty component, 21.9 per 100,000 for the Reserves, and 19.4 per 100,000 for the National Guard. A breakdown of the unadjusted suicide rates for the four services has been reported as 23.8 (Army), 18.5 (Air Force), 17.9 (Marine Corps), and 16.3 (Navy) per 100,000 (Pruitt et al., 2016). While these reported suicide rates remain significantly higher than that of the United States (U.S.) civilian population in 2014 (13.4 per 100,000), they are more comparable to that of the male population (21.1 per 100,000; Drapeau & McIntosh, 2015). These rates are unadjusted for age. However, statistical adjustments are needed and often made to allow for accurate comparisons, given the military's disproportionately male population (Braswell & Kushner, 2012). Also, notably that active duty suicide deaths (28.1% of active duty deaths) surpassed combat deaths (18.6%) in 2012 according to the Medical Surveillance Monthly Report (United States Armed Forces, 2014), although the decline of military engagement in Iraq and Afghanistan may provide a partial explanation (Belasco, 2014). As military personnel transition to civilian life, they continue to be at risk for suicide. Veterans account for 20 percent of suicide deaths within the U.S., with an estimated 22 suicides each day in 2010 (Kang et al., 2015).

Service members who died of suicide and/or attempted suicide in 2013 were predominantly male, Caucasian, less than 30 years of age, enlisted, and educated through high school or less (Pruitt et al., 2016). Firearms (92.2% of which were not military-issued) and hanging were the two most common methods for suicide deaths, while drug and/or alcohol overdose was the most common method for suicide attempts. Relationship failure served as the most common stressor documented for both suicides and suicide attempts. Deployment history was observed in a majority of suicides, and in approximately 40% of the documented suicide attempts. Deployment history and its relationship to suicide is described in greater detail below.

Since January 1, 2010, the DoD has started collecting data on suicide attempts for all services (Pruitt et al., 2016). For calendar year 2014, a total of 1,126 suicide attempts were documented in the DoDSER for a total of 1,096 service members (1067 with one attempt; 29 with two or more attempts). This suicide attempt data must be interpreted with a great deal of caution as the DoDSER system is still in its infancy in terms of providing reliable estimates of suicide attempts across the Armed Forces. The figure above is very likely an underestimate of suicide attempts. Additionally, a recently published Data Quality Assessment Report on the DoDSER has identified a number of areas in need of improvement (DoD Inspector General, 2014). For instance, this report notes that the technical information on the DoDSER forms present challenges for nontechnical DoDSER submitters and that forms are often submitted before information is thoroughly and accurately consolidated. This may lead to incomplete or inaccurate DoDSER entries. Regardless of ongoing challenges with the DoDSER, the DoD maintains the most comprehensive military suicide surveillance system in the world and has made great strides in the field to improve the quality of data.

Military-Specific Risk and Protective Factors

Providing a detailed description of risk and protective factors for suicide among military personnel is beyond the scope of this chapter. Readers are encouraged to refer to two published reviews on military suicide risk and protective factors (Martin, Ghahramanlou-Holloway, Lou, & Tucciarone, 2009; Nock et al., 2013). In the following sections, we provide a brief summary of epidemiologic research methodology that serves as the basis for the scientific identification of suicide risk and protective factors and mention notable military-specific risk and protective factors for suicide. We further review recent findings from the Army Study to Assess Risk and Resilience in Service Members (STARRS; see http://starrs-ls.org/#/). Army STARRS is a multicomponent assessment of suicide behaviors within the United States Army that draws on information from approximately 1.6 million soldiers serving on active duty between 2004–2009 and involves analysis of both retrospective and prospective data (Kessler et al., 2013; Ursano et al., 2014).

Epidemiologic Studies on Military Suicide

In seeking to reduce the number of suicides in the military, a sizeable body of research is dedicated to identifying risk factors associated with suicide. This work is frequently performed by identifying individuals who have died by suicide and then retroactively classifying characteristics that differentiate them from those who have not died by suicide. Research utilizing epidemiological samples benefits from very large sample sizes and the ability to detect relatively minor changes in risk, but it may lack rich data about individuals. Research of suicide risk factors, according to Nock et al. (2013), can have at least three positive effects: (1) creating a "profile" of suicide risk factors informs targeted prevention and treatment efforts; (2) identifying modifiable risk factors can form the basis for the treatment of individuals recognized to be at heightened risk; and (3) understanding the factors associated with increased suicide risk guides the advancement of knowledge about pathways toward suicide. Moreover, an enhanced understanding of protective factors can shape primary, secondary, and tertiary suicide prevention efforts.

Risk and Protective Factors for Military Suicide

Before discussing the factors associated with suicide risk, a note on suicide risk research methodologies and terminology is required. Risk and protective factors are typically identified via well-designed longitudinal studies. Crosssectional studies may also be used but are limited in the conclusions they can make about risk and protective factors, as they generally present only preliminary data on risk indicators. Given these limits, terms such as risk "indicators" and/or "correlates" may be more accurate in describing the factors associated with suicide risk identified in these cross-sectional and/or retrospective review studies. However, to keep the language consistent in this section, we have used the terms "risk" and "protective" factors regardless of the type of study involved.

Recent research has identified highly salient risk factors for suicide decedents across different branches of service. These factors include a demotion within the last two years, early military separation, dishonorable discharge, relationship problems, and access to means (e.g., firearms; Gallaway, Black, Ritchie, & Bell, 2011; Nock et al., 2013; Reger et al., 2015; Schoenbaum et al., 2014). Select military occupations, such as infantrymen and combat engineers, have higher rates of suicide death (Kessler et al., 2015). As in civilian populations, medical problems such as physical pain, injury, or sleep problems, as well as increased rates of both Axis I and Axis II disorders significantly elevate suicide risk (Denneson et al., 2010; Bishop, Pigeon, & Possemato, 2013; Black, Gallaway, Bell, & Ritchie, 2011).

Evidence of deployment status or combat exposure as risk factors has been contradictory and inconclusive. In an Army sample, deployment status has been predictive of suicide, with those never deployed having lower rates of suicide than those currently or previously deployed (Schoenbaum et al., 2014). Increased suicide risk was also found for deployed female, but not male, soldiers (Street et al., 2015). However, recent research found no correlation between deployment status and suicide risk (LeardMann et al., 2013; Reger et al., 2015). Two crosssectional studies identifying a relationship between combat exposure and suicide ideation found the relationship was mediated by depression and post-traumatic stress disorder (PTSD) (Maguen et al., 2011; Mansfield, Bender, Hourani, & Larson, 2011). Research utilizing

smaller samples (e.g., Bryan, Hernandez, Allison, & Clemans, 2013; Griffith, 2012a) have also found no direct connection between deployment and suicidality, but they have hypothesized that both deployment history and exposure to combat may indirectly affect suicide rates via the development of depression and/or PTSD.

An examination of U.S. Army suicide deaths between 2004 and 2009 indicates that junior enlisted rank, male gender, caucasian, lower level of education, recent demotion, and less time in are Army suicide risk service factors (Schoenbaum et al., 2014). While rates of suicide over this period rose across all deployment categories (i.e., never deployed, previously deployed, or currently deployed), deployment status played a role within several other predictors. For instance, younger age was predictive of suicide among those currently or previously deployed. Men had a greater rate of suicide overall, but women had a disproportionately large increase in risk for suicide during deployments. If deployed, unmarried soldiers without dependents had a significantly higher risk for suicide than those who were married or had dependents.

The findings mentioned above, which represent deaths by suicide *after* joining the military, can be compared with a retrospective examination of suicide behavior prior to joining the military. In an Army STARRS study of new recruits (Ursano et al., 2015), increased suicide risk was associated with being female or a race other than non-Hispanic white, non-Hispanic black, or Hispanic. While individuals from such demographics were at greater risk of pre-enlistment suicide behavior, male sex and non-Hispanic white race predicted higher rates of suicide postenlistment (Schoenbaum et al., 2014). In terms of non-demographic factors, pre-enlistment mental health disorders have been shown to be correlated with around a third of post-enlistment suicide attempts (Kessler et al., 2014). Suicidal behavior prior to military service is also a significant risk factor for future suicidality. Of those who attempt suicide during or after military service, 50% have a prior history of suicidal ideation, and 25% have attempted suicide in the past (Bryan, Bryan, Ray-Sannerud, Etienne, & Morrow, 2013). Premilitary experiences of abuse appear to contribute to suicidal behavior as well. Service members endorsing childhood abuse were 3–8 times more likely to report suicidal behavior during their time in service (Griffith, 2014), while veterans indicating pre-military physical or sexual abuse were more likely to express suicidal ideation (Lemaire & Graham, 2011). Considering that 30% of female and 6% of male service members experienced sexual assault prior to joining the military (Defense Manpower Data Center, 2012), the connection between sexual abuse and suicidality warrants further study.

Within the population of psychiatrically hospitalized Army service members, Kessler et al. (2014) have identified the 5% of patients with the highest predicted risk of suicide. Together, this 5% of inpatients accounted for 52.9% of the suicide deaths among those recently released from inpatient care, or about 6% of the total Army suicide deaths during that time period. One year after hospital discharge, this group had a suicide rate of 3824.1 suicides per 100,000 person-years, compared to the overall U.S. Army's rate of 18.5 suicides per 100,000 person-years during the same time period. Patient characteristics associated with higher risk of suicide included male gender, enlisted at an older age, prior criminal offenses, and prior suicidal behaviors.

In terms of protective factors for the military, social support appears to mitigate risk. For instance, social support post-deployment is associated with a decrease in PTSD symptoms, negative moods, and suicidality (Griffith, 2012b). Satisfaction with social support among married Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) veterans was found to be protective of suicide risk for those with and without PTSD (Jakupcak et al., 2011). Social support within the military unit is also protective (Skopp, Luxton, Bush, & Sirotin, 2011). Soldiers with prior combat exposure and higher levels of unit cohesion (compared with lower unit cohesion) have shown lower levels of suicide ideation (Mitchell, Gallaway, Millikan, & Bell, 2012).

Training and preparation also appear to be protective of suicide ideation among OEF/OIF veterans (Lemaire & Graham, 2011). A sense of purpose, accessibility to friends/family, and perceived control are protective in terms of suicide ideation (Pietrzak et al., 2010). Religious involvement and attendance as well as personal coping serve as long-term protective factors against suicide (Allen, Cross, & Swanner, 2005;Langhinrichsen-Rohling, Snarr, Slep, Heyman, & Foran, 2011; Mihaljevic et al., 2011). Satisfaction with intimate relationships, spouse's preparedness for deployment, good workplace relationships, support from leadership, and workgroup cohesion are additionally protective (Langhinrichsen-Rohling et al., 2011). Finally, resilience is a proven protective factor for suicide ideation among soldiers with combat history and is a targeted goal of suicide prevention strategies (Mansfield et al., 2011; Department of the Army Headquarters, 2015).

Evidence-Informed Psychosocial Interventions for Military Suicide

This section will provide an overview of several evidence-informed (i.e., guided and supported by research) clinical interventions for suicide prevention. All are currently in use and/or under empirical investigation within the military population. For further information, readers are encouraged to refer to Conner and Simons' (2015) review of randomized controlled trials that target suicide ideation or behavior among U.S. military service members and veterans. The Military Operational Medicine Research Program (MOMRP) has taken the initiative to provide funding support for many of the investigations involving these promising interventions.

Brief Cognitive Behavioral Therapy (Delivered to Outpatients)

Brief Cognitive Behavioral Therapy (BCBT) has been adapted by Rudd (2012) from an intervention known as cognitive behavior therapy for suicide prevention, originally developed at the University of Pennsylvania by Aaron T. Beck, Gregory Brown, and colleagues (Brown et al., 2005). BCBT is modified to meet the needs of suicidal service members seeking outpatient mental health services and includes twelve 60 to 90 min individual outpatient psychotherapy sessions (weekly or biweekly). BCBT consists of three phases, delivered sequentially. The first phase is conducted over five sessions and consists of several goals: (1) identifying factors that contribute to and maintain suicidal behaviors; (2) developing a cognitive conceptualization and a crisis response plan; and (3) teaching emotion regulation skills. The second phase is also conducted over five sessions, wherein the therapist targets suicide-related cognitions, such as core beliefs or assumptions, which may perpetuate the suicidal crises. Finally, in phase three, the therapist guides the patient in a relapse prevention task over two sessions. Findings of a recently published randomized controlled trial (RCT) indicate that BCBT is effective in reducing the likelihood of subsequent suicide attempts by 60% (Rudd et al., 2015).

Post-Admission Cognitive Therapy (Delivered to Inpatients)

A second brief cognitive behavioral protocol, known as Post-Admission Cognitive Therapy (PACT) has been adapted for the inpatient setting from the effective outpatient model by Brown, Beck, and colleagues (Brown et al., 2005; Ghahramanlou-Holloway, Cox, & Greene, 2012; Ghahramanlou-Holloway, Neely, & Tucker, 2014; Neely et al., 2013). PACT aims to prevent subsequent suicide attempts among military personnel and their beneficiaries hospitalized following a suicide-related event. PACT consists of six 60-90 min face-to-face individual cognitive behavioral therapy sessions (with up to two possible booster sessions) over the course of approximately three days during an inpatient psychiatric hospitalization. Once the patient is discharged from the hospital, up to four 30-60 min telephone PACT booster sessions during the three months post hospital discharge are delivered by the same clinician.

The PACT intervention is conceptualized in four phases. In the early phase, the clinician engages the patient in treatment, generates a written safety plan, and develops a cognitive conceptualization based on the patient's suicide narrative. In the middle phase, the clinician teaches a variety of cognitive behavioral strategies for reducing the recurrence of suicide-related behaviors (e.g., coping skills, problem-solving, and/or emotion regulation). In the final phase, the clinician continues to work collaboratively with the patient to solidify a safety plan to be implemented following discharge from the hospital, teaches relapse prevention strategies, and helps promote self-care and linkage to outpatient care. The aftercare phase of treatment (up to four telephone booster sessions during the three months post discharge) aims to solidify the patient's emerging cognitive behavioral skills and to enhance motivation and behavioral intention to engage in recommended aftercare treatments.

PACT addresses a critical suicide prevention research gap within the DoD (particularly in light of the new Army STARRS findings in relation to prior suicidality and psychiatric hospitalization serving as risk factors for service members) and aims to ultimately provide a much needed evidence-based psychotherapeutic intervention. The PACT intervention may be implemented as the standard of care for those military personnel and beneficiaries who have been admitted to inpatient settings for suicide related events. The intervention is currently being evaluated in a multi-site RCT at the Walter Reed National Military Medical Center (WRNMMC) and Fort Belvoir Community Hospital (FBCH).

Caring Letters Project

The Caring Letters Project (CLP) is an intervention that consists of sending brief letters and emails that convey caring to high-risk patients after they have been discharged from a military psychiatric hospital (Luxton et al., 2012). The letters and emails are individualized and provide information on mental health resources and national hotlines, such as the National Suicide Prevention Lifeline. The letters are sent within one week of discharge and then at regular monthly intervals, for a period of two years. CLP is an email-based version of the 1976 University of California, San Francisco study that showed significant reductions in suicide rates among civilian patients who received brief caring letters from staff they met during treatment (Motto & Bostrom, 2001). This CLP email intervention is currently being tested on 4,730 active duty military, veterans, National Guard, or Reservists recruited from inpatient psychiatry units (Luxton et al., 2014). The intervention aims to reduce suicide mortality rates. In the years to come, CLP could be included in the standard of care post discharge.

Content from a sample letter, adapted from the CLP project led by Dr. David Luxton at the National Center for Telehealth and Technology (T2), is provided here for clinicians who are interested in using this model. A typical letter would contain the following: (1) It has been a month since your stay at (insert site location), and we are wishing you well; (2) We remember that you said that you enjoyed... (If available, insert personalized content such as hobbies/other activities learned about patient prior to hospital discharge and acknowledgment of communica*tions from a reply*). We want you to know that we are thinking of you; (3) If you wish to contact us, we would be pleased to hear from you); (4) Please note that the following resources are always available to you (at a minimum, provide listing of resources that include Military OneSource, Suicide Prevention Lifeline, Defense Centers of Excellence Outreach Center, DoD/VA Suicide Outreach).

Collaborative Assessment and Management of Suicidality

The Collaborative Assessment and Management of Suicidality (CAMS) approach is a structured clinical therapeutic framework that emphasizes therapeutic alliance by moving away from the traditional stance of the clinician being the expert on the patient and his or her needs and moving toward a more collaborative relationship between provider and patient (Jobes, 2006). The goal of CAMS is to understand the function of suicidality in getting one's needs met. CAMS utilizes the "Suicide Status Form" (SSF), as a tool to be used for clinical assessment, treatment planning, and tracking patient progress. The SSF consists of both qualitative and quantitative measures. When the SSF is being administered, clinician and patient sit side-by-side which encourages collaboration. They work together to explore factors such as the patient's psychological pain, stress, self-hate, and hopelessness. They use this information to understand what underlies and/or increases the patient's risk for suicide. This allows them to then target the issues at the root of the suicidality.

CAMS lasts a minimum of four sessions, consisting of an initial session, two tracking sessions, and an outcome session. Treatment begins when a patient reports current suicidal thoughts. The length of treatment is determined by the time that it takes for suicidal ideation to alleviate. In every session, sections of the SSF are completed, which includes the completion of the "core assessment" items. Tracking sessions focus on refining a crisis response plan and treating "suicide drivers." Each tracking session ends with a revision of the collaborative treatment plan. Once the risk of suicide is resolved, the SSF Outcome Forms are completed and CAMS is terminated. Several studies, including one RCT, have shown empirical support for CAMS (Jobes, Lento, & Brazaitis, 2012). Currently, there is a study underway with an active duty Air Force sample, utilizing CAMS in outpatient clinics.

Crisis Response Plan

A Crisis Response Plan (CRP) is a tool used to provide specific instructions in the event of a suicidal crisis (Rudd, Mandrusiak, & Joiner, 2006). The clinician guides the patient to specifically define what a suicide crisis entails and the goal is to build crisis management skills. The plan is typically written on a small piece of paper that is easily carried by the individual, such as an index card or business card. The first few steps of the CRP involve actions that the patient can take on his or her own. This promotes autonomy and empowerment. The remaining few steps involve others in the patient's life, and might include calling a friend, for example. The clinician and patient also role-play using the CRP before implementation. As the patient's crisis management skills improve and treatment progresses, the CRP can be modified as needed. The CRP is currently being evaluated among active duty service members reporting current suicidal ideation with intent to die and/or a recent suicide attempt at Fort Carson in Colorado Springs, Colorado (University of Utah, 2016). The intervention aims to reduce subsequent occurrences of suicide deaths, self-injurious behaviors, and inpatient psychiatric hospitalizations. The CRP could be used as the standard of care in healthcare settings where the patient's time is brief, such as emergency departments (EDs).

Safety Planning Intervention with Family

The Safety Planning Intervention (SPI) is a brief intervention (20-45 min) used in acute care settings with military personnel and their family members to decrease suicide risk (Stanley & Brown, 2012). This single session intervention can be used in EDs, crisis hotline centers, and/or inpatient psychiatric hospital units. The SPI is a plan that consists of coping strategies and supports for suicidal crises. The strategies are prioriindividualized, tized, and collaboratively developed. The SPI consists of the following elements: (1) warning signs of suicidal crises; (2) internal coping strategies; (3) social contacts that can provide distraction; (4) close social contacts that can provide help to resolve the suicidal crisis; (5) mental health resources; and (6) restricting lethal means.

Safety Planning for Military (SAFE MIL) is an RCT that is evaluating the SPI) intervention at a major military hospital, Walter Reed National Military Medical Center (WRNMMC; Ghahramanlou-Holloway et al., 2014). A concurrent quasi-experimental design, titled Safety Planning for Veterans (SAFE VET) is also underway, evaluating the SPI in several Veterans' Affairs EDs (Currier et al., 2015; Knox et al., 2012). The implementation of the two studies allows a comparison between military and veteran study samples and will further address the needs of these unique populations.

Case Example: Air Force Guide for Suicide Risk Assessment, Management, and Treatment

A comprehensive coverage of the various suicide prevention programmatic efforts across all branches of service is beyond the scope of this chapter. Each branch of service has clearly taken the problem of suicide seriously and has designed and implemented a number of programmatic and culturally-sensitive strategies for prevention, intervention, and postvention. To provide an illustrative example of the noted endeavors, in this section, we describe the Air Force Guide for Suicide Risk Assessment, Management, and Treatment (hereafter referred to as the AF Guide for Suicide Risk) (United States Air Force (USAF) Medical Operations Agency, 2014). This is a clinical and empirically-driven resource that is mandated for use by mental health providers across the Air Force in providing quality care to service members and family members at risk for suicide (United States Air Force Medical Operations Agency, 2014).

The *AF Guide for Suicide Risk* provides empirically-based guidance and policy on how to assess, manage, and treat suicide risk within specialty outpatient mental health clinics. Air Force policy, as mandated by Air Force Instruction (AFI) 90-505 in 2006, requires that mental health providers be trained annually on this guide in order to enhance mental health provider and technician suicide risk competency across the Air Force Medical Service. The *AF Guide for Suicide Risk* does not define suicide risk standard of care, but it does provide a solid foundation upon which mental health providers can base their clinical practices.

The AF Guide for Suicide Risk highlights a few suicide prevention policies that make a significant impact on the Air Force population. First, it requires universal screening for suicide risk at every mental health related individual or group encounter. Patients are administered the Patient Health Questionnaire-9 (PHQ-9) before every clinical appointment (Spitzer et al., 1994). When a patient responds positively to PH-Q item #9, indicating the presence of suicidal ideation, the mental health provider is mandated to use the Suicide Status Form/Suicide Tracking Form for a more comprehensive suicide risk assessment, unless it is not clinically indicated, at which point, the provider must document why this action was not taken (Jobes, 2006). The USAF also requires mental health providers to use standardized documentation templates that include a thorough suicide risk assessment of warning signs, risk factors, protective factors, suicide risk level determination, and treatment disposition. Universal suicide risk screening and mandatory documentation templates assist providers in identifying patients at risk and in taking the appropriate steps to ensure safety.

Once a patient is identified as being at risk for suicide, a mental health provider will determine what additional resources may be needed to assist suicide prevention efforts. One of these resources is to place the patient on the High Interest Log (HIL). The HIL is a list of patients who are at higher risk to harm themselves or others or require a high level of care. These patients require weekly follow up with their mental health provider until the patient has had a minimum of four consecutive weeks of risk stability. Additionally, providers from the mental health clinic meet once per week to present each HIL case and to consult about treatment planning and disposition. These HIL procedures allow a team approach to managing and treating complex and difficult cases and to ensure that patients are not lost to follow up or transition of care.

When active duty patients are placed on the HIL, AF policy dictates that there must be a Treatment Team Meeting (TTM) with the mental health care team, the patient's commander or representative, the patient, and any other health care team member or person critical to the overall suicide prevention plan for the patient. The TTM is designed to create a supportive environment where team members can share collateral information about risk factors and create a multidisciplinary/multi-environmental crisis response plan to help ensure safety for the patient while he or she is engaged in mental health treatment. Once suicide risk has dissipated and the patient is no longer on the HIL, another TTMSuicide, US military:air force guide: is convened to once again show support to the patient and discuss plans for moving forward. The AF has received feedback that TTMs are highly valued by commanders, patients, and mental health staff.

The suicide risk literature highlights the need for community-based approaches to suicide prevention (Langhinrichsen-Rohling et al., 2011; Mitchell et al., 2012). Oftentimes, a coworker or friend will be the first to learn of someone at risk for suicide. As a result, the AF requires all personnel to complete annual faceto-face suicide prevention training. This training educates personnel on suicide warning signs and risk factors as well as appropriate actions they should take when they come across someone at risk for suicide. This face-to-face training is taught with the aid of video vignettes and is set up to encourage small group discussions. This training highlights the essential need for everyone to recognize that suicide prevention is a community responsibility.

Future Considerations

Documents, such as the *AF Guide for Suicide Risk*, attempt to disseminate the best known information about suicide to clinicians and researchers, but much remains to be known. The field of suicidology is vibrant grounds for research, and there are many promising avenues of study currently under investigation. Although a complete list of research and treatment gaps is beyond the scope of this chapter, several of the most salient are discussed briefly with recommendations for additional reading.

Stigma has been identified as a significant barrier preventing service members from seeking needed mental health care (Hoge et al., 2004; Pietrzak, Johnson, Goldstein, Malley, & Southwick, 2009). For a thorough review of military stigma toward mental health care, the reader is referred to a recent report by RAND Corporation (Acosta et al., 2014). Previous research found that between 28.6% and 48.9% of lower enlisted Army personnel and 19.7–33.3% of lower enlisted Marines have reported stigma as a barrier affecting help-seeking behavior (Joint Mental Health Advisory Team 7, 2011). An anonymous survey identified up to 65% of a mixed Army and Marine Corps sample who expressed concern that they might be stigmatized if they were to seek mental health care (Hoge et al., 2004). However, the RAND report's micro simulation model identified that eliminating stigma would not significantly increase the probability of a service member initiating treatment. Report panel experts interpret these results as indicating that simply changing attitudes or providing more education does not, by itself, create behavioral change. Instead, prevention programs are most successful when such changes are clearly stated, modeled, and engaged in. Recommendations stemming from this report aim to improve stigma reduction interventions, target relevant policies, and develop research and evaluation approaches. Most important recommendations as ranked by expert panelists include: promoting interventions that increase treatment seeking, encouraging peer support programs, creating alternate methods of treatment delivery (e.g., telehealth options), developing evaluations for programs that address stigma, designing longitudinal research to examine stigma, and creating a task force to reconcile a military command's need for knowledge with a service member's need for privacy relating to mental health care.

A great deal of work has been conducted identifying factors associated with increased risk for suicide (see, for example, Kessler et al., 2014), much of it studying risk factors at the population level. Most risk factors have little clinical utility, however, and some have argued that attempting to prevent suicides by identifying risk factors (or combinations of risk factors) will not lead to a change in suicide rates (Large, Sharma, Cannon, Ryan, & Nielssen, 2011). Future risk factor research may transition from examining distal factors for suicide to more proximal factors, such as relevant suicide-related "drivers" (Jobes, Comtois, Brenner, & Gutierrez, 2011). Drivers consist of "idiosyncratic internal experiences, behaviors, and external situations" that a suicidal individual identifies as the core of his or her suicidality (Tucker, Crowley, Davidson, & Gutierrez, 2015). As research further delineates the concept of drivers, it can be used to examine their utility and treatment feasibility for decreasing suicidal ideation or attempts. An RCT with military personnel is currently utilizing the exploration of drivers as an element of intervention for suiciderelated behavior (D. Jobes, personal communication, 2015).

Attempts to understand the drivers for suicide risk within individuals may be accompanied by efforts to strengthen protective factors. Social support, for example, is a demonstrated protective factor against suicidal ideation (Lemaire & Graham, 2011; Robert H Pietrzak et al., 2010). Social support might be strengthened by interventions targeting family members and unit members or strengthening post-deployment support. Such interventions have been developed for other mental health issues, including PTSD (e.g., Tsai, Harpaz-Rotem, Pietrzak, & Southwick, 2012). A report by the Defense Centers of Excellence discussing military peer programs identified five elements of successful peer-based programs: (1) conduct adequate planning and preparation, including identifying needs specific to the treatment population; (2) clearly articulate policies such as role boundaries and confidentiality; (3) conduct systematic screening with defined selection criteria for peer supporters; (4) leverage benefits from "peer" status; and (5) provide ongoing structured training (Money et al., 2011). The authors specifically highlight the potential impact of peer support programs in suicide prevention, as peers may be a suicidal individual's first point of contact. Other programs can also be developed for the family of the military service member. For example, REACH (Reaching Out to Educate and Assist Caring, Healthy Families Program) targets coping strategies, minimizes interpersonal stress, builds communication at home, and educates family about relevant mental health disorders (Sherman, Fischer, Sorocco, and McFarlane, 2009).

Another area of future advancement in care involves facilitating communication between the health systems that serve current and former service members. Those who die by suicide are likely to have interactions with a health care system in the year preceding death, and it is essential that treatment facilities, treatment providers, and health systems work together to assure that needed care is not interrupted due to failures in communication (Ahmedani et al., 2014; Denneson et al., 2010; Hom, Stanley, & Joiner, 2015). Ensuring ease of communication may shorten waits for mental health care and facilitate effective treatment as active duty service members transition to VA treatment. Although DoD and VA systems are becoming more interoperable, more remains to be done (Panangala & Jansen, 2013). While the integration of DoD and VA healthcare information technology systems is a politicized issue beyond the scope of this chapter, it is hoped that eventual progress in this regard will ensure that providers will receive timely information to deliver the highest quality care.

Future research may also examine international military suicide prevention efforts that may be of value to the U.S. Piscitelli (2011) identified several areas in which U.S. policy may draw from other nations, including: (1) increasing social support within military settings; (2) making prevention programs more consistent across all military branches (see also Sollinger, 2011), which has led to more efficient implementation and evaluation in other militaries; (3) providing the same level of care to reservists as active duty members; and (4) altering deployment such that only those with more experience are deployed, or shortening deployment length. Current research efforts on this front include the NATO Research Task Group 218, chaired by this chapter's lead author. The Task Group's report on international military suicide, *Military Suicide Prevention: Report Prepared for NATO Leadership*, is currently in preparation.

Conclusions

As is the case with any public health problem, we recognize that much remains to be done. The DoD Task Force on the Prevention of Suicide by Members of the Armed Forces disseminated its final report, The Challenge and the Promise: Strengthening the Force, Preventing Suicide and Saving Lives, in August 2010 (Department of Defense, Task Force on the Prevention of Suicide, 2010). This report contained 49 findings and 76 associated recommendations to address the problem of military suicide in four primary focus areas: (1) Organization and leadership; (2) wellness enhancement and training; (3) access to, and delivery of quality care; and (4) surveillance, investigations, and research. In response to the report and due to a need for a centralized oversight authority, in November 2011, the Defense Suicide Prevention Office was established as part of DoD's Office of the Under Secretary of Defense for Personnel and Readiness (DSPO; http://www.dspo.mil/). DSPO's mission is to "serve as the DoD oversight authority for the strategic development, implementation, centralization, standardization, communication, and evaluation of DoD suicide and risk reduction programs, policies, and surveillance activities to reduce the impact of suicide on Service members and their families" (Defense Suicide Prevention Office, 2013, p. 2).

As noted earlier in this chapter, the DoD has continually paid close attention to the public health problem of military suicide, particularly over the past decade. The formation of DSPO has been an instrumental step in the right direction. Epidemiologic and treatment development research on military suicide have certainly flourished in recent years. Clinically, more and more providers in various disciplines including primary care, psychiatric nursing, social work, psychiatry, and psychology are increasing their

foundation of knowledge in military suicide prevention and enhancing their skills in the delivery of evidence-informed practices. We have certainly come a long way. However, the battle against suicide is not one that can be easily won. Providers, other helping professionals (e.g., chaplains), researchers, and policy makers across the DoD are encouraged (1) to participate in continuing education activities (such as those offered by the Center for Deployment Psychology (http:// deploymentpsych.org/) and the Defense Centers of Excellence (http://www.dcoe.mil/) in order to maintain and/or improve their knowledge about military suicide, (2) to engage in more collaboration and networking to enhance overall communication and multidisciplinary solutions, and (3) to lessen the gap between research and translation-i.e., the delivery of promising interventions to suicidal service members and their families. It is our hope that these actions will further advance suicide prevention efforts in the United States Military.

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