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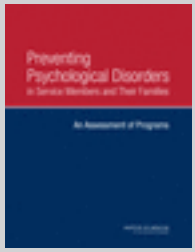

Preventing Psychological Disorders in Service Members and Their Families: An Assessment of Programs

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Laura Aiuppa Denning, Marc Meisnere, and Kenneth E. Warner, Editors; Committee on the Assessment of Resiliency and Prevention Programs for Mental and Behavioral Health in Service Members and Their Families; Board on the Health of Select Populations; Institute of Medicine

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Preventing Psychological Disorders in Service Members and Their Families

An Assessment of Programs

Committee on the Assessment of Resiliency and Prevention Programs for Mental and Behavioral Health in Service Members and Their Families

Board on the Health of Select Populations

Laura Aiuppa Denning, Marc Meisnere, and Kenneth E. Warner, *Editors*

INSTITUTE OF MEDICINE
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"Knowing is not enough; we must apply.
Willing is not enough; we must do."
—Goethe

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REVIEWERS

This report has been reviewed in draft form by persons chosen for their diverse perspectives and technical expertise in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published report as sound as possible and to ensure that the report meets institutional standards of objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We thank the following for their review of this report:

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Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the conclusions or recommendations, nor did they see the final draft of the report before its release. The review of the report was overseen by **JOHANNA T. DWYER**. Appointed by the National Research Council and the Institute of Medicine, she was responsible for making certain that an independent examination of the report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of the report rests entirely with the authoring committee and the institution.

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PREFACE

Military personnel and their families confront numerous challenges to their psychological well-being. While many are similar to the stresses experienced by people not in the military, others derive from circumstances unique to the service members' professional station in life. Particularly for military personnel deployed in conflict situations overseas—including the hundreds of thousands who have served in Afghanistan and Iraq—physical and psychological traumas, such as those experienced in combat, can produce debilitating and sustained mental health burdens. The problems originating in overseas deployments often are visited upon the families of the service men and women as well, first because they have to adjust to an uncertain and worrisome life without their spouse or parent, and then because they have to readjust once the service member returns home.

The Department of Defense (DOD) recognizes that, in addition to addressing the physical injuries that members of the military experience as a result of their service, it has a responsibility to help military personnel and their families who develop various mental and behavioral problems. Such problems include posttraumatic stress disorder, the sequelae of traumatic brain injury, drug abuse (including abuse of alcohol, prescription drugs, and illicit drugs), intimate partner violence and child abuse, and suicidal ideation. Previously, the department requested assistance from the National Academy of Sciences (NAS) to evaluate the readjustment needs of returning service members and their families. The Institute of Medicine (IOM) committee appointed to fulfill that assignment chose to focus on the psychological and behavioral problems and to report on how the military should proceed in order to address these problems most effectively. That multi-year study led to publication of a report titled *Returning Home from Iraq and Afghanistan: Assessment of Readjustment Needs of Veterans, Service Members, and Their Families*, published by the National Academies Press in 2013.

More recently, DOD asked NAS to assess the quality and evidence base of programs in DOD designed to prevent negative psychological health outcomes among service members and their families and to identify appropriate performance measures for such programs. The IOM assembled a committee of experts to address this task. The committee interpreted its assignment as evaluating whether there were opportunities, extant or to be developed, to prevent psychological and behavioral problems altogether or to more effectively—and more preemptively—mitigate the effects of psychological health problems as they were emerging.

The expertise of the committee was wide-ranging, including members who have devoted their careers to studying the military's approach to addressing behavioral and psychological health problems, with a special interest in prevention. Others have focused on the implications of military service on the health of families, and several committee members have expertise in the psychological health areas addressed in this study, including suicide and suicidal ideation, substance abuse disorders, and interpersonal violence.

With a focus on prevention, the committee reviewed hundreds of publications, policy directives, and other documents pertaining to DOD's many programs to identify and address mental health problems among military recruits, active duty personnel, and, to a lesser extent, military veterans. The committee met in Washington, DC, on four occasions, examining and

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evaluating material on these programs with the objective of assessing the nature and depth of DOD's commitment to prevention as well as the effectiveness of the department's many relevant interventions. The committee sought to assist the department in determining how it can use scarce resources to optimize its efforts, through prevention, to protect and restore the mental and behavioral health of its personnel and their families.

The committee's findings and recommendations, presented in this report, address these objectives directly. Some findings and recommendations address rather specific issues, such as how DOD can select appropriate metrics for evaluating programmatic interventions. Others relate to more systemic concerns, such as the need for effective oversight to ensure that DOD's prevention-related resources are used in an effective and cost-effective manner. An overriding concern is how to identify, develop, implement, and continually evaluate evidence-based interventions to promote psychological health. A fundamental finding of the committee is that, with some notable exceptions, few of DOD's prevention interventions are theory- or evidence-based.

The level of knowledge and insight that committee members brought to the committee's deliberations was essential to the development of an informed report. The members' diligence and devotion to the task, and the congeniality with which they engaged in this effort, made a very challenging assignment a surprisingly pleasurable one. I am most grateful to them. I would also like to thank Harold Pincus, whose consultation to the committee regarding performance measurement proved invaluable as the committee deliberated on the subject.

The committee benefited immensely from the outstanding and seemingly tireless work of the IOM professionals assigned to staff this project. From seeking out information and data and organizing that information and data for the committee's use, to offering their own insights during our discussions and drafting much of the report, the IOM staff members deserve the lion's share of the credit for the committee having produced its report on schedule. The staff members deserve, as well, much of the credit for the quality and usefulness of the report; however, those characteristics may be assessed by those who will consult it. In particular, the committee expresses its deep gratitude to Laura Aiuppa Denning, IOM senior program officer and this study's director; Marc Meisnere, research associate; and Joe Goodman, senior program assistant. The committee hopes that its work will prove useful to DOD and to others concerned with the psychological health and welfare of the Americans who volunteer to put their lives on the line for the benefit of our country. These men and women deserve nothing less.

Kenneth E. Warner, *Chair*
Committee on the Assessment of Resiliency and Prevention Programs for Mental and Behavioral Health in Service Members and Their Families

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ACRONYMS

ACE	Ask, Care, Escort
AHRQ	Agency for Healthcare Research and Quality
ARMY STARRS	Army Study to Assess Risk and Resilience in Servicemembers
ASD	acute stress disorder
ASIST	Applied Suicide Intervention Skills Training
BOOT STRAP	Bootcamp Survival Training for Navy Recruits—A Prescription
CBT	cognitive behavioral therapy
CISD	critical incident stress debriefing
CoRC	Culture of Responsible Choices
COSC	Combat Operational Stress Control
CRIS	Community Reintegration for Injured Service Members
CRS	Congressional Research Service
CSF	Comprehensive Soldier Fitness
DAPA	drug and alcohol program advisor
DHA	Defense Health Agency
DOD	Department of Defense
EPTS	existed prior to service
FAP	Family Advocacy Program
FOCUS	Families OverComing Under Stress
FWV	Futures Without Violence
FY	fiscal year
GAO	Government Accountability Office
GAT	Global Assessment Tool
HHS	Department of Health and Human Services
HRA	Health Risk Appraisal
IOM	Institute of Medicine
IPV	interpersonal violence
MC&FP	Military Community and Family Policy
MEPS	Military Entrance Processing Stations
MFLC	Military and Family Life Consultant
MHS	military health system
MORE	My Ongoing Recovery Experience
MST	military sexual trauma

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NAS	National Academy of Sciences
NBHQF	National Behavioral Health Quality Framework
NORTH STAR	New Orientation to Reduce Threats to Health from Secretive Problems That Affect Readiness
NQF	National Quality Forum
OCMO	Office of the Chief Medical Officer
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OSCAR	Operational Stress Control and Resilience
OSD	Office of the Secretary of Defense
PCL–C	PTSD Checklist–Civilian
PCM	primary care manager
PCMH	Patient-Centered Medical Home
PDHA	Post-Deployment Health Assessment
PDHRA	Post-Deployment Health Re-Assessment
PEC	Pharmoeconomic Center
PreDHA	Pre-Deployment Health Assessment
PREP	Prevention and Relationship Enhancement Program
PTSD	posttraumatic stress disorder
RESPECT–Mil	Re-Engineering Systems of Primary Care Treatment in the Military
SAMHSA	Substance Abuse and Mental Health Services Administration
SAPR	Sexual Assault Prevention Response
SBIRT	Screening, Brief Intervention, and Referral to Treatment
SUD	substance use disorder
TBI	traumatic brain injury
TLD	third location decompression
USAF	U.S. Air Force
USPSTF	U.S. Preventive Services Task Force
VA	Department of Veterans Affairs
WARCAT	Warrior Administered Retrospective Casualty Assessment Tool
WWCTP	Wounded Warrior Care and Transition Policy
YRRP	Yellow Ribbon Reintegration Program

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SUMMARY

More than a decade of war in Iraq and Afghanistan has placed extraordinary demands and stressors on our service members and their families, and some service members have returned with psychological injuries or impairments that will have consequences for years to come. The increasing rates of mental health diagnoses among service members, the related emotional and psychological tolls on families, and the rising costs associated with mental health treatment all indicate that there is an urgent need to prevent or mitigate psychological health problems before they impair function and become chronic. Effective prevention has the potential to reduce the need for treatment and long-term management of mental health disorders and to reduce the enormous personal, social, and economic costs associated with these conditions. Both the Department of Defense (DOD) and the various military services have implemented programs and strategies designed to promote psychological health and resilience in an attempt to limit the degree to which combat exposure and the demands of service interfere with a service member's quality of life, service duties, and transition back to work and home. In addition, in recent years DOD and various communities have increased support for military families by offering family-focused programs aimed at behavioral health, quality of life, and other support services. More can be done, however. DOD's increased focus on developing and implementing effective prevention strategies is necessary not only for the benefit of service members who served in the recent conflicts and their families, but also for preparing for possible future conflicts.

BACKGROUND

In March 2013 the Institute of Medicine (IOM) released *Returning Home from Iraq and Afghanistan: Assessment of Readjustment Needs of Veterans, Service Members, and Their Families*. The IOM report, which was congressionally mandated under Section 1661 of the National Defense Authorization Act for fiscal year 2008, documents the findings and recommendations of an IOM committee that studied the physical and mental health and other readjustment needs of members and former members of the armed forces who were deployed in Operation Enduring Freedom in Afghanistan or Operation Iraqi Freedom in Iraq; the report also examines the related needs of the service members' families and their communities. The report covered a variety of topics, including health outcomes, mental health treatment, access to care, family issues, community effects, and economic impacts; however, it did not examine the prevention of psychological health disorders. DOD requested that the IOM conduct this follow-on study to assess these important aspects of health for service members and their families.

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Charge to the Committee

DOD requested that the IOM convene an ad hoc committee to conduct a systematic review and critique of reintegration programs and prevention strategies for behavioral and mental health outcomes for service members and their families (i.e., posttraumatic stress disorder, or PTSD; depression; recovery support; and the prevention of substance abuse, suicide, and interpersonal violence). Additionally, DOD tasked the committee with identifying various models for measuring performance of prevention programs. The committee was directed to hold an information-sharing meeting that convened stakeholders and subject-matter experts associated with program evaluation and prevention efforts. Specifically, the IOM committee's tasks were as follows:

- Conduct a systematic review and critique of reintegration programs and prevention strategies for PTSD, depression, recovery support, and prevention of substance abuse, suicide, and interpersonal violence.
- Identify various performance measures (e.g., cost, quality, outcomes, process, access, patient satisfaction, and documentation) of prevention programs.
- Identify the best metrics (i.e., performance measures) for evaluating resilience programs and prevention strategies using the National Quality Forum (NQF) framework.
- Include an overview of the most recent conceptualization of how prevention overlaps with the psychological health outpatient clinical pathway for PTSD. In doing so, consider the utility of the Porter model.
- Conduct an information-sharing meeting with stakeholders and subject-matter experts associated with program evaluations and prevention efforts.

The committee that the IOM appointed to respond to the charge was composed of 13 experts with expertise in epidemiology, psychology, psychiatry, clinical medicine, prevention, evaluation, PTSD, depression, recovery support, substance use disorders, suicide, and interpersonal violence.

Committee's Approach to Its Charge

The committee held 4 meetings over 7 months, including information-gathering sessions that were open to the public and which involved presentations from the sponsor, subject-matter experts from DOD, other government agencies, and military advocacy organizations.

To gather information the committee identified and reviewed relevant studies in the peer-reviewed literature; reviewed applicable government reports, Internet resources, and congressional testimony; reviewed recent IOM reports on military health, psychological health, and prevention; and heard presentations from subject-matter experts. The committee also conducted extensive searches of the peer-reviewed and gray literature (including government and private-sector reports and Internet-only resources) and reviewed existing performance measures from three sources that are the products of national efforts to organize, manage, and promulgate the use of performance measures: the National Behavioral Health Quality Framework, developed by the Substance Abuse and Mental Health Services Administration; the NQF Quality Positioning System; and the National Quality Measures Clearinghouse, maintained by the Agency for Healthcare Research and Quality.

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PREVENTION AND GOOD PSYCHOLOGICAL HEALTH

Prevention strategies designed to reduce the onset and severity of PTSD, depression, substance abuse, suicide, and interpersonal violence and to enhance responses to stress and trauma exposure as well as to promote reintegration with minimal challenges have the ultimate goal of creating good psychological health among military personnel and their families. Good psychological health is not simply the absence of diagnosable psychological health problems, although maintaining a state of good psychological health is likely to help protect against the development of many such problems. The committee holds the view that prevention should address both risk reduction and health promotion. Risk reduction targets specific outcomes or risk factors and health promotion focuses on increasing levels of health rather than preventing any particular disease. Prevention efforts aligned with health promotion emphasize fostering well-being with a goal of helping individuals lead healthy, thriving lives. In this view, the target of prevention programs is not only to prevent psychological health problems but also to promote positive psychological health, defined as a state of well-being in which persons can realize their abilities, cope with life's stresses, and work regularly and productively.

Prevention is a set of strategies, complementary to the role of treatment, aimed at achieving a state of good psychological health, particularly in the context of population mental health. The committee adopted a conceptual approach that emphasizes prevention as part of a continuum, along with treatment and rehabilitation interventions, and uses the term "prevention" for interventions that occur before the onset of a full clinical disorder. For individuals with full-blown disorders, treatment should include prevention elements to lower the likelihood of relapse as well as associated negative outcomes. Universal prevention strategies are offered to the entire population, with the goal of the intervention being to reduce the probability of the undesired outcome. Selective prevention strategies are targeted to subpopulations identified as being at elevated risk for a disorder, for example, those being deployed to a war zone. Indicated prevention strategies are those targeted to individuals who have been identified as having increased vulnerability or risk for a disorder based on individual screening (but who are not currently symptomatic).

PSYCHOLOGICAL HEALTH IN THE MILITARY

Being deployed to a war zone can result in numerous adverse psychological health conditions. It is well documented in the literature that there are high rates of psychological disorders among military personnel serving in Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom in Iraq as well as among the service members' families. Between 2001 and 2011 the percentage of active-duty service members diagnosed with a psychological condition increased by approximately 62 percent. In 2011 there was a total of 963,283 service members and former service members who had been diagnosed with at least 1 psychological disorder during their period of service. Nearly 49 percent of these service members had been diagnosed with multiple psychological disorders. Between 2000 and 2011 diagnoses of adjustment disorders, depression, and anxiety disorders (excluding PTSD) made up, respectively, 26 percent, 17 percent, and 10 percent of all psychological disorder diagnoses. PTSD represented approximately 6 percent of psychological disorders diagnoses, and abuse and dependence on alcohol and other substances accounted for 17 percent of diagnoses during this time period.

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For service members' families, the degree of hardship and negative consequences rises with the amount of the service members' exposure to traumatic or life-altering experiences. Adult and child members of the families of service members who experience wartime deployments have been found to be at increased risk for symptoms of psychological disorders and to be more likely to use mental health services.

In an effort to provide early recognition and early intervention that meet the psychological health needs of service members and their families, DOD currently screens for many of these conditions at numerous points during the military life cycle, and it is implementing structural interventions that support the improved integration of military line personnel, non-medical caregivers, and clinicians, such as RESPECT–Mil (Re-Engineering Systems of Primary Care Treatment in the Military), embedded mental health providers, and the Patient-Centered Medical Home. The committee's review of risk and protective factors in military and family populations suggests that prevention strategies are needed at multiple levels—individual, interpersonal, institutional, community, and societal—in order to address the influence that these factors have on psychological health.

PROGRAM EVIDENCE AND MEASUREMENT

DOD has implemented numerous resilience and prevention programs that address various aspects of psychological health. As DOD advances its efforts to evaluate and improve psychological health programming for service members and their families, it faces a number of challenges, such as insufficient empirical evidence for many of the prevention programs it has implemented, the fact that there has been no systematic use of national performance measures to assess current DOD screening programs, and the lack of a systematic process to select validated measures for use in judging the performance of the structure, process, and outcomes of all prevention initiatives for enhancing psychological health. The measurement of performance is not as advanced in psychological health as it is in other types of care. Nonetheless, DOD can focus its resources on creating a systematic approach to the measurement of structure, process, and outcomes with reporting to an effective oversight structure aimed at monitoring, selecting, and improving the quality of prevention initiatives for service members and their families.

FINDINGS AND RECOMMENDATIONS

The committee's findings led to recommendations for improving programs aimed at strengthening resilience and reintegration, assessing psychological health risks, using evidence-based interventions, and implementing measurement and evaluation strategies.

EFFECTIVENESS AND COST-EFFECTIVENESS

Resilience, prevention, and reintegration interventions should be based on well-established theoretical frameworks. Assessments of DOD programs conducted by this committee and others show that a majority of DOD resilience, prevention, and reintegration programs are not consistently based on evidence and that programs are evaluated infrequently or inadequately. For example, on the basis of internal research data that show only very small effect sizes, DOD

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concluded that Comprehensive Soldier Fitness, a broadly implemented program intended to foster resilience, is effective—despite external evaluations that dispute that conclusion. Among the small number of DOD-sponsored reintegration programs that exist, none appears to be based on scientific evidence. The committee was unable to identify any DOD evidence-based programs addressing the prevention of domestic abuse. More recently, the services have implemented a number of prevention interventions to address military sexual assault, yet a DOD review found that critical evaluation components needed to measure their effectiveness are missing.

In addition, there are many DOD prevention interventions that rely on adaptations from civilian prevention programs but have not been tested with military populations, particularly in the case of programs that are family-focused or target substance misuse. The committee also found that environmental strategies with strong evidence of effectiveness are underutilized, such as restricting access to lethal means such as personal firearms to prevent suicide or homicide in domestic violence cases or placing restrictions on the sale of alcohol to reduce substance misuse. In place of these proven approaches, the committee typically found interventions such as campaigns, Internet tools, or in-person events with no evidence for their effectiveness at preventing the targeted problem. Finally, the committee found limited ongoing evaluation to inform program areas lacking evidence, and a clear need for longitudinal follow-up assessment to determine the impact of resilience, prevention, and early intervention efforts.

To the degree that these shortcomings exist in DOD's use of evidence-based practices, they can degrade the department's ability to maintain or improve the psychological health and well-being of service members and their families and can lead to the inefficient use or waste of scarce resources that could otherwise be used to address the enormous task of preventing psychological health problems. The committee concludes that by targeting resources to develop the evidence base and facilitate the process of evidence dissemination and implementation, DOD can optimize the effectiveness and cost-effectiveness of interventions to prevent psychological health problems.

Recommendation 1: The committee recommends that the Department of Defense (DOD) employ only evidence-based resilience, prevention, and reintegration programs and policies and that it eliminate non-evidence-based programming. Where programming needs exist and the evidence base is insufficient, DOD should use rigorous methods to develop, test, monitor, and evaluate new programming.

RISK IDENTIFICATION AND INTERVENTION

DOD implements systematic screening processes to identify service members at risk for a specific psychological health problem annually and at various points in the military life cycle—at accession (entrance into the military), pre-deployment, and post-deployment. The committee found that DOD is administering some screening instruments that are not evidence-based and have not been validated. Examples include instruments used during accession to determine the acceptability of applicants for military service, specifically, questions about recent depression and the "Omaha 5" instrument that examines a range of psychological health issues. In addition, the committee found that unnecessary variability exists among the types of screening instruments that are administered at different points in the military life cycle. For example, the questions about depression and suicidal ideation administered during the accession process are not the

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same as those included in the post-deployment health assessments. The use of non-validated screening instruments at accession is a concern because studies show that enlistees may enter the military with elevated rates of psychological health disorders.

In addition, the committee found that although DOD conducts systematic psychological health screening of service members at various phases in the military life cycle as well as in primary care clinics, it does not have a routine health screening program targeting service members who are about to separate from the military. With appropriate processes for referral and for the coordination of care between the military health system and non-military health providers, including the Veterans Health Administration, screening at separation may help to improve reintegration back into civilian life. This would benefit former members of the military, their families, and the communities in which they reside.

The committee found no systematic psychological health screening for military spouses and children. The committee acknowledges DOD's recent policy to expand screening requirements in primary care settings located within military treatment facilities; however, the policy will have a limited effect on military spouses and children because they predominately receive care from the network of civilian providers and facilities in the purchased care system.

Furthermore, there is a lack of information on the extent to which there is appropriate and timely follow-up with targeted interventions to individuals and families with at-risk psychological profiles. In order to improve readiness and transitions to civilian life, it will be imperative to use findings from screenings and risk assessments throughout the military life cycle to target interventions. Overall, the committee concludes that there is a need for DOD to improve approaches for identifying and intervening with service members and members of service members' families who are at risk of developing psychological health problems or who have a diagnosable condition.

Recommendation 2: The committee recommends that the Department of Defense consistently use validated psychological screening instruments appropriate to the type of screening and conduct systematic targeted prevention annually and across the military life cycle (from accession to pre-deployment, deployment, post-deployment, reintegration, and separation) for service members and their families.

MEASUREMENT AND EVALUATION

Preventive intervention programs should be rigorously designed, and the programs and their components should be evaluated extensively. This should occur as the program is being developed, while it is being conducted, and after it has been completed. Dedicated resources (e.g., funding, staffing, and logistical support) for data analysis and evaluation are essential to ongoing performance monitoring for quality improvement and accountability. The committee concluded that there is no generally accepted comprehensive set of measures to assess the structure, process, and outcomes in resilience, prevention, and reintegration programming. The committee's review of existing measures in national quality measure sets found few measures relevant to psychological health, and those that do exist are primarily clinically focused screening measures that do not sufficiently address all of the domains relevant to resilience, prevention, and reintegration. Moreover, the committee found that DOD lacks a strategy, a framework, and a range of measures for monitoring performance that ultimately can be used to

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assess resilience, reintegration, and good psychological health to determine program effectiveness.

Recommendation 3: The committee recommends that, when appropriate, the Department of Defense (DOD) employ existing evidence-based measures using the systematic approach identified in this report. When appropriate measures are not available, DOD should develop and test measures to assess the structure, process, and outcomes of prevention interventions across the phases of the military life cycle.

MILITARY FAMILIES

The demands placed on military families call for support in the areas of relationship building, family and individual function, and reduction of risk of psychological and physical health problems. Policy and management responsibilities for family-focused programs span the DOD enterprise. Each military service and the Office of the Secretary of Defense administer dozens of family-focused prevention programs. The committee's review of the literature revealed that, despite existing programming, many of the risks and vulnerabilities military families face are associated with family violence, substance abuse, stress reaction, stigma, and depression. The committee's review of programs in this study and its review of recent comprehensive assessments of military family programs share the common finding that there are gaps in the evidence supporting the effectiveness of interventions for military families. The committee recognizes there are initiatives in place to build the research base in family-focused programs, but believes a more coordinated, comprehensive and systematic approach is needed to support the development and implementation of evidence-based prevention programming for military spouses, partners, and children that address risk and vulnerabilities specific to particular points in the military life cycle.

Recommendation 4: The committee recommends that the Department of Defense implement comprehensive universal, selective, and indicated evidence-based prevention programming targeting psychological health in military families, spouses, partners, and children. The targeted risks and vulnerabilities should include family violence, substance abuse, stress reaction, stigma, and depression.

COMMUNITY CHARACTERISTICS AND INTERVENTIONS

The communities in which service members and their families live or to which they return can shape the risk and protective factors that affect individual behaviors and psychological health outcomes. For example, in the civilian literature, there is ample evidence that both price and availability of alcohol in communities impacts the rates of the negative consequences of its use. In its review of the literature the committee found a dearth of studies examining how community factors impact readiness and reintegration among military service members and their families. The committee believes research is this area would help to inform the development of effective community-level prevention interventions for service members and their families.

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Recommendation 5: The committee recommends that the Department of Defense (DOD) use existing evidence-based community-level prevention interventions and policies to address the psychological health of military members and their families. Where sufficient evidence does not exist, DOD should support research on the effects of communities and social environments on service members and their families.

The committee believes that, together, the above five recommendations will improve DOD's ability to manage a complex set of issues in military psychological health programming. In addition, the committee believes that the recommendations would best serve DOD if they are considered in the context of changes to the current organizational infrastructure for program development, implementation, evaluation, and tracking. Although an array of programs exist for resilience, reintegration, and psychological health for service members and their families, the committee's literature and program review revealed that DOD's current infrastructure does not support optimal programming.

Recommendations about specific changes to the current organization or infrastructure are beyond the scope of this committee's charge; however, the committee believes that the execution of its recommendations relies on DOD's consideration of appropriate organizational restructuring to achieve these goals. Areas important to examine include those associated with centralizing DOD-wide and service-specific programming, accountability and oversight, budget, and setting overall policies and guidelines for the development, implementation, evaluation, and tracking of resilience, reintegration, prevention, and treatment programs for service members and their families. Processes that require attention include (1) continuing efforts to systematically identify and track program gaps by building on the comprehensive reviews conducted by this committee and others; (2) coordinating programming across the military services; (3) defining what constitutes a program and the type and level of evidence required before full rollout; (4) establishing evaluation requirements for new and existing programs that are aligned with their stated aims; (5) implementing a mechanism for sharing evidence and best practices across program areas and services; and (6) creating procedures for discontinuing ineffective or duplicative programs and for implementing programs demonstrated to be highly effective, cost-effective, and culturally diverse. The reporting of these functions for transparency and accountability purposes is a critical component to ongoing program quality improvement.

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1

INTRODUCTION

More than a decade of war in Iraq and Afghanistan has placed extraordinary demands and stressors on our service members and their families, and some have returned with psychological injuries or impairments that will have consequences for years to come. The increasing rates of diagnoses of psychological disorders among service members, the related emotional and psychological tolls on families, and the rising costs associated with mental health treatment all indicate that there is an urgent need to prevent or mitigate psychological health problems before they impair function and become chronic. Effective prevention has the potential to reduce the need for treatment and long-term management of psychological disorders and to reduce the enormous personal, social, and economic costs associated with these conditions. The Department of Defense (DOD), each military service, private groups, and states have implemented a number of programs and strategies to promote psychological health and resilience in an attempt to limit the degree to which combat exposure and demands of service interfere with a service member's quality of life, service duties, and transition back to work and home. In addition, in recent years DOD and communities have increased support for military families by offering a catalog of family-focused programs aimed at behavioral health, quality of life, and other support services. However, as described in this report, more can be done. DOD's increased focus on developing and implementing effective prevention strategies is necessary not only for the benefit of service members who served in the recent conflicts and their families, but also in preparation for possible future conflicts. Although this report describes many of the challenges associated with improving prevention efforts in the military, improving prevention of psychological disorders is not a military-only problem. Many of the shortcomings described in this report reflect the overall inadequate response to prevention nationwide.

The high rates of psychological disorders among military personnel serving in Operation Enduring Freedom (OEF) in Afghanistan and Operation Iraqi Freedom (OIF) in Iraq and also among the service members' families are well documented in the literature (Hoge et al., 2004; Hosek, 2011; IOM, 2013; Tanielian and Jaycox, 2008). Recently, the Congressional Research Service (CRS) reported that between 2001 and 2011, the rate of active-duty service members diagnosed with a psychological condition increased by approximately 62 percent, with the incidence rates of posttraumatic stress disorder (PTSD) and anxiety increasing 656 percent and 226 percent, respectively (Blakeley and Jansen, 2013). During their period of service, a total of 963,283 service members and former service members were diagnosed with at least 1 psychological disorder. Nearly 49 percent of these service members were diagnosed with multiple psychological disorders. Between 2000 and 2011 diagnoses of adjustment disorders, depression, and anxiety disorders (excluding PTSD) made up, respectively, 26 percent, 17

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percent, and 10 percent of all psychological disorder diagnoses. PTSD represented approximately 6 percent of psychological disorders diagnoses, and abuse and dependence on alcohol and other substances made up 17 percent over this time period. CRS concludes that the data, which come from the Armed Forces Surveillance Center, represent diagnoses and likely underestimate the actual incidence of psychological disorders because many cases are not identified. For example, these data do not include service members who may have a psychological problem but do not seek treatment and also exclude National Guard and reserve service members who seek medical treatment after they are deactivated.

For service members' families, the degree of hardship and negative consequences rises with the amount of the service members' exposure to traumatic or life-altering experiences (MacLean and Elder, 2007). Deployment to combat zones has been found to significantly predict a variety of negative outcomes, including marital conflict and intimate partner violence (Hoge et al., 2008). When service members display negative psychological symptoms, the likelihood of negative consequences for families rises substantially (de Burgh et al., 2011; IOM, 2008). Adult and child military family members who experience wartime deployments have been found to be at increased risk for symptoms of psychological disorders and for utilization of mental health services (Gorman et al., 2010; IOM, 2013; Mansfield et al., 2010; Paley et al., 2013). Families who experience the injury or death of service members are almost certain to experience at least some negative consequences.

The cost of treating psychological problems in service members and their families is consuming a growing share of the overall defense budget. Between 2007 and 2012 the cost of providing services for mental health treatments to active-duty and active National Guard and reserves more than doubled—from $468 million in fiscal year (FY) 2007 to $994 million in FY 2012. Overall, during this period DOD spent $4 billion on mental health treatment for active-duty service members and about $460 million on mental health treatment for activated National Guard and reserve members (Blakeley and Jansen, 2013).

In March 2013 the Institute of Medicine (IOM) released *Returning Home from Iraq and Afghanistan: Assessment of Readjustment Needs of Veterans, Service Members, and Their Families* (IOM, 2013). The IOM report, which was congressionally mandated under Section 1661 of the National Defense Authorization Act for FY 2008, documents the findings and recommendations of an IOM committee that studied the physical and mental health and other readjustment needs of members and former members of the armed forces who were deployed in OIF or OEF; the report also examines the related needs of the service members' families and their communities. The report covered a variety of topics, including health outcomes, mental health treatment, access to care, family issues, community effects, and economic impacts. The assessment of deployment-related health outcomes focused on traumatic brain injury, PTSD, depression, substance use disorders, and suicidal ideation, and included detailed discussions of the screening, assessment, and treatment of those conditions in DOD and the Department of Veterans Affairs (VA). However, that committee did not examine health promotion or the prevention of psychological disorders. Therefore, after that study was completed, DOD requested that the IOM conduct this follow-on study to assess these important aspects of health for service members and their families. Appendix A contains the executive summary of *Returning Home from Iraq and Afghanistan: Assessment of Readjustment Needs of Veterans, Service Members, and Their Families* (IOM, 2013).

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CHARGE TO THE COMMITTEE

The charge to the committee for this study evolved out of discussions between DOD and the IOM about how to improve psychological health in service members and their families. DOD requested that the IOM convene an ad hoc committee to conduct a systematic review and critique of reintegration programs and prevention strategies for behavioral and mental health outcomes for service members and their families (e.g., PTSD, depression, recovery support, and the prevention of substance abuse, suicide, and interpersonal violence). Additionally, DOD tasked the committee with identifying various models for measuring performance of prevention programs. The committee was directed to hold an information-sharing meeting that convened stakeholders and subject-matter experts associated with program evaluation and prevention efforts. Specifically, the IOM committee's tasks were as follows:

- Conduct a systematic review and critique of reintegration programs and prevention strategies for PTSD, depression, recovery support, and prevention of substance abuse, suicide, and interpersonal violence.
- Identify various performance measures (e.g., cost, quality, outcomes, process, access, patient satisfaction, and documentation) of prevention programs.
- Identify the best metrics (i.e., performance measures) for evaluating resilience programs and prevention strategies using the National Quality Forum (NQF) framework.
- Include an overview of the most recent conceptualization of how prevention overlaps with the psychological health outpatient clinical pathway for PTSD. In doing so, consider the utility of the Porter model.
- Conduct an information-sharing meeting with stakeholders and subject-matter experts associated with program evaluations and prevention efforts.

The committee that the IOM appointed to respond to the charge was composed of 13 experts from a variety of disciplines. The committee members have expertise in epidemiology, psychology, psychiatry, clinical medicine, prevention, evaluation, PTSD, depression, recovery support, substance use disorders, suicide, and interpersonal violence. A number of them also have knowledge of the workings of DOD and VA.

COMMITTEE'S APPROACH TO ITS CHARGE

The committee held 4 meetings over 7 months. In the first two meetings the committee held information-gathering sessions that were open to the public, and these meetings also included presentations from the sponsor, subject-matter experts from DOD, other government agencies, and military advocacy organizations (see Appendix B).

To gather information, the committee identified and reviewed relevant studies in the peer-reviewed literature; reviewed applicable government reports, Internet resources, and congressional testimony; reviewed recent IOM reports on military health, psychological health, and prevention; and heard presentations from subject-matter experts. In its attempt to understand strategies to prevent negative psychological health outcomes and to uncover the latest evidence for different interventions and programs, the committee conducted extensive searches of the peer-reviewed and gray literature (including government and private-sector reports and Internet-

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only resources). Research staff completed searches in PubMed, Cochrane Database of Systematic Reviews, OVID Medline, Embase, Scopus and PsycInfo databases using search terms that the committee had determined to be relevant to the charge. In addition, the committee's search included two performance measurement databases—the NQF's online database of quality measures, known as the Quality Positioning System, and the National Quality Measures Clearinghouse, maintained by the Agency for Healthcare Research and Quality.

ORGANIZATION OF THE REPORT

This report is organized into six chapters and eight appendixes. Chapter 2 describes the conceptual frameworks that the committee used to approach its task of assessing resilience, reintegration, and various prevention programs intended to enhance psychological health and prevent psychological disorders in service members and their families. Chapter 3 provides information essential to understanding psychological health in the military as it relates to service members and their families. The chapter describes demographic data for Armed Forces personnel; major psychological health consequences experienced by service members deployed to OEF and OIF; effects of deployments on the psychological well-being of spouses and children of service members deployed to OEF and OIF; processes that DOD uses for assessing mental health risk in the military for its purposes of providing prevention, assessment, and treatment services; and an overview of mental health services in the military. Chapter 4 describes various DOD policies, programs, and services intended to enhance psychological health and prevent psychological health disorders among service members and their families. It also describes the nature of the interventions and reports on empirical studies that speak to the evidence for their effectiveness. Chapter 5 focuses on the committee's task to identify the best performance measures for evaluating DOD resilience and prevention programs addressing psychological health. The chapter discusses the purposes of performance measurement, development and maintenance of performance measures, population health measurement, and DOD's current efforts to measure program performance. The chapter includes a review of existing performance measures from national quality initiatives and provides measure examples to illustrate the measure concepts that are broadly applicable and essential to systematic assessment of prevention programs. Finally, the committee's conclusions and recommendations are outlined in Chapter 6.

This report contains the following appendixes:

- Appendix A—Summary from *Returning Home from Iraq and Afghanistan: Assessment of Readjustment Needs of Veterans, Service Members, and Their Families*
- Appendix B—Information-Gathering Meeting Agenda
- Appendix C—Supplemental Health Screening Questionnaire
- Appendix D—Pre-Deployment Health Assessment Questionnaire
- Appendix E—Post-Deployment Health Assessment Questionnaire
- Appendix F—Post-Deployment Health Re-Assessment Questionnaire
- Appendix G—Program Reviews from *Substance Use Disorders in the U.S. Armed Forces*
- Appendix H—Table of DOD Programs to Increase Resilience or Prevent Psychological Health Problems, as Identified by RAND

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2

CONCEPTUAL FRAMEWORKS FOR REVIEWING EVIDENCE-BASED PREVENTION IN PSYCHOLOGICAL HEALTH

This chapter presents the conceptual frameworks that the committee used to approach its task of assessing resilience, reintegration, and prevention programs used to enhance psychological health and prevent psychological health disorders in service members and their families. These conceptual frameworks also guided the evaluation of the evidence base for maintaining service personnel in good psychological health. The chapter covers (1) the terminology used the report, (2) a definition of optimal psychological health for military members and their families, (3) the selection of a conceptual approach to preventive strategies in general and to evidence-based preventive activities, (4) a social ecological model for considering the determinants of good psychological health, (5) a framework for categorizing interventions to prevent psychological disorders and promote psychological health, (6) a framework for the phases of military experience and how prevention activities in psychological health work in the military, and (7) a model with which to organize concepts related to the prevention program development and measurement discussed in this chapter.

TERMINOLOGY

In the health field the terms “behavioral health,” “mental health,” and “psychological health” are often used interchangeably. Distinguishing among these terms is challenging, as there is little in the way of a shared language or clear definitions that are used consistently across systems and professional fields. There is a growing emphasis on the behavioral aspects of health promotion and illness prevention that had coincided with the increasing use of an interdisciplinary approach to health care delivery, one that maximizes the use of both medical and behavioral interventions (APA, 2013). This recognition of the importance of behavioral health promotion on good mental health is exemplified by the broad and inclusive definition of behavioral health used by the Substance Abuse and Mental Health Services Administration (SAMHSA) in its National Behavioral Health Framework (SAMHSA, 2013a):

> By behavioral health, SAMHSA refers to a state of mental/emotional wellbeing and/or actions that affect wellness. Behavioral health problems include substance use disorders; alcohol and drug addiction; and serious psychological distress, suicide, and mental disorders. This includes a range of problems from unhealthy stress or subclinical conditions to diagnosable and treatable diseases like serious

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> mental illnesses and substance use disorders, which are often chronic in nature but from which people can and do recover with the help of a variety of interventions from medical and psychosocial treatments to self-help and mutual aid. The term is also used to describe the service systems encompassing prevention and the promotion of emotional health; the prevention of mental and substance use disorders, substance use, and related problems; treatments and services for mental and substance use disorders; and recovery support.

The committee deliberated about the use of the term "behavioral health" versus "psychological health" for this report. There was agreement that both terms are acceptable, but that both have drawbacks. The committee ultimately chose to use, in most cases, the term "psychological health," because, as discussed below, the committee views psychological health as the foundation for health and wellness in general and because psychological health is protective against the development of mental illness and substance use disorders. Furthermore, the committee was concerned that the broad use of the term "behavioral health" might seem to imply that the various problems under discussion result solely from individual behavior, and the committee was also mindful of the practical consideration that research studies and other documents cited in this report often use the term "behavioral health" to refer specifically to alcohol and drug abuse. The committee notes that the effort to destigmatize mental health issues is one of the biggest factors driving the evolving use of terminology in the military health system and the health care field in general.

GOOD PSYCHOLOGICAL HEALTH

Prevention strategies designed to reduce the onset and severity of posttraumatic stress disorder (PTSD), depression, substance abuse, suicide, and interpersonal violence and to enhance responses to stress and trauma exposure as well as to promote reintegration with minimal challenges have the ultimate goal of creating *good psychological health* among military personnel and their families. Good psychological health is not simply the absence of diagnosable psychological health problems, although maintaining a state of good psychological health is likely to help protect against the development of many such problems. The committee holds the view that prevention should address both risk reduction and health promotion. Risk reduction targets specific outcomes or risk factors and health promotion focuses on increasing levels of health rather than preventing any particular disease (Nash and Watson, 2012). Health promotion is the process of enabling people to increase control over their health and its determinants and to thereby improve their health (Participants at the 6th Global Conference on Health Promotion, 2005). Prevention efforts aligned with health promotion emphasize fostering well-being among individuals with a goal of helping those individuals lead healthy, thriving lives. In the view of those who take this approach, the goal is not simply to prevent psychological health problems but also to promote positive psychological health, defined as a state of well-being in which persons can realize their abilities, cope with life's stresses, and work regularly and productively (Jahoda, 1958). The notion of positive psychological health underpins the military notion of "Total Force Fitness," which lies at the core of the Department of Defense (DOD) approach to building and maintaining health, readiness, and performance. According to the total force fitness approach, individuals should engage in choices and practices that will build psychological strength, just as

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boot camp and physical exercise build physical fitness, because optimal performance requires one to be healthy both in mind and in body (Jonas et al., 2010).

Total Force Fitness involves targeting all domains of health: spiritual, psychological, behavioral, social, physical, nutritional, medical, and environmental (Bates et al., 2010). As mind, body, and spirit are intertwined, good psychological health is synergistic with the other domains of health. Thus, preventive strategies in one domain, such as those directed at depression, are likely to have benefits in other domains of health—such as social health—and strategies such as healthy nutrition, sleep, and exercise routines may be necessary for achieving optimal psychological health under conditions of high stress. Furthermore, this framework's emphasis on the importance of social relationships indicates that service members' families should be taken into consideration.

DEFINITION OF PREVENTION

Background

Prevention is a set of strategies, complementary to the role of treatment, that is aimed at achieving a state of good psychological health, particularly in the context of population mental health (WHO, 2002). Broadly speaking, prevention is an approach in which either the general population or a specific group of people identified as being at risk for a disorder is targeted by policies, changes in the environmental, or the provision of group or individual services with the expectation that some future disorder in that group will be ameliorated, either by reducing its severity, delaying its onset, or decreasing the number of people affected (IOM, 2009). The definition and classification of prevention have evolved over time. In the well-known, original framework for public health prevention, prevention was classified into three levels: primary, secondary, and tertiary (Caplan, 1964).

The goal of primary prevention, as it was defined by Caplan and further refined by Cowen (1977, 1980), is to use risk reduction strategies to prevent the onset of specific diseases before any symptoms arise. Primary prevention efforts target either the entire population or subgroups with known vulnerabilities (e.g., raising alcohol prices on military bases so that they are equal to the prevailing price in the community). Secondary prevention efforts are designed to identify symptoms of disorders early in order to reduce their duration (e.g., screening and intervention for depression) or their sequelae (e.g., screening and intervention for suicidal risk). Tertiary prevention is designed to prevent long-term disability and rehabilitate individuals with a disorder and to return them to their productive capacity as quickly as possible (e.g., a pain management program aimed at preventing the sorts of disability that prevent a return to duty). Critics of Caplan's classification argue that it may be difficult to differentiate between primary, secondary, and tertiary prevention in the field of psychological health because of the complex etiology and interconnected nature of psychological health problems (Hage and Romano, 2013).

Gordon (1983) provided an alternative conceptualization of prevention that focuses on the characteristics of the intended audience; it complements the classical conception based on risk factors and their sequelae. The three levels of prevention in Gordon's framework are defined by the intended audience and are universal, selective, and indicated. *Universal prevention* strategies are offered to the entire population, with the goal of the intervention being to reduce the probability of the undesired outcome. *Selective prevention* strategies are targeted to

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subpopulations identified as being at elevated risk for a disorder, for example, those being deployed to a war zone. *Indicated prevention* strategies are those targeted to individuals who have been identified as having increased vulnerability or risk for a disorder based on individual screening (but who are not currently symptomatic). In Gordon's classification, Caplan's "tertiary" prevention is viewed as a treatment (Gordon, 1983).

There is growing recognition that the next stage of improving health and preventing disease will involve renewed emphasis on population-level, non-clinical strategies (IOM, 2012). Population health is defined as "the health outcomes of a group of individuals, including the distribution of such outcomes within the group" (Kindig and Stoddart, 2003, p. 381). Population health is a function not only of health care, but also of health behaviors, social and economic factors, the physical environment, and other influences (Kindig, 2011). In the context of this report, population health refers to service members and their families and the various influences that are determinants of their health.

Committee's Prevention Model

Consistent with two previous IOM committees (IOM, 1994, 2009), this committee has adopted a version of Gordon's model (universal, selective, indicated). An assessment of treatment interventions is outside the scope of this committee's charge, so it was important to the committee to distinguish prevention from treatment. Following Gordon, it defined indicated prevention interventions as those targeting high-risk individuals who do not meet the diagnostic criteria for a disorder but who do have detectable markers that indicate onset is likely. However, interventions targeting individuals with existing disorders are distinct from—although complementary to—prevention efforts and should be considered treatment. This committee is in agreement with the conclusions made by prior committees that for individuals with full-blown disorders, treatment should include prevention elements to lower the likelihood of relapse as well as associated negative outcomes; for example, treatment for individuals diagnosed with depression should include suicide prevention strategies. It should be noted, however, that individuals' psychological health conditions will affect the psychological health of their families; thus, treatments that include an ecological framework may include preventive approaches for those at risk due to the illness of a family member (e.g., there are preventive opportunities for family members of service members with PTSD or traumatic brain injury; see Tanielian et al., 2013).

Evidence-Based Prevention

As mentioned above, prevention includes strategies to reduce the prevalence or severity of negative health outcomes and promote health. Throughout this report the committee emphasizes that prevention interventions should rest on sound conceptual and empirical foundations and should be rigorously designed and evaluated. An evidence-based intervention for one condition may not be effective for another condition.

The strength of evidence of tested approaches will fall somewhere along a continuum from weak to strong. Evidence becomes "stronger" with replication and field testing in various circumstances. Even evidence from multiple studies may be judged insufficient to resolve all doubts about the likely effectiveness of an approach designed for a different population or situation (SAMHSA, 2009). This is relevant in the military context where many interventions

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have been developed and tested with civilian populations but not adapted or tested in military populations (IOM, 2013b; Lester and Flake, 2013).

SAMHSA formulated its Strategic Prevention Framework to guide the selection, implementation, and evaluation of evidence-based, culturally appropriate, sustainable prevention activities. In this framework, the strength of evidence is assessed using established scientific standards and criteria for applying those standards and comprises four major elements (SAMHSA, 2009):

1. Rigor of the evaluation design (e.g., use of appropriate intervention and control or other comparison groups, group assignment strategy, control of dosage and contextual factors that can provide an alternative explanation of the results or findings).
2. Rigor and appropriateness of the methods used to collect and analyze the data (e.g., use of appropriate data collection designs, use of measures that match outcomes targeted by the intervention, data collection without bias, and use of appropriate statistical tests).
3. The magnitude and consistency of the effects of the intervention on targeted outcomes.
4. The extent to which findings can be generalized to similar populations and settings.

Box 2-1 summarizes SAMHSA's criteria for defining "evidence-based" as well as a set of guidelines for identifying and selecting evidence-based interventions (SAMHSA, 2009).

BOX 2-1
SAMHSA Criteria

A prevention intervention that is evidence-based meets at least one of the following three definitions:

1. Inclusion in federal registries of evidence-based interventions
2. Reported (with positive effects on the primary targeted outcome) in peer-reviewed journals
3. Documented effectiveness supported by other sources of information and the consensus judgment of informed experts, as described in the following guidelines, all of which must be met:
   - Guideline 1: The intervention is based on a theory of change that is documented in a clear logic or conceptual model; and
   - Guideline 2: The intervention is similar in content and structure to interventions that appear in registries and/or the peer-reviewed literature; and
   - Guideline 3: The intervention is supported by documentation that it has been effectively implemented in the past, and multiple times, in a manner attentive to scientific standards of evidence and with results that show a consistent pattern of credible and positive effects; and
   - Guideline 4: The intervention is reviewed and deemed appropriate by a panel of informed prevention experts that includes: well-qualified prevention researchers who are experienced in evaluating prevention interventions similar to those under review; local prevention practitioners; and key community leaders as appropriate, e.g., officials from law enforcement and education sectors or elders within indigenous cultures.

SOURCE: SAMHSA, 2009.

There are other generally accepted standards of evidence for effective prevention programs. In 2005, the Society for Prevention Research published a set of standards for identifying evidence-based programs (Flay et al., 2005). There are a total of 47 standards that are organized into 3 categories: efficacy, effectiveness, and dissemination.

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Effective prevention services and programs, including those in the military, should be culturally competent by taking into account sociocultural factors, including aspects of military culture; racial, ethnic, and linguistic diversity; gender and sexual orientations; and health disabilities. Moreover, interventions should be developmentally appropriate and should reflect the life stage of the targeted population. Taking into account cultural and developmental considerations will improve the effectiveness of programs, policies, and practices selected for targeted populations (IOM, 2013c; SAMHSA, 2009).

In addition, effective prevention programs use varied methods of imparting knowledge and achieving behavior change. Active role playing or modeling, in which participants practice specific skills related to the prevention goal (e.g., communication skills for resisting drug use), is more likely to lead to behavior change than are passive learning methods. Furthermore, successful prevention programs are more likely to involve a sufficient intensity of activities (e.g., number, length, and duration of sessions). For a prevention program to be successful, these activities should be grounded in sound theory so that the outcomes are predictable, given the issues being addressed. A final characteristic of effective prevention programs is that they have a strong focus on fostering positive relationships, which serve as a powerful protective factor against psychological health problems (Nation et al., 2003).

There are a number of resources that are available to assist in the identification of evidence-based prevention programs; for example, the National Registry of Evidence-Based Programs and Practices (NREPP), a database maintained by SAMHSA of evidence-based mental health and substance abuse interventions. All programs in the publicly available database meet minimum requirements for review and have been independently assessed for quality of research and readiness for dissemination (SAMHSA, 2013b). Another resource is the National Institutes of Health and its work on prevention and implementation in mental health, which includes the National Institute of Mental Health's Dissemination and Implementation research program, and the National Institute on Drug Abuse's Prevention Research Branch (which has funded several military prevention studies).

It should be emphasized that if evidence-based interventions are to be broadly disseminated, they must be standardized, publicly available, and feasible to implement for target populations. Not all programs are equally ready for broad dissemination. The evolution from evidence generation to dissemination and implementation can take years. Examples of implementation frameworks and models to speed the development of evidence-based interventions and their ultimate transition into practice include the Research to Practice model and the Interactive Systems Framework developed by Centers for Disease Control and Prevention (Collins et al., 2012) and the pipeline framework of the Department of Veterans Affairs' Quality Enhancement Research Initiative (Stetler et al., 2008).

As discussed further in Chapter 5, effective prevention programs must, in addition to being ready for dissemination, pay attention to organizational and community engagement, provide for regular evaluations of program quality and fidelity, and have a strategy in place for maintaining sustainability.

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MULTI-LEVEL PREVENTION AND THE SOCIAL ECOLOGICAL MODEL

To be effective at addressing psychological health outcomes, prevention strategies need to be sufficiently comprehensive. The best approaches consider risk and protective factors across multiple determinants of health (Conyne, 2013). The central role of the family and community in the promotion and protection of good psychological health suggests that a multilevel conceptualization of determinants is appropriate. Based on Bronfenbrenner's ecological systems theory (Bronfenbrenner, 1979), the ecological model (see Figure 2-1) recognizes multiple levels of influence, including the individual, interpersonal, institutional, community, and society, and therefore promotes targeting multiple levels to prevent negative outcomes. This model is particularly appropriate when considering military prevention programs because of the highly structured work and social life of military personnel and their families. Both active-duty military personnel and reserve component members who are activated live and work in tight social groups with many shared norms and values, with clear regulations governing behavior, and with clearly defined junior and senior leaders.

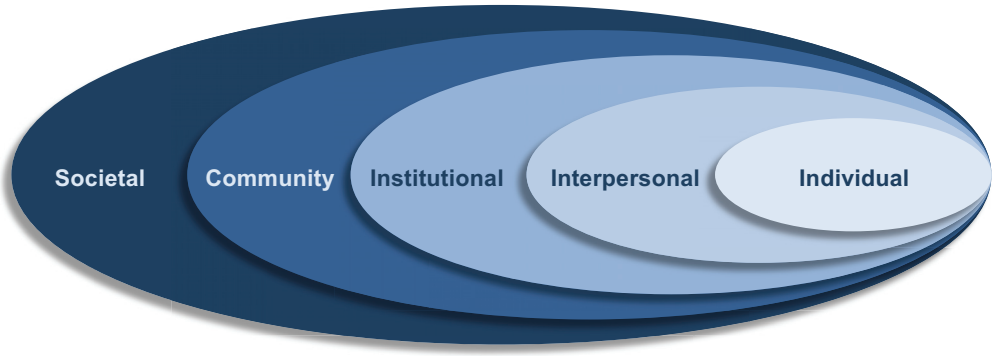

FIGURE 2-1 The ecological model.

In this context *individual level* influences are personal risk or protective factors that increase or decrease the likelihood of military personnel encountering psychological health problems. Examples include practices conducive of positive mental health attitudes and beliefs (e.g., look out for your buddy) or a personal history of witnessing or experiencing family violence. Prevention effects at the individual level aim to change individual-level risk factors. Mentoring would be one example of a specific individual approach.

Interpersonal- or relationship-level influences are factors that increase risk or are protective and that can be attributed to interactions with family, partners, and peers. Prevention strategies that address these influences include the promotion of good communication skills in marital relationships and learning to reflect on one's own experiences and how they influence parenting practices. The social circle of active-duty military personnel can be considered to include members of one's family, neighborhood, platoon, and company.

Institutional-level influences are factors that increase risk or protect based on formal and informal organizations or social environments. The institutional level for military personnel would include a service member's junior and senior leaders, the battalion, the brigade, and the individual service (e.g., Army) or, in the case of National Guard members, the state, which issues specific instructions, policies, and regulations. The military unit is a social unit (composed of peers and friends) and also provides an institutional climate that can support healthy

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relationships based on mutual support and trust or that can increase risks to personal safety if there is lack of discipline or a climate of harassment, hazing, bullying, or permissiveness toward sexual assault.

Community-level influences are factors that can increase risk through social norms that do not promote good health (such as the acceptance or encouragement of heavy drinking or other risky behavior). The community level can be defined geographically (such as a neighborhood) or by membership in a group. The community level for military personnel would include the individual service, one's membership in the group of enlisted personnel or officers, and groups defined by other distinguishing aspects of military culture. Community features and norms concerning where service members and their families live or return to can shape the risk and protective factors that affect individual behaviors and outcomes. General population studies have previously examined the role of the community in psychological health (see, for example, Gottlieb et al., 2011; Holder et al., 2000; Pronyk et al., 2006; and Trickett, 2009).

Societal-level influences are the large, macro-level factors that influence psychological health, such as gender inequality, societal norms, policies, and regulations. A no-tolerance policy for sexual violence or assault would be one example of a societal influence.

APPLICATION OF PREVENTION FRAMEWORK TO PSYCHOLOGICAL HEALTH FOR MILITARY MEMBERS AND THEIR FAMILIES

This section discusses the committee's prevention model defined above and how it applies to psychological health in the military. Nash (2011) recognized that psychological health protection, including combat and operational stress control,[1] can be considered one approach to psychological health protection. For example, the overlap between PTSD and mild traumatic brain injury is high (Kennedy et al., 2007) and argues for adopting similar approaches to recognizing and managing these two separate but related health problems. Nash and colleagues (2010) adopted a framework for defining the scope of stress outcomes and for promoting military mental health prevention based on the IOM model for classifying the spectrum of interventions for psychological disorders, which is summarized in the IOM "protractor" (IOM, 1994) shown in Figure 2-2.

[1] Programs developed and actions taken by military leadership to prevent, identify, and manage adverse combat and operational stress reactions in units; to enhance mission performance; to increase individual and unit resilience; to conserve fighting strength; to prevent or minimize the adverse effects of combat stress on members' physical, psychological, behavioral, and social health; and to return the unit or service member to duty.

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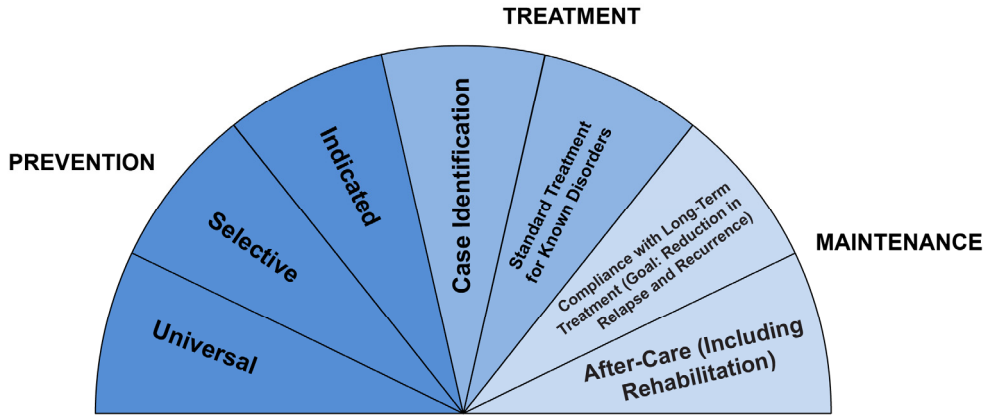

FIGURE 2-2 Intervention spectrum for psychological disorders.
SOURCE: IOM, 1994.

This model, which reflects Gordon's prevention model, described previously, and is directly relevant for promoting psychological health in the military, follows from an examination of the relationship and boundaries between the promotion of psychological health and clinical treatment. The model recognizes that prevention is part of a continuum, along with treatment and rehabilitation interventions, and it recommends reserving the term "prevention" for interventions that occur before the onset of a full clinical disorder, or "case identification." Central to this approach is a focus on preventive strategies that support the early identification of risk and the inclusion of targeted and indicated preventive interventions. For example, the recognition of increased depressive or posttraumatic stress symptoms[2] through embedded primary care screening or leadership training can facilitate the timely delivery of indicated preventive interventions in order to reduce the onset of psychological disorders. Notably, preventive interventions may also be relevant to the continuum of treatment and rehabilitation interventions when addressing individuals or systems at risk due to the presence of illness or injury, such as children or spouses of service members or veterans with PTSD or physical injuries.

As discussed in Nash et al. (2010), the IOM prevention nomenclature discriminates between selective interventions offered to at-risk persons regardless of symptom status, such as battlemind debriefing[3] for a company recently exposed to a potentially traumatic event such as mines and sniper fire, and indicated interventions offered only to persons identified as significantly symptomatic and therefore at increased risk. A review of theoretic constructs and empirical data informing efforts to prevent PTSD concluded that the most promising prevention interventions were those that were indicated based on identified symptom burden rather than merely selective based on stressors (Feldner et al., 2007).

The IOM model suggests that the military can promote more effective prevention interventions by defining the early subclinical states that confer the greatest risk for either failure of role performance or future psychological health disorders and by identifying the moderators

[2] Acute stress reaction and acute stress disorder are subthreshold or preclinical posttraumatic states that are targets for early intervention to prevent the onset of PTSD. See Nash and Watson (2012) for a discussion about the spectrum of posttraumatic stress states. See the section on PTSD in Chapter 4, for a summary of research on interventions designed prevent PTSD.

[3] Unlike other types of psychological debriefing, battlemind debriefing minimizes the degree to which traumatic events are recounted in order to avoid re-traumatization (Adler et al., 2009). For more on battlemind debriefing, see Chapter 4.

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and mediators that can best be manipulated to reduce that risk. A significant obstacle to applying this standard to operational stress research and surveillance is the lack, in our present state of knowledge, of well-defined and validated categories, dimensions, and instruments to identify preclinical operational stress cases (Nash et al., 2010). The IOM model, taken together with the report of the Defense Health Board Mental Health Task Force (DOD, 2007), suggests the following aims of operational stress research and surveillance, in the service of which concepts should be developed and metrics defined:

- To promote the identification of at-risk populations based on stressor exposures as well as on other preexisting or concurrent factors, so that selective interventions can appropriately be offered to them.
- To promote the identification of persons with preclinical symptoms and/or concurrent elevated risk factors (e.g., a history of prior PTSD in a combat exposed service member) for whom indicated prevention interventions might most usefully be offered.
- To define "cases" of preclinical operational stress based on sound conceptual reasoning and empirical support.
- To identify biological, psychological, and behavioral markers of cases of preclinical operational stress.
- To better understand the natural history of operational stress outcome trajectories, ranging from preclinical distress or dysfunction in the immediate aftermath of a high-intensity event to entrenched clinical mental disorders months or years later.
- To better understand the risk and resilience factors that mediate between stress exposures and outcomes at every point in individual stress trajectories over time.
- To evaluate outcomes of conceptually sound indicated biopsycho-social-spiritual interventions for preclinical operational stress based on uniformly applied case definition exposure regardless of symptoms.

PREVENTION WITHIN THE PHASES OF MILITARY EXPERIENCE

Different service branches use different terminology for the various phases of military life or have a different number of phases, or both, but regardless of the specific terminology, every service member goes through the same general process. Figure 2-3 illustrates the major phases of the military experience. The phases of the cycle are similar for National Guard and reserve service members, but some differences exist, such as the mobilization and demobilization processes that occur in, respectively, the pre-deployment and the post-deployment phases.

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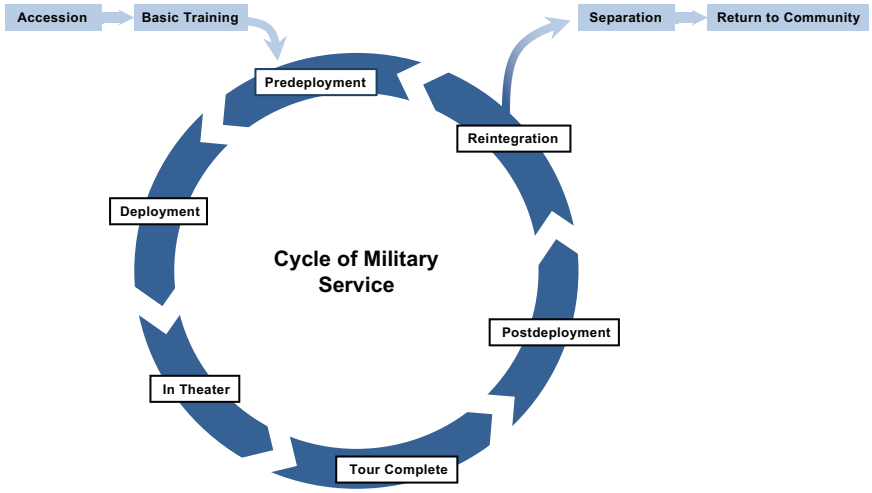

FIGURE 2-3 Phases of the military experience.

With the increased deployments and shorter dwell times that have characterized the wars in Iraq and Afghanistan, many service members experience the phases of pre-deployment, deployment, post-deployment, and reintegration multiple times. As discussed throughout this report, these phases in military life each present opportunities for identifying individuals at risk and for providing various individual- and system-level interventions.

MEASUREMENT OF PREVENTION PROGRAMS

Measurement is essential to any organizational efforts that aim to improve health, well-being, and resilience. Measurement implies the tracking of data that are essential for running a program effectively (IOM, 2013a). The committee was asked to identify the best performance measures for evaluating DOD resilience and prevention programs addressing psychological health. In its deliberations, the committee concluded that an organizing framework would help provide a structure for decision making about what is important to measure in a systematic assessment of resilience and prevention programs. Such a framework can guide DOD assessment of existing programs and the development of future prevention strategies for military populations and their families.

The committee's model incorporates three frameworks relevant to effective measurement of prevention programs in the area of psychological health: the Donabedian paradigm for assessing quality of care, the National Behavioral Health Quality Framework, and the National Quality Forum criteria. The committee also considered the utility of the Porter model, as directed by the statement of task.

The Donabedian Paradigm

Donabedian's (2005) classic paradigm for assessing the quality of care is based on a three-component approach focusing on structure, process, and outcome (see Figure 2-4). Donabedian's model proposes that each component has a direct influence on the next, as represented by the arrows in the following schematic (Donabedian, 2005).

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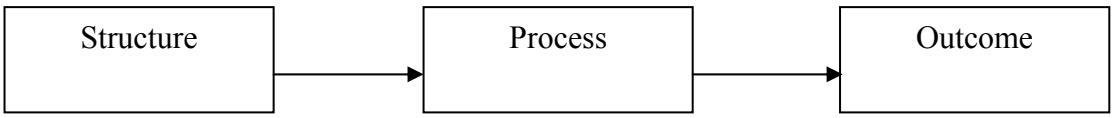

FIGURE 2-4 Donabedian paradigm.

"Structure" refers to the attributes of the settings in which providers deliver care or services, including material resources (e.g., electronic health records), human resources (e.g., staff expertise), and organizational structure (e.g., hospitals versus clinics). The premise is that the setting can be a strong determinant of care quality and that given the proper system, good care will follow. For example, one would expect care to be of higher quality when providers and staff are trained in applying evidence-based prevention interventions and competencies are assessed.

"Process" refers to the care and services that are delivered and received. This can include anything that is done as part of the encounter between an individual and the delivery system, including interpersonal processes such as providing information and emotional support as well as involving individuals in decisions in a way that is consistent with their preferences. Process measures assess the care and service that an individual received and the fidelity with which it was delivered.

"Outcome" refers to how an individual's health status is affected by contact with an intervention (e.g., reduced problem drinking following exposure to an alcohol education intervention). There are both proximal outcomes (i.e., short-term consequences) and distal outcomes (long-term consequences); an example would be an individual quitting abusive drinking (a proximal outcome), which could eventually translate into less spouse and child abuse and possibly a longer life (distal outcomes).

National Behavioral Health Quality Framework[4]

The National Behavioral Health Quality Framework (NBHQF), which was developed by SAMHSA, is a guiding framework for the identification and implementation of key psychological health quality measures. The NBHQF provides a mechanism to examine and prioritize quality prevention, treatment, and recovery elements at various levels of the health system (i.e., payer/system/plan, provider/practitioner, and patient/population levels). The NBHQF defines the six goals as follows (SAMHSA, 2013a):

1. Effective—Promote the most effective prevention, treatment, and recovery practices for behavioral health disorders
2. Person centered—Ensure that behavioral health care is person, family, and community centered
3. Coordinated—Encourage effective coordination within behavioral health care and between behavioral health care and community-based primary care providers and other health care, recovery, and social support services
4. Healthy living—Assist communities to use best practices to enable healthy living

[4] By behavioral health, SAMHSA refers to a state of mental/emotional well-being and/or actions that affect wellness. Behavioral health problems include substance use disorders; alcohol and drug addiction; and serious psychological distress, suicide, and mental disorders. See the previous section on terminology for more details on SAMSHSA's definition and the use of related terms in this report.

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5. Safe—Make behavioral health care safer by reducing harm caused in the delivery of care
6. Affordable/accessible—Foster affordable high-quality behavioral health care for individuals, families, employers, and governments by developing and advancing new and recovery-oriented delivery models

In the NBHQF, prevention and wellness are often captured as population-level measures. The NBHQF is aligned with the three aims of the National Quality Strategy[5] developed by the Department of Health and Human Services (HHS): better care for individuals, better health for populations, and reduced expenditures. Similarly, DOD has its version of a strategic framework for improving the military health system (MHS) called the Quadruple Aim, which includes a component addressing readiness. The MHS Quadruple Aim is as follows (DOD, 2013):

1. Increased readiness—Ensuring that the total military force is medically ready to deploy and that the medical force is ready to deliver health care anytime, anywhere in support of the full range of military operations, including humanitarian missions.
2. Better health—Reducing the generators of ill health by encouraging healthy behaviors and decreasing the likelihood of illness through focused prevention and the development of increased resilience.
3. Better care—Providing a care experience that is patient and family centered, compassionate, convenient, equitable, safe, and always of the highest quality.
4. Lower cost—Creating value by focusing on quality, eliminating waste, and reducing unwarranted variation; considering the total cost of care over time, not just the cost of an individual health care activity.

Population health is the focus of the initiatives and metrics associated with the better health aim.

National Quality Forum

The committee was asked to use the National Quality Forum (NQF) framework to identify the best metrics for evaluating DOD prevention and resilience efforts. NQF is a private, nonprofit organization that endorses performance measures designed to evaluate the quality of health care in the United States.[6] The evaluation framework refers to a set of standardized criteria that NQF uses to determine whether a measure is suitable for endorsement. For a particular performance measure to be endorsed by NQF, it must meet all five criteria that NQF has established:

1. Importance to measure and report: the extent to which the specific performance measure is evidence-based and is important to making concrete gains in the quality of health care and to improving health outcomes for high-impact aspects of health care.
2. Scientific acceptability of measure properties: the extent to which the performance measure produces consistent (reliable) and credible (valid) results about the quality of care

[5] The National Quality Strategy is an element of the Affordable Care Act and offers a roadmap for improving the delivery of health care services, patient health outcomes, and population health.
[6] NQF's membership consists of a wide variety of stakeholders, including consumer organizations, public and private purchasers, physicians, nurses, hospitals, accrediting and certifying bodies, supporting industries, and health care research and quality-improvement organizations.

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3. Feasibility: data elements that are readily available or can be collected without undue burden.
4. Usability and use: the extent to which potential audiences (e.g., consumers, purchasers, providers, or policy makers) are using or could use performance results for both accountability and performance improvement.
5. Comparison to related or competing measures: where a measure meets the above criteria and there are related measures or competing measures, the measures are compared to address harmonization or selection of the best measure.

Although NQF-endorsed performance measures are widely used in public-reporting, quality-improvement, and payment programs, the committee determined that the endorsed measures have significant limitations when it comes to assessing psychological health prevention and resilience programs. The NQF model of measurement is based on standards of clinical care that are promulgated by clinical guidelines. Therefore, the endorsed measures are clinically focused and primarily designed to improve the quality of care delivered to patients as part of a health care system or in inpatient or ambulatory settings. They do not address non-clinical prevention interventions such as campaigns, mentoring programs, or educational workshops. In addition, of the more than 700 measures that NQF has endorsed, only a small proportion—approximately 45—are measures related to psychological health (NQF, 2013). Few if any address the areas of child psychological health, family adaptive functioning, coping (individual and family), and individual positive functioning. Chapter 5 presents the committee's review of NQF-endorsed measures.

The Porter Model

In addition to identifying the best metrics for resilience and prevention programs, the committee was asked to consider the potential utility of the Porter model and the psychological outpatient clinical pathway for PTSD among service members. The Porter model (Kaplan and Porter, 2011) is an approach for measuring value in health care developed by Michael Porter and his colleagues. The model measures health care costs at the level of the individual patient with a given medical condition over a full cycle of care and compares those costs to outcomes. On the basis of its review of the literature about Porter's value model (Kaplan and Porter, 2011; Porter, 2008, 2010; Porter et al., 2013), the committee concluded that the framework is applicable to the treatment pathways; however, it is not an appropriate model for assessing the value of prevention interventions. Furthermore, the feasibility of this task is impeded by the lack of sufficient evidence surrounding current PTSD- and resilience-related programs and the outcomes on psychological health. For those reasons, the committee did not include the Porter model in its recommendations.

A previous IOM committee examined frameworks for assessing the value of community-based, non-clinical interventions reaching individuals at all risk levels. For the assessment of value, that committee recommended a framework that proposes comprehensive consideration of benefits and harms in the context of health, community well-being, and community process as well as an inclusive and comprehensive consideration of the resources used (IOM, 2012). That model is consistent with this committee's emphasis on the importance of social determinants of health.

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MODEL FOR PREVENTION PROGRAM DEVELOPMENT AND MEASUREMENT

Figure 2-5 shows a model that the committee developed to organize the various concepts related to prevention program development and measurement that have been discussed in this chapter, including evidence-based prevention, types of prevention interventions, the socioecological model, and performance measures. The model is not intended to capture all of the complex pathways that characterize program development and measurement. Instead, the model serves as a general guide for thinking about the complex process of identifying the best metrics for assessing DOD prevention programs. In Chapter 5 the committee refers to this model when it considers what DOD should measure in assessing its resilience and prevention programs.

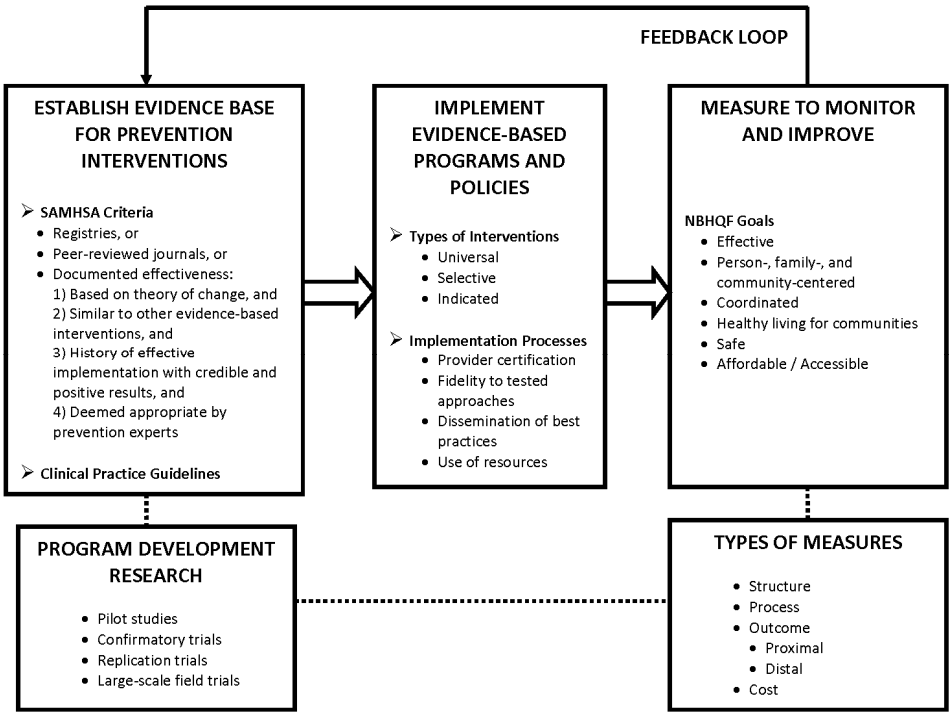

FIGURE 2-5 Model for prevention program development and measurement.
NOTE: SAMHSA is the Substance Abuse and Mental Health Services Administration.

The box in the figure labeled "Establish Evidence Base for Prevention Interventions" indicates that empirical evidence for the intervention of interest is foundational to implementation. Recommendations for the identification and selection of evidence-based prevention interventions are embodied in the SAMHSA criteria (see Box 2-1 for details) as well as in clinical practice guidelines, which serve as a standard for identifying clinically-based practices, such as screening. A dotted line leads from this box to the "Program Development Research" box, which identifies the types of research studies for evaluating the intervention and collecting the evidence necessary to demonstrate the efficacy and effectiveness of interventions. As illustrated by the box labeled "Types of Measures," evaluation measures can include a mix of structure, process, outcome, and cost measures.

The box labeled "Implement Evidence-Based Programs and Policies" represents the process of using evidence to implement various types of prevention strategies—universal, selective, and indicated—that focus on the characteristics of the intended audience. Translating

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evidence into a successful prevention program requires paying attention to myriad implementation processes that ensure the integrity, fidelity, and cost-effectiveness of the program; see Chapter 5 for a discussion of implementation processes.

The box labeled "Measure to Monitor and Improve" lists opportunities to measure various dimensions of program performance. The committee chose the six domains of SAMHSA's NBHQF as a starting point because the framework specifically addresses psychological health and is consistent with the measurement priorities set by other federal agencies (e.g., HHS and DOD), research entities (e.g., IOM), and influential professional organizations (e.g., Institute for Health Improvement). The NBHQF domains for measurement emphasize prevention that is effective (based on evidence); that is person, family, and community centered; coordinated; that enables healthy living; that is safe (reduces harm caused in the delivery of care); and that uses affordable and accessible delivery models. As illustrated by the dotted line leading to "Types of Measures," program performance can be assessed using structure, process, outcome, and cost measures. Robust measures meet methodological standards to ensure valid and reliable measurement, such as the criteria defined by NQF that are discussed above.

The feedback loop in the diagram represents the cycle of using measurement results to continuously inform the evidence base and to improve program implementation.

CONCLUSION

This chapter lays the groundwork for concepts discussed in later chapters of the report. Believing that prevention should address both risk reduction and health promotion, the committee sees "psychological health" as serving as the foundation for overall health and wellness and as being protective against the development of mental illness and substance use disorders. Prevention is a set of strategies, complementary to treatment, aimed at achieving a state of good psychological health, particularly in the context of population mental health. The committee has adopted a conceptual approach that emphasizes that these risk and protective factors may exert influence at multiple levels (individual, family, community, institution) and also may have influence across the boundaries of specific conditions, essentially at the preclinical level.

Prevention interventions should rest on sound conceptual and empirical foundations and should be rigorously designed and evaluated. To be effective at addressing psychological health outcomes, prevention strategies need to be sufficiently comprehensive. The best approaches consider risk and protective factors across multiple determinants of health. There are many distinct phases of military life, and these phases present opportunities for identifying individuals at risk and for providing various individual- and system-level interventions.

On the basis of its review of various models for assessing the effectiveness and performance of prevention programs, the committee found that Porter's value model is applicable to the treatment pathways; however, it is not an appropriate model for assessing the value of prevention interventions. The committee concluded that an organizing framework would help provide a structure for decision making about what is important to measure in a systematic assessment of resilience and prevention programs. Such a framework can guide DOD's

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assessment of existing programs and the development of future prevention strategies for military populations and their families.

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3

UNDERSTANDING PSYCHOLOGICAL HEALTH IN THE MILITARY

This chapter provides information essential to understanding the psychological health of military service members and their families. The chapter is divided into five sections. It begins with an overview of the demographic characteristics of U.S. armed forces personnel, both for the total force and for the deployed population. The second section provides a description of the major psychological health consequences experienced by service members deployed in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). That discussion includes the definitions and prevalence data of the various conditions as well as details about the associated risk factors and protective factors associated with these health consequences. The third section examines the effects of deployments on the psychological well-being of spouses and children of service members deployed to OEF and OIF. Where possible, those effects are discussed in the context of the phases of deployment. The fourth section summarizes the processes that the Department of Defense (DOD) uses to assess psychological health risks in the military as part of its effort to provide prevention and treatment services. The fifth section is an overview of the psychological health services that the military makes available to service members and their families.

In this chapter the committee has summarized and included relevant information from three recent IOM reports: *Returning Home from Iraq and Afghanistan: Assessment of Readjustment Needs of Veterans, Service Members, and Their Families* (IOM, 2013a), *Treatment for Posttraumatic Stress Disorder in Military and Veteran Populations: Initial Assessment* (IOM, 2012), and *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b).

The focus of this chapter is on military personnel and their families, many of the same psychological health issues that affect service members persist in veterans or can manifest themselves after separation from military service. For more information about the scope of these problems in the veteran population, see *Returning Home from Iraq and Afghanistan* (IOM, 2013a).

As with that previous report, this report generally does not include comparisons to the civilian population because the military members are likely to differ from civilians in observable and unobservable dimensions. For example, the military is a highly selected population, and applicants must meet a range of eligibility criteria and have a desire to take on the duties of military service. To the extent that these differences may themselves be associated with a health outcome, direct comparisons between the civilian and military populations will be misleading. That said, some civilian studies are included here, specifically when they are useful for interpreting key findings or when research on a particular issue is scant in the military population.

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CHARACTERISTICS OF THE ARMED FORCES

The Total Force

At the end of 2011 there were nearly 2.4 million total service members in the armed forces (1.5 million in the active component and 856,000 in the reserve component). The Army is the largest branch, with 38.6 percent of the active component. The Marine Corps, the smallest branch, makes up 13.8 percent of the active force. In the reserve component, the Army National Guard is the largest branch (42.2 percent), followed by the Army Reserve (23.9 percent). The Marine Corps Reserve is the smallest branch in the reserve component (4.6 percent) (DOD, 2012a).

Sociodemographically, the active and reserve components are, by most characteristics, similar (see Table 3-1). For example, in 2011 the active component was 69.8 percent white, 16.9 percent African American, and 11.2 percent Hispanic, while the reserve component was 75.7 percent white, 15.0 percent African American, and 9.8 percent Hispanic. Similarly, 85.5 percent of the active component was male, and 14.5 percent was female, while in the reserve component 82.0 percent was male, and 18.0 percent was female. Additionally, both components have similar distributions for educational achievement and pay grade. Just over 44 percent of the active component and 43 percent of the reserve component has children (DOD, 2012a).

Some characteristics of the two components are different. The active component is younger, for instance, with 43.2 percent of the force under 25, compared to 33.5 percent of the reserve component. Among those from 26 to 40 years of age, the two components are similar in makeup; however, 8.8 percent of active-duty service members are 41 or older, compared to 23.8 percent of the reserve component. More than half (56.6 percent) of the active component is married, compared to 47.7 percent of the reserve component (DOD, 2012a).

TABLE 3-1 Sociodemographic Characteristics of Active-Duty and Reserve Component Personnel, Fiscal Year 2011

Sociodemographic Characteristic	Reserve Component (N=847,934) (%)	Active-Duty Component (N=1,411,425) (%)
Service Branch		
Army	24.1	39.8
Army National Guard	42.6	
Navy	7.6	22.7
Marine Corps	4.7	14.2
Air Force	8.4	23.3
Air National Guard	12.4	
Gender		
Male	82.0	85.5
Female	18.0	14.5
Race		
White	75.7	69.8
African American	15.0	16.9
Asian	3.1	3.8
American Indian or Alaska Native	0.9	1.6
Native Hawaiian or Other Pacific Islander[a]	0.6	0.6
Multiracial[a]	0.8	2.5
Other/Unknown	4.0	4.9

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Sociodemographic Characteristic	Reserve Component (N=847,934) (%)	Active-Duty Component (N=1,411,425) (%)
Ethnicity		
Hispanic	9.8	11.2
Education		
No high school diploma	2.4	0.5
Less than a bachelor's degree[b]	76.8	79.1
Bachelor's degree	14.3	11.3
Advanced degree	5.5	7.0
Unknown	1.0	2.1
Age		
25 or younger	33.5	43.2
26–30	19.0	22.8
31–35	12.8	14.3
36–40	11.3	10.9
41 or older	23.8	8.8
Marital Status		
Not married[c]	52.0	43.4
Married	47.7	56.6
Dual military marriages[d]	2.6	6.5
Family Status		
With children	43.3	44.2
Without children	56.7	55.8
Pay Grade[e]		
E1–E3	19.1	23.8
E4–E6	54.5	49.8
E7–E9	11.7	9.4
W1–W5	1.4	1.4
O1–O3	6.7	9.2
O4–O10	6.8	6.3

NOTE: Reserve component refers to the Selected Reserve of DOD, which comprises traditional drilling Reservists and excludes Department of Homeland Security's Coast Guard Reserve. Percentages may not total 100 due to rounding.
[a] The Army does not report "Native Hawaiian or Other Pacific Islander" or "Multiracial."
[b] Includes individuals with at least a high-school diploma and possibly additional education less than a bachelor's degree (e.g., associate's degree).
[c] Includes never married, divorces, annulled, widowed, and unknown cases.
[d] A dual-military marriage refers to an active-duty or reserve component member who is married to another active-duty or reserve component member. The Army National Guard does not report dual military marriages.
[e] Pay grades are divided into three groups: Enlisted (E), Warrant Officer (W), and Officer (O). Within each group, 1 is the lowest pay grade.
SOURCE: DOD, 2012a.

The Deployed

More than 2.6 million service members have been deployed in support of OEF/OIF since September 11, 2001 (IOM, 2012). As of December 31, 2010, more than half of those deployed were in the Army (including active and reserve components). Nearly one-third of those deployed were in the active-component Army. National Guard and reserves across branches constituted

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one-third of those deployed. More than 85 percent of those deployed were enlisted, and 12 percent were women. However, deployed women were not evenly distributed across services and pay grades. For example, deployed women were only 3.2 percent of E1–E4 in the Marine Corps, but 20.5 percent of O1–O3 in the Air Force. The average age of those deployed was 33.4 years. Deployed Marine Corps were the youngest on average (29.5 years) and deployed Air Force were the oldest (35.8 years). Those deployed from the reserves and National Guard were older on average (36 years) than active-component service members (32 years). More than two-thirds of the deployed had a high-school degree or equivalent, and more than 30 percent had at least some college education. Nearly 60 percent of those deployed were married, and nearly half had dependent children, 1.97 on average (IOM, 2013a).

By the end of 2010, deployed service members had been deployed an average of 1.7 times: 57 percent once, 27 percent twice, 10 percent three times, and 6 percent four or more times. Those in the National Guard and reserves had fewer multiple deployments than those in the active component. The average length of deployments was 7.7 months, with the average length in the various services ranging from 4.5 months in the Air Force to 9.4 months in the Army. The average cumulative length of deployments for those who deployed multiple times was 16.9 months. The average dwell time between deployments was 21 months.

Military Families

Military families are more diverse than most statistics or research might suggest. For example, many families do not meet the criteria used for official counts of military families and, therefore, are not included in the data (for example, common-law spouses). As a result, this chapter reports information on only a subset of military families: those of service members in heterosexual marriages and parents with dependent children or adult dependents who live with them at least part of the time. The committee views the military's definition of family as narrow and out of step with the diversity in family arrangements in modern society. The committee did not find demographic data about parents or siblings of service members (who are sometimes relied upon for important caregiving responsibilities), unmarried partners, stepfamilies, children who are not legal dependents (for example, stepchildren or nonresidential children), gay families, service members acting as substitute parents, or other nontraditional family configurations. All DOD demographic data on military families and nearly all published studies focus on heterosexual, married military families. This section summarizes the limited family data reported by the 2011 DOD Demographics Profile of the Military Community (DOD, 2012a).

Table 3-2 summarizes the available demographic data on military families. At the end of 2011, the country's 1,411,425 active-duty service members had 1,984,450 family members, and the country's 847,934 reserve members had 1,146,358 family members. As stated above, 44.2 percent of active-duty members and 43.3 percent of reserves have children, and those in both components who have children have an average of 2.0. Among active-duty members, 5.3 percent are single with children, and among reserves, 9.4 percent are single with children. Many military children (42.6 percent), of active-duty members are under 5 years old. Among children of reserve members, 28.8 percent are under age 5, which is logical considering that the reserve component is an older population than the active component (DOD, 2012a).

There are 726,500 spouses of active-duty service members, more than half of whom are under age 30. The unemployment rate among spouses of active-duty service members is higher

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than the national unemployment rate: 15 percent of spouses of active-duty members report that they are not currently in the labor force but are looking for work (DOD, 2012a). The committee was unable to find employment statistics for spouses of reserve component members.

TABLE 3-2 Summary of Selected Family Demographic Characteristics for DOD Active-Duty and Selected Reserve Members

Demographic Characteristic	Active-Duty Component (percent or number) (N=1,411,425)	Reserve Component (percent or number) (N=847,934)
Percent married	56.6%	47.7%
Percent in dual-military marriages	6.5%[a]	2.6%[b]
Percent of married members in dual-military marriage	11.5%	5.5%
Percent with children (overall)	44.2%	43.3%[d]
Percent married to civilian, with children	36.1%	32.5%
Percent dual-military with children	2.8%	1.5%
Percent single with children	5.3%	9.4%
Average number of children of members with children	2.0	2.0
Percent of children ages 0 to 5	42.6%	28.8%
Percent married to civilian with no children	14.0%	12.7%
Percent dual-military with no children	3.7%	1.2%
Percent single with no children	38.1%	42.9%
Percent with family responsibilities[c]	59.0%	56.4%
Average number of dependents of members with dependents	2.4	2.4

NOTE: Children category includes minor dependents age 20 or younger or age 22 or younger who are enrolled as full-time students.
[a] Of these, 81.8 percent are enlisted members and 18.2 percent are officers.
[b] Of these, 76.1 percent are enlisted members and 23.9 percent are officers.
[c] Members are classified as having family responsibilities if they have a dependent (spouse, children, other dependents) registered in the Defense Enrollment and Eligibility Reporting System.
[d] N=855,867 (includes Coast Guard).
SOURCE: DOD, 2012a.

PSYCHOLOGICAL HEALTH CONSEQUENCES OF DEPLOYMENT

Service Members

Compared with previous conflicts, during OEF and OIF the all-volunteer military has experienced more numerous deployments of individual service members; has seen increased deployments of women, parents of young children, and reserve and National Guard troops; and in some cases has been subject to longer deployments and shorter times at home between deployments. Many of those who have served in OEF and OIF have readjusted with few difficulties, but others have had problems in returning home, reconnecting with family members, finding employment, and returning to school. Lingering health problems related to combat, including traumatic brain injury (TBI) and posttraumatic stress disorder (PTSD), can make reintegration more difficult.

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Although the vast majority of OEF and OIF veterans felt proud of their service (96 percent), felt they became more mature as a result of their service (93 percent), and built self-confidence while serving (90 percent), 44 percent have reported readjustment difficulties, 48 percent strains on family life, 47 percent outbursts of anger, 49 percent posttraumatic stress, and 32 percent an occasional loss of interest in daily activities (Pew Research Center, 2011).

As early as 2004 it was estimated that over one-fourth of troops returning from OEF and OIF were suffering from psychological health disorders (Hoge et al., 2004). Later estimates suggested that one-fifth of the troops reported symptoms of PTSD or depression, and about the same fraction reported a probable TBI during deployment (Tanielian and Jaycox, 2008). Recent RAND Corporation reports note that a full one-third of returning OEF and OIF service members reported symptoms of psychological health or cognitive problems (Hosek, 2011; Tanielian and Jaycox, 2008). RAND reports that 18.5 percent of a representative sample of returning service members met the diagnostic criteria for PTSD or depression, 19.5 percent reported a probable TBI during deployment, and 7 percent met the criteria for a psychological health problem and TBI (Tanielian and Jaycox, 2008).

This section discusses the leading health consequences of deployment, including TBI, PTSD, major depression, substance use disorder, and suicide. The committee focused on these conditions because many of the DOD prevention programs are intended to prevent these particular conditions or to mitigate negative outcomes that may be associated with them. Although this chapter is organized by condition, the committee recognizes that the conditions discussed often do not occur in isolation. Many conditions addressed in this report share the same risk factors, are risk factors themselves for other conditions, and frequently co-occur. For example, PTSD has common risk factors with depression, is a risk factor for depression, and commonly co-occurs with depression and TBI (IOM, 2013a). Likewise, suicidality is higher among individuals with all of these disorders than in those without them. Tobacco use and nicotine addiction, although not addressed in this report, are also more common in individuals with depression, PTSD, substance use disorders, and other psychological conditions than in individuals without them (IOM, 2009a).

Based on the literature of psychological health disorders in OEF and OIF active-duty members and veterans, the 2013 IOM report *Returning Home from Iraq and Afghanistan* concluded that our understanding of the health consequences of service in Iraq and Afghanistan remains incomplete; even simple questions such as prevalence rates of physical and psychologic morbidity after military service in Iraq or Afghanistan continue to lack precision. For example, the literature reviewed by the committee that prepared that report found PTSD prevalence rates ranging from approximately 1 percent to 30 percent in different studies. Those widely varying prevalence estimates have added to the public's confusion, have not been informative for health care planning, and fail to assist in projecting long-term reintegration needs. The committee noted that these differences might be explained by variations in study design factors, including population sampling strategy; data collection instruments and methods, deployment characteristics (e.g., combat exposure; length of deployment, number of deployments, and time elapsed after deployment), and demographic and service-related characteristics (e.g., active-duty versus reserves and National Guard, military training and occupation, and service branch). In particular, variations in assessment strategies, such as measuring documented psychological health diagnoses among those seeking health care versus anonymous screening, can yield vastly different results, which highlights some of the challenges to accurate identification of those who

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may benefit from intervention. It has proved difficult to account for, understand, and reconcile those differences in order to provide the insights and answers needed for effective public policy, prevention, treatment, and reintegration.

Traumatic Brain Injury

Although not mentioned in the committee's charge, TBI is a common injury among the military population—particularly among the deployed—and it frequently co-occurs with PTSD and depression (IOM, 2013a). The DOD and the Veterans Brain Injury Center estimate that brain injuries account for 22 percent of all OEF and OIF combat casualties, whereas in Vietnam brain injuries accounted for only 12 percent of combat casualties (Summerall, 2012). Furthermore, only a fraction of TBIs in the military are attributable to combat. Although several definitions of TBI exist, the committee will use the definition developed by DOD and the Department of Veterans Affairs (VA) as it focuses on service members and veterans.

The DOD–VA common definition of TBI is

> A traumatically induced structural injury and/or physiological disruption of brain function as a result of an external force that is indicated by new onset or worsening of at least one of the following clinical signs, immediately following the event (DOD, 2009a):
>
> - any period of loss of or a decreased level of consciousness;
> - any loss of memory for events immediately before or after the injury;
> - any alteration in mental state at the time of the injury (confusion, disorientation, slowed thinking, etc.);
> - neurological deficits (weakness, loss of balance, change in vision, praxis, paresis/plegia, sensory loss, aphasia, etc.) than may or may not be transient; and
> - intracranial lesion.

TBI is often classified according to severity: mild, moderate, or severe. "Mild TBI" and "concussion" are often used interchangeably. This section will focus on mild TBI, which accounts for the overwhelming majority of all TBIs sustained by the armed forces. Between 2000 and August 2013, of the 280,734 TBIs sustained in the armed forces, 231,386 (82.4 percent) were mild TBIs (Defense and Veterans Brain Injury Center, 2013).

Prevalence

Three recent studies have attempted to measure the prevalence of mild TBI in OEF and OIF service members. The RAND Corporation completed a telephone survey of 1,938 soldiers to determine probable TBI and other psychological health outcomes. Probable TBI was assessed using the Brief Traumatic Brain Injury Screen. If a soldier reported that he or she was injured during deployment and experienced "being dazed, confused, or seeing stars," "not remembering the injury," or "losing consciousness," he or she was considered to have a probable TBI. The weighted results showed that 19.5 percent had a probable TBI (Tanielian and Jaycox, 2008).

In another study, all 3,973 members of a combat brigade returning from a 1 year deployment to Iraq were screened for TBI using the Warrior Administered Retrospective Casualty Assessment Tool (WARCAT). The WARCAT is a self-administered tool that asks detailed questions about sustained injuries. It asks about common injuries that cause TBI, altered mental states, and symptoms following the injury (physical and psychological). The WARCAT

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results are triangulated with medical records and witnesses. In all, the results from this study indicate that 22.8 percent of the brigade had probably sustained a mild TBI while deployed (Terrio et al., 2009).

A longitudinal study of a National Guard Brigade found a lower rate of mild TBI than in the above-mentioned studies (Polusny et al., 2011). The researchers used an adapted version of the Defense and Veterans Brain Injury Center screening tool to determine mild TBI in a large group of National Guardsmen. The screen was administered in Iraq 1 month before the soldiers returned from deployment and again 1 year after their return. At the initial assessment, 9 percent of soldiers were found to have a mild TBI. The follow-up assessment, however, revealed that 22 percent of soldiers had mild TBI. It was not clear if the dramatic increase after 1 year was due to recall bias or to soldiers filtering their responses to ensure they remained with their unit and were not delayed in returning home, or possibly to the poor reliability of the screening tool (Polusny et al., 2011).

Comorbid Conditions

Depression

Depression and symptoms of depression are often found in those who have brain injury. In a study of OEF and OIF veterans, 31.8 percent of those with a TBI diagnosis suffered from major depression (Tanielian and Jaycox, 2008). In another study of 2,525 Army infantry soldiers 3 to 4 months following their return from a year-long deployment to Iraq, Hoge et al. (2008) found that among those who had experienced loss of consciousness, 22.9 percent also suffered from major depression. Among those who experienced an altered mental state due to an injury (but remained conscious), 8.4 percent also suffered from major depression.

Substance Use Disorders

It is unclear if survivors of mild TBI are at increased risk for substance use disorders. *Returning Home from Iraq and Afghanistan* (IOM, 2013a) summarizes the conflicting evidence and notes that most studies that look at the association between substance use and brain injury, examine all brain injuries and either do not indicate the severity of the injury or include injuries of all severities. A 2009 IOM report, *Gulf War and Health, Volume 7: Long-Term Consequences of Traumatic Brain Injury* (IOM, 2009b), concludes that there is limited but suggestive evidence of an association between TBI (of all severities) and decreased drug and alcohol use, relative to pre-injury use, in the 1 to 3 years following the TBI. A civilian study of TBI found that drinking and reported problems with alcohol were less 1 month after the injury than they had been before the injury but that they had increased somewhat after 1 year (although not to pre-injury levels). Those with more severe TBI decreased their alcohol use significantly more than those who had milder TBIs (Dikmen et al., 1995).

Suicide

In a study using Danish hospitalization data on civilians admitted to a hospital with a concussion, cranial fracture, or a cerebral contusion or traumatic intracranial hemorrhage, Teasdale and Engberg (2001) looked at how suicide incidence among these civilians compared with the rate in the general population. The authors screened the patients in the national death register and found an increased incidence of suicide in the TBI groups, including those with mild

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TBI, when compared to the general population. In a study of active-duty service members, however, Skopp et al. (2012b) failed to find such an association between mild TBI and suicide. Those authors suggested that the difference in results between their study and that of Teasdale and Engberg may be due to a difference in the nature of the TBI experienced by the different populations in the two studies. In civilians TBIs are often associated with risky behaviors, whereas in the military mild TBIs often occur as the result of unpredictable incidents during training or combat.

Posttraumatic Stress Disorder

Although the 2009 IOM report found limited or suggestive evidence of an association between mild TBI and PTSD, the overlapping symptomology of TBI and PTSD complicates the relationship between the two conditions. *Returning Home from Iraq and Afghanistan* (IOM, 2013a) reported that multiple studies have shown that OEF and OIF veterans often display signs of PTSD (Carlson et al., 2010; Hill et al., 2009; Hoge et al., 2008; Kennedy et al., 2010; Schneiderman et al., 2008). A RAND study of 1,965 OEF and OIF participants found that 19.5 percent had probable TBI and 13.8 percent had probable PTSD. Of those with TBI, 33.8 percent screened positive for PTSD (Tanielian and Jaycox, 2008). Hoge et al. (2008) also found a significant association between TBI and PTSD, with 44 percent of soldiers with loss of consciousness meeting criteria for PTSD.

Posttraumatic Stress Disorder

PTSD is a psychiatric disorder that can develop after the direct personal experience of or the witnessing of an event that poses a perceived threat of death or serious injury. The *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition* (*DSM-5*) now categorizes PTSD symptoms occurring in response to a trauma in four clusters: intrusion symptoms (re-experiencing symptoms such as flashbacks, nightmares, and reactivity to trauma reminders); avoidance (of trauma-related thoughts, feelings, or external trauma reminders); negative alterations in cognitions and mood (e.g., negative beliefs and emotions, self-blame and constricted affect); and arousal and reactivity (e.g., hypervigilance, irritability, startle response, sleep disturbance, and concentration difficulties). According to the *DSM-5*, if the symptoms persist for 3 days to 4 weeks, the diagnosis is acute stress disorder, while if the symptoms endure for more than 1 month, the diagnosis is PTSD. The manual states that the onset of PTSD usually begins within 3 months of exposure to the traumatic event but that it may occur months later. "Delayed expression" refers to cases in which some symptoms appear soon after the trauma but take months (or even years) to meet the full diagnostic criteria (APA, 2013). Military-related traumatic events that may trigger PTSD include exposure to war, threatened or actual physical assault, threatened or actual sexual assault, being taken hostage, torture, incarceration as a prisoner of war, and motor vehicle accidents (APA, 2013). *DSM-5* also considers certain indirect exposures through professional duties such as clearing body parts, first-responder activities, and accidental or violent death of a friend or relative to be exposures.

Individuals with PTSD often display a heightened startle response in reaction to unexpected stimuli (such as a loud noise or unexpected movement). Additionally, many with PTSD have difficulty remembering daily events and have difficulty concentrating or staying focused on tasks (APA, 2013). PTSD can be chronic and have no remission, or it can be recurrent and have periods of remission and recurrence (Friedman, 2003).

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Prevalence

PTSD is one of the disorders most commonly diagnosed in U.S. combat troops after their deployment to Afghanistan and Iraq. In a review of the literature, the IOM (2013a) reported that PTSD prevalence estimates range from 5 percent to 30 percent among service members deployed in OEF or OIF (Booth-Kewley et al., 2010; Hoge et al., 2004, 2007; MHAT-III, 2006; Smith et al., 2008; Thomas et al., 2010). The estimates depend on when the evaluation was conducted, the diagnostic method used (for example, self-reported symptoms versus diagnosis by a health care professional), and the definition used for PTSD. Among service members with injuries sustained in OEF or OIF combat, reported PTSD prevalences range from 16.2 percent to 43.9 percent, depending on the injury. Among those who saw combat but were not injured, prevalence was 9.1 percent (Hoge et al., 2008). The prevalence may also vary according to whether the assessment method included a determination of whether the full *DSM* criteria for PTSD diagnosis were met as opposed to a briefer positive screen for PTSD.

The figures cited above clearly indicate variability in estimates of PTSD prevalence in the OEF and OIF military populations. Ramchand et al. (2010) reviewed 29 studies of OIF and OEF service members to characterize the variability in PTSD estimates and look for possible sources of the variability. The researchers found that the studies could be divided into studies of military personnel who were seeking treatment (for any injury) and those who were not seeking treatment. Studies of non-treatment-seeking service members generally provided PTSD prevalence estimates of about 5 to 20 percent, while studies of treatment-seeking service members yielded estimates as high as 50 percent on the basis of screening, although rates were typically lower when actual diagnoses were made. Recent research indicates that 23 percent of those seeking treatment receive a PTSD diagnosis. The authors found that the variability in PTSD estimates was probably related to representativeness and case definitions. A further factor may be the level of anonymity, which affects the PTSD estimates through a combination of factors such as concerns about stigma and worries about how a PTSD diagnosis and treatment could affect one's standing with peers and command, influence deployment decisions, and damage one's military career. Most studies have used post-deployment convenience samples that likely missed those service members most likely to have psychological health problems, such as those with serious injuries or those who have separated from service. The healthiest service members would also likely be excluded in many of the post-deployment studies because they are more likely to deploy multiple times and be in theater and thus unavailable for study participation. Furthermore, the studies used different definitions of PTSD (Tanielian and Jaycox, 2008). *Returning Home from Iraq and Afghanistan* (IOM, 2013a) concluded that using different definitions most likely contributes to much of the variability observed in the various studies and that improving the estimates of prevalence will require the use of a consistent set of criteria for PTSD and a standardized assessment.

Risk Factors

Many factors are associated with an increased likelihood of PTSD. Specifically, the IOM (2013a) reported that being under age 25, being single, and being of junior rank are risk factors for PTSD in OEF and OIF service members and veterans (Lapierre et al., 2007; Phillips et al., 2010; Seal et al., 2009). On the other hand, National Guardsmen over age 40 had significantly higher risks of PTSD (adjusted relative risk [ARR] =1.18; 95% confidence interval [CI] = 1.11–1.27) than National Guard and reserve veterans under age 25 (adjusted for gender, age group,

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race/ethnicity, marital status, rank, service branch, multiple deployments, and time period) (Seal et al., 2009). Among those that deployed, the IOM (2013a) found that certain deployment-related stressors (such as troubles at home, lack of privacy, and problems with leadership), combat exposure, prior traumatic exposure, military sexual trauma, a history of psychological health conditions, and severe physical injury were all risk factors for PTSD. These are discussed individually below.

Combat Exposure

As expected, combat exposure and PTSD are linked. In their review of 29 studies of OIF and OEF military personnel, Ramchand et al. (2010) found that the only factor that was consistently significantly associated with PTSD was combat exposure and that other factors that often appear to be associated with PTSD may simply be surrogates of combat exposure.

The types of combat experiences that are associated with PTSD include killing someone (Maguen et al., 2011), the threat of personal harm (Kolkow et al., 2007; Peterson et al., 2010; Phillips et al., 2010), witnessing someone from one's unit or an ally unit being seriously wounded or killed (Pietrzak et al., 2011), and experiencing "friendly" fire (Pietrzak et al., 2011).

Deployment-Related Stressors

Deployment and deployment-related stressors, including concerns back home, issues with leadership, and lack of privacy, have been associated with increased risk of PTSD (Booth-Kewley et al., 2010; Seal et al., 2009). Vasterling et al. (2010) found that deployed soldiers who had high combat exposure (according to the Deployment Risk and Resilience Inventory scale) showed the greatest increase in PTSD symptoms. Moreover, some investigations have indicated that National Guard soldiers suffer disproportionately from deployment (Milliken et al., 2007; Thomas et al., 2010). Deployment-related factors associated with National Guardsmen and PTSD (and depression) include financial hardship, job loss, and lack of employer support (Riviere et al., 2011).

Traumatic Exposures

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

Military sexual trauma Military sexual trauma (MST) is defined as severe or threatening sexual harassment and sexual assault that occurs while serving in the military (Kimerling et al., 2007). MST appears to be an important risk factor for PTSD (Dutra et al., 2011; Himmelfarb et al., 2006; Maguen et al., 2012; Suris and Lind, 2008). After reviewing electronic medical records of 108,149 male and 17,580 female OEF and OIF veterans, Kimerling et al. (2010) found that those who were victims of MST were significantly more likely to have received a PTSD diagnosis and to have other psychological health disorders, including depression, other anxiety disorders, and substance use disorders than those who did not have a

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history of abuse. Odds ratios remained significant after adjustment for other significant associations, and the effect sizes in women were substantially greater than those in men, indicating that MST has a greater impact on women than on men.

A representative survey of DOD service members found that in 2012, 6.1 percent of active-duty women and 1.2 percent of active-duty men experienced unwanted sexual contact, defined as sexual touching only, attempted or completed intercourse, or attempted or completed anal or oral sex (DOD, 2013a). Sixty-seven percent of women and 73 percent of men reported that the unwanted sexual contact occurred at their military installations, while 19 percent of women and 26 percent of men reported that the unwanted contact occurred while they were deployed to a combat zone. Forty-seven percent of women and 19 percent of men reported that the perpetrator was using alcohol during the incident. Thirty-eight percent of women and 17 percent of men indicated the perpetrator was of higher rank/pay grade but not in their chain of command, while 25 percent of women and 27 percent of men indicated that the perpetrator was in their chain of command. Among suspected perpetrators investigated, 90 percent were male, 2 percent were female, and 8 percent were not identified.

Thirty-three percent of the women and 10 percent of the men who experienced unwanted sexual contact reported the incident to a DOD authority (DOD, 2013a). Of the women who did not report the incident, 51 percent did not do so because they felt that their report would not be kept confidential, and 47 percent feared retaliation from the offender (DOD, 2013a). Among the men who did not report the incident, 22 percent did not do so because they thought that individuals not directly involved with the incident might get in trouble, 17 percent thought they would not be believed, and 16 percent thought their performance evaluation or chance of being promoted would suffer (DOD, 2013a).

LeardMann et al. (2013a) examined the risk factors associated with sexual assault or harassment in a cohort of 13,262 active- and reserve-component women. The authors found that women who were deployed and experienced combat reported the highest cumulative 3-year incidence of sexual harassment (19.9 percent) and assault (4.0 percent). Being born in 1980 or later, prior sexual stressors, being recently divorced, and having prior psychological health disorders were also associated with increased risk of experiencing sexual assault or harassment (or both).

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

Injury severity and neurologic dysfunction Grieger et al. (2006) evaluated seriously injured soldiers and found that severe physical problems were significantly associated with PTSD. MacGregor et al. (2009) also observed a positive association between injury severity and PTSD and other psychological health diagnoses.

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Protective Factors

Although it has been mostly retrospective in nature, some research has been conducted on factors that might protect soldiers from PTSD and other psychological health disorders. *Gulf War and Health, Volume 6: Physiologic, Psychologic, and Psychosocial Effects of Deployment-Related Stress* (IOM, 2008) reviewed studies of veterans of such past conflicts as World War II, the Gulf War, and the Vietnam War and noted that psychological resilience—often characterized by hardiness, personal control, and positive coping strategies—is inversely related to the risk of PTSD after traumatic or stressful events. Studies have indicated that strong social support is protective against the onset of PTSD. *Returning Home from Iraq and Afghanistan* (IOM, 2013a) reviewed recent studies of OIF and OEF veterans and found that those with PTSD had significantly lower resilience scores[1] than those who did not have PTSD (Pietrzak et al., 2009a,b). Furthermore, unit support and post-deployment support were inversely related to PTSD and depressive symptoms. Additional protective factors cited in *Returning Home from Iraq and Afghanistan* included positive appraisals of military service, having five or more close confidants, and longer dwell times (MacGregor et al., 2012; Phillips et al., 2010; Skopp et al., 2011).

Comorbid Conditions

PTSD is often comorbid with other psychiatric conditions, including substance use disorders. The 2008 IOM report *Gulf War and Health, Volume 6* (IOM, 2008) noted that the temporal relationship between PTSD and these other conditions is complex. PTSD increases the likelihood of other psychiatric disorders, and the other disorders increase the likelihood of PTSD.

That report reviewed the research on psychiatric disorders in veteran populations and concluded that PTSD is highly comorbid with generalized anxiety disorder and major depressive disorder. Alcohol and drug use, sleep disorders, an increased report of general symptoms, and a variety of psychosocial problems (including relationship problems, legal problems, violence and aggression, employment problems, and decreased quality of life) were associated with PTSD. Veterans with PTSD were not more likely to be homeless compared to veterans without PTSD, although veterans with prior combat exposure were more likely to be homeless than those without such exposure (IOM, 2008). The review of the literature in *Gulf War and Health, Volume* 6 (IOM, 2008) found that the association between PTSD and cardiovascular disease and PTSD and digestive disorders was mixed. No association was found between PTSD and endocrine diseases and PTSD and neurocognitive and neurobehavioral effects.

Major Depression

Mood disorders are a cluster of psychological disorders that are characterized by mood swings or an abnormally depressed (low) mood or a manic mood or irritability. The most common mood disorder is depression, and the clinically most important form is major depression, which is characterized by a depressed mood most of the day (nearly every day) or a loss of interest or pleasure, or both, accompanied by several of the following symptoms: marked unintentional weight loss or weight gain, insomnia or hypersomnia, psychomotor agitation or retardation observable by others, fatigue nearly every day, diminished concentration or increased indecisiveness, recurrent thoughts of death, or suicidal ideation (APA, 2013). Like PTSD,

[1] Based on the Connor-Davidson Resilience Scale (CD-RISC) (Connor and Davidson, 2003).

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depression may be defined by strict criteria, such as the *DSM* criteria for major depression, or by self-assessment of depression symptoms. To meet the diagnostic criteria, major depressive disorder symptoms must be present for a 2-week period. It is the second-most common psychological-health diagnosis in veterans after PTSD (Seal et al., 2009).

Prevalence

There have been no population-based studies of U.S. service members deployed to war zones in which investigators used structured diagnostic interviews, which permit more direct estimation of major depression and have an advantage over the screening instruments that are commonly used in epidemiologic surveys. According to RAND (Tanielian and Jaycox, 2008), the extant studies may substantially underestimate the prevalence of depression in the post-deployment samples. Furthermore, most studies use convenience samples, which may not be representative of the entire population deployed to war zones.

RAND reviewed 12 studies that assessed the prevalence of depression in service members who served in OEF or OIF (Tanielian and Jaycox, 2008). Estimates of prevalence in active-duty service members ranged from 5 percent (Hoge et al., 2006; Kolkow et al., 2007; MHAT-II, 2005) to 37 percent (Lapierre et al., 2007). Thomas et al. (2010) also estimated the prevalence of depression in active-duty and National Guard troops at 3 and 12 months after deployment to Iraq. They used three case definitions of depression, each reflecting a level of functional impairment. At 3 months, the prevalence ranged from 16 percent (no functional impairment) to 8.3 percent (serious impairment) in active-duty soldiers and from 11.5 percent (no impairment) to 5.0 percent (serious impairment) in National Guard soldiers. At 12 months, the rates were similar to those at 3 months in active-duty soldiers but substantially increased in National Guard soldiers.

Gadermann et al. (2012) completed a meta-analysis of 25 epidemiological studies that looked at depression among U.S. military personnel according to the *DSM-IV* definition of major depression. The authors' best estimate for total prevalence of major depression was 12 percent among the currently deployed, 13.1 percent among the previously deployed, and 5.7 percent among the never deployed.

Risk Factors

Among U.S. military personnel, Gadermann et al. (2012) found that being female, young (17 to 25 years old), unmarried, and with less than a college education increased the likelihood of depression. Other risk factors for depression reported in literature include military sexual trauma, childhood physical abuse, and other adverse childhood experience (Cabrera et al., 2007; Fritch et al., 2010; Kimerling et al., 2010; Suris and Lind, 2008).

Deployment is also associated with a diagnosis of depression (Gadermann et al., 2012; IOM, 2013a). Furthermore, deployed OEF and OIF service members exposed to combat had a higher rate of new-onset depression (men, 5.7 percent; women, 15.7 percent) than those who deployed but did not see combat (men, 2.3 percent; women, 5.1 percent) (Wells et al., 2010).

Investigators have shown that depression is a major contributor to health dissatisfaction (Rauch et al., 2010) and to psychological health and physical health outcomes (Pittman et al., 2012). In fact, Kinder et al. (2008) found a positive association between depression and all-cause mortality. Additionally, among service members who attempted suicide in 2010, 17.7 percent of

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them had a diagnosis of major depressive disorder (DCOE, 2011). More information about the link between suicide and depression appears in the suicide section of this chapter.

Substance Use Disorders

Substance use disorders include the misuse of intoxicating substances (including illicit drugs, prescription drugs, alcohol, and other toxic agents). According to *DSM-5* (APA, 2013), a major feature of substance use disorders is "an underlying change in brain circuits that may persist beyond detoxification, particularly in individuals with severe disorders. The behavioral effects of these brain changes may be exhibited in the repeated relapses and intense drug craving when the individuals are exposed to drug-related stimuli. These persistent drug effects may benefit from long-term approaches to treatment" (APA, 2013, p. 483). Diagnosis of substance use disorders is based on an individual's pattern of behavior and usage of the substance and is marked by a cluster of cognitive, behavioral, and physiological symptoms. An individual with a substance use disorder will continue using the substance despite the presence of substance-related symptoms and the problems they cause. According to *DSM-5*, symptoms may include taking more of a substance or taking it for a longer time than originally intended; the inability, despite a desire, to reduce the consumption of a substance; spending significant time obtaining a substance, using it, and recovering from its use; the failure to fulfill work, school, or family obligations because of substance use; recurrent social and interpersonal problems because of substance use; withdrawal from social occupational or family activities because of substance use; and continued use despite repeated physical and psychological health problems (APA, 2013).

Although previous definitions of substance use disorders for which most prevalence data is currently available made the distinction between "abuse" and "dependence," *DSM-5* abandoned this dichotomy and classifies the disorder by severity: mild substance use disorder (two to three symptoms), moderate substance use disorder (four to five symptoms), or severe substance use disorder (six or more symptoms).

Prevalence

Alcohol

Milliken et al. (2007) found that, based on results from the health assessment conducted after deployment, problem alcohol use (as determined by a positive response to at least one question on a two-item conjoint screen for alcohol use) among service members ranged from 11.8 percent (active duty) to 15.0 percent (National Guard and reserve). Heavy alcohol use (five or more drinks for males and four or more for females per occasion, at least once per week, for the past 30 days) in the active-duty military remained mostly constant between 2002 (18.1 percent) and 2008 (20.0 percent). By service, adjusted for demographic differences, heavy alcohol use is highest in the Marine Corps (25.2 percent), followed by the Army (21.6 percent), Navy (17.9 percent), and finally the Air Force (15.9 percent) (Bray et al., 2009).

Compared to civilians, a greater percentage of service members are heavy alcohol users overall (19.7 percent [95% CI 18.2–21.2 percent] versus 13.6 percent [95% CI 13.3–13.9 percent]). The difference varies by age group, however. Older service members (aged 46 to 64) are less likely to be heavy drinkers than civilians of the same age (3.9 percent [95% CI 2.8–4.0 percent] versus 8.5 percent [95% CI 7.4–9.6 percent]). Military personnel aged 18 to 25, however, exhibit significantly higher rates of heavy drinking than their civilian counterparts

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(25.7 percent [95% CI 23.4–28.0 percent] versus 16.4 percent [95% CI 15.9–16.9 percent]) (Bray et al., 2009).

Although the rate of heavy drinking has remained mostly constant, binge drinking (five or more drinks for males, or four or more drinks for females, on a single occasion at least once in the past 30 days) among active-duty service members increased from 34.9 percent in 1998 to 47.1 percent in 2008. There are signs that this increase may have slowed, however, because between 2005 and 2008 there was no significant change in binge drinking across all services. The binge drinking rate in the Navy increased from 41.7 percent to 47.8 percent between 2005 and 2008 and from 33.9 percent to 39.0 percent in the Air Force, but no other service saw a significant change in binge drinking between 2005 and 2008. In 2008 the Marine Corps had the highest rate of binge drinking (57.6 percent) (Bray et al., 2009).

Compared to civilians, military personnel binge drink at a higher rate (45.8 percent versus 40.6 percent), and the difference is slightly more pronounced among those 18 to 25 years old (52.4 percent [95% CI 49.6–55.2 percent] in the military versus 44.9 percent [95% CI 44.2–45.6 percent] among civilians). Civilians aged 46 to 64, however, binge drink at a higher rate than service members of the same age (24.6 percent [95% CI 22.9–26.3 percent] versus 18.0 percent [95% CI 15.9–20.1 percent) (Bray et al., 2009).

In the Army, incidents of drug and alcohol abuse in soldiers increased from 28,740 offenses in 2006 to 34,586 in 2009 and then decreased by 9.1 percent to 31,617 offenses in 2010 and by another 4 percent to 29,708 in 2011 (Department of the Army, 2012). Those recent decreases were coupled with increased rates of referral for drug and alcohol treatment. In fiscal year (FY) 2010, there were more than 24,000 referrals of soldiers to the Army Substance Abuse Program; about 50 percent of those referred were enrolled. Forty-three percent of active-duty Army personnel reported binge drinking within the preceding month. Although 12 percent of soldiers reported alcohol problems on the Post Deployment Health Re-Assessment (see Appendix F), only 2 percent have been referred for further evaluation or treatment. Alcohol abuse is associated with several risk factors related to combat service, such as exposure to the threat of death or injury, witnessing atrocities, depression and PTSD symptoms, and a diagnosis of PTSD (Burnett-Zeigler et al., 2011; Department of the Army, 2012; Spera et al., 2011; Wilk et al., 2012).

Illicit Drugs

According to self-report data, the illicit drug use rate (excluding prescription drugs) among active-duty military was 2.2 percent in 2008 and has remained unchanged since 2002 (Bray et al., 2009). Across services, usage rates range from 3.2 percent (Army and Marine Corps) to 0.07 percent (Air Force). Deployment seems to be a factor in illicit drug usage rates. In the Army, Marine Corps, and Air Force, rates of illicit drug use (excluding prescription drugs) were significantly higher in personnel deployed to combat theaters other than OEF and OIF than in those deployed to OEF and OIF or those not deployed. Illicit drug use, including prescription drugs, among active-duty personnel increased from 5.0 percent in 2005 to 12.0 percent in 2008 (Bray et al., 2009).

Status of Drug Use in the Department of Defense Personnel: Fiscal Year 2008 Drug Testing Statistical Report (DOD, 2009a) indicates that, according to DOD drug testing data, from FY 2004 to FY 2008 illicit drug use rates were below 2 percent in active-duty forces. Rates were

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also below 2 percent in reserve personnel not on active duty, but they exceeded 2 percent in National Guard personnel not on active duty. Drugs tested for included amphetamines, cocaine, ecstasy, marijuana, MDA (methylenedioxyamphetamine), opioids, and phencyclidine.

Illicit drug usage (excluding prescriptions) is lower among active-duty service members than among civilians for all age groups and overall (2.2 percent among active-duty versus 12.0 percent among civilians) (Bray et al., 2009).

Prescription Drugs

A recent Army report, *Army 2020 Generating Health and Discipline in the Force Ahead of the Strategic Reset* (Department of the Army, 2012), notes that pain is a leading cause of disability and states that 47 percent of soldiers returning from OEF and OIF have reported problems associated with pain. About 14 percent of U.S. soldiers have been prescribed opiate pain medications, and about 25 percent to 35 percent of wounded soldiers are addicted to prescription pain medications or illegal drugs. The report defines polypharmacy as the use of four or more prescription medications of which at least one is a psychotropic drug or a controlled substance, and it notes that the number of soldiers receiving polypharmacy increased in FY 2010–2011 from 141,199 to 160,175.

Since 2002 prescription drug misuse has increased dramatically across services—from 2 percent in 2002 to 4 percent in 2005 to nearly 12 percent in 2008 (Bray et al., 2009). Bray et al. (2009) found much higher rates of prescription drug misuse among active duty military personnel (11.7 percent) than among 18- to 65-year-old civilians (4.4 percent). By service, the Army had the highest rate of prescription drug misuse (15.7 percent), and Air Force had the lowest (7.7 percent).

Risk Factors

In reviewing the literature on alcohol misuse among active-duty service members, *Returning Home from Iraq and Afghanistan* (IOM, 2013a) found that heavy alcohol use was higher among those deployed to any operational theater than among the non-deployed. Other risk factors for increased alcohol use or misuse among active-duty service members include perceived high work stress, being younger, being male, experiencing the threat of death or injury, higher frequency of deployment, greater cumulative time deployed, and diagnosis of PTSD.

Among Army service members, being age 45 or older, male, smoking cigarettes, having a substance use disorder, being a victim of preadolescent sexual abuse (among women), having a major psychiatric disorder, prior legal problems, a history of motor vehicle accidents, and poor family support were all risk factors for misuse of opioids (Department of the Army, 2012).

Among recently returned National Guardsmen, Burnett-Zeigler et al. (2011) found that being male, being younger, and reporting symptoms of depression and PTSD were risk factors for meeting the criteria of alcohol misuse. National Guardsmen frequently reported that stigma and concerns about their military careers were barriers to their seeking treatment. Looking at risk factors by deployment phase, Ferrier-Auerbach et al. (2009) found that among the National Guard prior to deployment, younger, single soldiers drank and binged with more frequency and drank greater quantities than older, married Guardsmen. However, psychological health status was not a predictor of drinking among the pre-deployed National Guard. Among post-deployed National Guardsmen, Kehle et al. (2012) reported that at 3 to 6 months following deployment,

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about 13 percent had alcohol use disorder diagnoses; 38 percent of these were diagnosed after returning from deployment. PTSD symptom severity was a predictor for alcohol-use disorder in the study population.

Substance Use Disorders and Comorbid Conditions

Substance use disorders (SUDs) frequently appear together with other psychological health conditions. Seal et al. (2011) found that among veterans with an alcohol use disorder, a drug use disorder, or both disorders, more than 80 percent had at least one other co-occurring psychological health diagnosis (PTSD, depression, anxiety, or adjustment disorder). Additionally, Stecker et al. (2010) found that alcohol misuse or abuse, sleep problems, pain, and aggression commonly co-occurred with PTSD or depression among OEF/OIF vets and service members deployed to Iraq. Nazarian et al. (2012) reported that among 62,496 men and 11,224 women who were OEF OIF veterans, more than half of those with substance use disorders (12.5 percent for men, 6.2 percent for women) were comorbid with PTSD (8.1 percent for men, 3.8 percent for women).

Suicide and Suicidal Ideation

Suicide is a lethal self-inflicted action, a suicide attempt is a nonfatal action, and suicidal ideation refers to suicidal thoughts, such as wishing to commit suicide. Suicide is a leading—as well as a growing—cause of death among U.S. service members (Ramchand et al., 2011; Trofimovich et al., 2012). DOD's suicide rate in 2011 was 18.03 deaths per 100,000, up from 11.3 per 100,000 in 2005, a 60 percent increase (DCOE, 2012a). The Army, with 22.90 suicides per 100,000 in 2011, has the highest rate among the services. In the U.S. general population, the age-adjusted suicide rate in 2011 was 12.0 deaths per 100,000 (Hoyert and Xu, 2012).

It is difficult to determine the percentage of people who have suicidal ideation who go on to attempt or complete suicide. However, in a 2010 study of suicidal ideation and suicide attempts in a large number (52,780) of active-duty members of the Air Force, Snarr et al. (2010) found that 3 percent of the male and 5.2 percent of the female study participants reported suicidal ideation in the previous year, and 8.7 percent of those who reported suicidal ideation also reported a recent suicide attempt.

Risk Factors

Risk factors for suicidal ideation among active-duty male personnel in the Air Force include not being married, being non-Christian, being junior enlisted, being employed as medical personnel, having alcohol problems, working longer hours, having poor social support, being dissatisfied with relationships, having poor coping ability, having experienced interpersonal violence, and being dissatisfied with the Air Force way of life. Among Air Force women, risk factors include lower rank, financial stress, alcohol problems, relationship dissatisfaction, interpersonal violence, poor social support, and being non-Christian. Among both sexes, depression was the strongest predictor of suicidal ideation. Reservists deployed to OEF/OIF were more likely to report more severe psychological health issues, suicidal ideation, and suicide attempts than those who were not deployed or those who were deployed to other theaters (IOM, 2013a).

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Langhinrichsen-Rohling et al. (2011) examined risk factors for suicidal ideation at four ecological levels (individual, family, workplace, and community) among a large cohort (N=52,780) of active-duty Air Force men and women. At the individual level, depressive symptoms and alcohol problems were both risk factors for suicidal ideation. For mothers in the study population, however, alcohol problems actually decreased the risk of suicidal ideation. At the family level, relationship satisfaction reduced the risk of suicidal ideation, and interpersonal violence victimization increased the risk. For mothers, parent–child relationship satisfaction also reduced the risk for suicidal ideation. At the workplace level, dissatisfaction with the Air Force way of life was a strong predictor of suicidal ideation among men, and satisfaction with workplace relationships reduced the risk of suicidal ideation among women. At the community level, social support reduced the risk of suicidal ideation among both men and women. A perception of community unity was protective for men. The authors suggest that focusing on the non-individual and less-stigmatizing risk and protective factors at the workplace and community levels may be an effective strategy for the military's suicide prevention efforts (Langhinrichsen-Rohling et al., 2011).

At least 90 percent of people who die by suicide have a psychological illness at the time of their death. The most common is major depressive disorder, followed by SUD (Mościcki, 2001). Risk factors for completed suicide among service members include being male, white, under the age of 25 years, junior enlisted or high-school educated, and divorced. (The suicide rate in divorced service members was 55 percent higher than that in married service members.) Active-duty service members had a 70 percent higher risk of suicide than did deployed reserves and National Guard members. Firearms accounted for 62 percent of all suicides, and drug overdose was the most frequent method of suicide attempts (57 percent) (DCOE, 2011).

DOD data illustrate the relationship between psychological health disorders and suicide attempts. Among service members who attempted suicide in 2011, a majority (64.6 percent) had a history of psychological illness (DCOE, 2012a). Among suicide attempters, 34.4 percent reported a mood disorder; 26 percent had an anxiety disorder, most frequently PTSD; and 27 percent had a history of substance use (DCOE, 2012a).

A new study points to a similar pattern among suicide completers. Among the Millennium Cohort, a large longitudinal sample of service members, the leading risk factors for suicide were depression, manic depressive disorder, and heavy or binge drinking or alcohol-related problems (LeardMann et al., 2013b). The study did not find an association between suicide and combat experience, cumulative days deployed, or number of deployments; however, the study did have some limitations, such as its self-report methodology, its definition of combat exposure, and a 31 percent participation rate. The risk factors identified in this study suggest that the treatment of underlying psychiatric disorders, even though these disorders are not the only risk factor, is nonetheless a critical component of suicide prevention (Engel, 2013) and that service members who have not deployed are also at elevated risk, so they should be considered in screening and prevention efforts. The overwhelming majority of civilians who die by suicide had untreated psychiatric disorders (Henriksson et al., 2001).

An analysis of the health care experiences that preceded suicide and suicide attempts in U.S. service members during the 2001–2010 period found that 45 percent of those who died of suicide, 73 percent of those who had self-inflicted injuries, and 76 percent of the likely self-harm cohort had outpatient visits within 30 days preceeding these events. The authors speculated that there might be "triggering" events that lead to seeking health care and that people might be

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screened for suicide risk in primary care (Trofimovich et al., 2012). See Chapter 4 for a description of DOD's RESPECT–Mil program, which screens for suicide in primary care.

Protective Factors

Protective factors that make suicide less likely are not as well studied as risk factors, and most of the research on them has been carried out in civilian populations. The most recognized protective factors are social support, including strong interpersonal bonds to family/unit members and responsibility to one's family; psychological factors, such as resilience, good impulse control, and good problem-solving skills; and psychological health treatment (Bryan and Hernandez, 2013; Nock et al., 2013; VA and DOD, 2013). In military populations, unit cohesion is one example of social support that buffers against the adverse effects of stress, the development of PTSD, and potentially suicidal behavior (Brailey et al., 2007). In a 3-year longitudinal study of veterans, resilience was found to protect against suicidal thoughts and suicide attempts (Youssef et al., 2013a). Resilience in the study was measured by the well-validated Connor-Davidson Resilience Scale, which defines resilience as being able to thrive in the face of adversity. In a related study of Iraq/Afghanistan-era military and veterans, resilience was found to be negatively associated with depressive symptoms and suicidal ideation (Youssef et al., 2013b).

PSYCHOLOGICAL HEALTH AMONG MILITARY FAMILIES[2]

Military family members play an integral role in the readiness and well-being of the military force. Recognizing this role, *Returning Home from Iraq and Afghanistan* (IOM, 2013a) examined the evidence demonstrating that military family members have to deal with impairments in psychological and physical well-being, relationship problems, responsibilities as caregivers of children or wounded service members, and overwhelming household duties. This section summarizes the findings from that report about the psychological health challenges and interpersonal violence affecting military spouses and children.

Evidence suggests that military service by itself does not appear to significantly raise the probability of negative outcomes but that the likelihood of negative consequences for families rises with the amount of the service members' exposure to traumatic or life-altering experiences (MacLean and Elder, 2007). In contrast, deployment to combat zones has been found to significantly predict a variety of negative outcomes, including marital conflict and intimate partner violence (IOM, 2008). When service members display negative psychological symptoms, the likelihood of negative consequences for families rises substantially (de Burgh et al., 2011), and families who experience the injury or death of service members are almost certain to experience at least some negative consequences.

Family members of the National Guard and reserves face unique challenges in the degree to which they are adequately prepared for deployment, supported during deployment, assisted following deployment, and prepared for subsequent deployments, which may have an impact on their psychological health. Relative to active-duty families, members of the National Guard and

[2] As stated earlier in this chapter, research on families in the literature is generally limited to heterosexual married couples and their dependent children and does not reflect the true diversity of family arrangements in modern society.

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reserves and their families have limited access to military chaplains, family support programs, and all the other parts of the military landscape designed to support psychological health. Moreover, community providers may not be sufficiently aware of or sufficiently trained to fulfill their needs (DOD Task Force on Mental Health, 2007).

Psychological Health of Spouses

Every deployment consists of a before-deployment, during-deployment, and after-deployment period, and some researchers have attempted to examine what implications each of these deployment stages has for families, particularly spouses. The duration and content of these phases vary widely, however—suggesting caution about the confidence with which predictions can be made about the implications of these stages for families. Nonetheless, for the sake of clarity it is helpful to organize the discussion on the psychological health of families according to pre-deployment, during deployment, and post-deployment.

Pre-Deployment

Before deployment, families must make legal, logistical, and emotional preparations for separation and for the possible injury or death of the deployed service member. Although it is logical that families would find this process difficult and stressful, few prospective studies of family members have been published. *Returning Home from Iraq and Afghanistan* (IOM, 2013a) found in the limited existing research that spouses of service members expecting deployment reported substantially elevated stress levels and depressive symptoms, although baseline levels of these problems in this population are not well documented. Warner and colleagues (2009) reported that nearly one-quarter of spouses reported mild depressive symptoms, one-half reported symptoms consistent with depression, and one-tenth reported severe depressive symptoms. Nearly all spouses (90 percent) reported "feeling lonely" and were concerned with the "safety of the deployed spouse." Spousal communication and parenting while the spouse is deployed were also commonly cited as concerns (Warner et al., 2009).

In addition, service members who are anticipating separation expect their spouses will have difficulty coping at home during the forthcoming deployment. Approximately one-third of junior-enlisted members and members married less than 3 years indicated that their spouse would have a serious or very serious problem dealing with the deployment (Spera, 2009).

During Deployment

Several studies have examined the prevalence of psychological symptoms among military spouses in relation to deployment-related stressors. In its review of the literature, *Returning Home from Iraq and Afghanistan* (IOM, 2013a) found that deployment to a war theater is associated with increased psychological health problems, particularly depression and anxiety, among military spouses. The length of the deployment and the cumulative months of deployment predict increases in the likelihood of distress, but the number of deployments does not. Additionally, a service member's psychological issues are related to increases in marital distress, relationship problems, and disruptions to family life.

Eaton et al. (2008) studied more than 700 spouses of active-duty service members who sought primary care at military facilities. The spouses and service members reported similar levels of major depression or generalized anxiety disorders (19.5 percent and 15.6 percent,

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respectively). Spouses were more likely than service members, however, to seek care (70 percent versus 40 percent) and less likely to be impeded in doing so by worries about stigma.

Mansfield et al. (2010), in an analysis of medical records of more than 250,000 military wives found that wives whose husbands were deployed were significantly more likely to have diagnoses of depression, anxiety, acute stress reaction, adjustment disorders, and sleep disorders than wives whose husbands had not been deployed. Compared with wives of non-deployed partners, spouses of deployed service members also used psychological health services at higher rates, which increased with deployment length. The likelihood of any psychological health diagnosis was 19 percent higher among women whose husbands had been deployed from 1 to 11 months (41.3 excess cases/1,000) and 27 percent higher among women whose husbands had been deployed longer than 11 months (60.7 excess cases/1,000).

A study by SteelFisher et al. (2008) revealed similar patterns. Spouses who experienced deployment extension reported increased levels of psychological health problems relative to those who did not. Half of the spouses reported frequent feelings of anxiety, and almost half reported frequent feelings of depression. In a sample of 332 National Guard members and 212 partners, Gorman et al. (2011) found that 40 percent and 34 percent, respectively, met screening criteria for one or more psychological health problems. Two small studies focused on spouses' stress and on coping with the demands of their service members' military duties. In one of these, spouses evaluated their partners' deployment as one of the most stressful experiences of recent years in their lives (Dimiceli et al., 2010). In turn, spouses' perceived stress was negatively related to their levels of well-being (Padden et al., 2011) and their psychological symptoms (Dimiceli et al., 2010). Consistent with the broader literature on stress, coping strategies focused on problem solving, and taking action appeared to predict better psychological health (Dimiceli et al., 2010; Padden et al., 2011).

Post-Deployment

Just as families must adjust to life with one spouse deployed, so too must they readjust when the service member returns from deployment. Adjustments and readjustments can include the reassignment of parental duties and roles, financial management, and household chores (Bowling and Sherman, 2008; Pincus et al., 2001). Sahlstein et al. (2009) found that communication between spouses was helpful in returning the family structure to its pre-deployment state. Couples who maintained open communication and offered mutual support during the deployment returned to normal more quickly than those who did not.

Psychological Health of Military Children

Children in military families have the advantage of a number of resources that help to buffer them from risks that many non-military children might experience (Sheppard et al., 2010). Resources for military families can include access to child care and health services, housing, schools, sports and recreation facilities, and support services. (The specific resources available depend on whether the service member is in the active component, National Guard, or reserves.) On the other hand, military children may also have to cope with circumstances specific to military families, such as frequent relocations, parents leaving for and returning from deployments (which can be unexpected, prolonged, and repeated), and the medical, psychological, and economic consequences of deployment without access to enhanced services.

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Overall, psychological health visits for military children rose dramatically from 2003 to 2008. Inpatient days for military children rose 50 percent, and appointments for psychological health problems rose by more than 85 percent per capita during that period (IOM, 2010). Gorman et al. (2010) reported that psychological health clinical visits for military children rose when the father was deployed. When the mother was deployed, however, psychological health–related visits declined. The older the child was, the more likely he or she was to seek psychological health treatment. This was true no matter which parent was deployed.

During a parent's deployment, military children make more outpatient and well-child visits to TRICARE providers. However, children of young single parents had fewer visits to TRICARE during deployment than during pre-deployment (Eide et al., 2010). The authors of that study speculate that, during deployment, children of single parents may be with non-military caretakers who are not familiar with or do not have easy access to the military health care system.

Research on OEF and OIF and previous conflicts suggests that deployment is associated with a variety of internalizing (e.g., sadness, depression, and anxiety) and externalizing (such as aggressiveness and irritability) symptoms in military children which in many cases are not clinically significant (Cozza et al., 2005; Lincoln et al., 2008; Sheppard et al., 2010). Longer cumulative deployment time has been associated with more problems. Some research suggests that children of deployed parents experience emotional and behavioral symptoms at a greater rate than the population as a whole and at a greater rate than military children whose parents are not deployed. Much of this research, however, is limited in design (convenience samples, service-seeking samples, cross-sectional), and further investigation is needed to understand the full impact of deployment on children's psychological health (Chandra et al., 2010a; Chartrand et al., 2008; Lester et al., 2010; Mansfield et al., 2011).

Children may also have psychological symptoms when the well-being of their custodial parent is compromised. Research has consistently found that the impact of parental wartime deployments on military child adjustment is related to family functioning, perceived support, and parent–child relationships (e.g., communication, parenting) (Chandra et al., 2010a; Gewirtz et al., 2011) in addition to the well-being of both the at-home caregiver (Chandra et al., 2010b) and the service member during reintegration (Lester et al., 2010). Chartrand et al. (2008) found that not only did spouses of deployed service members with children have significantly higher depression scores than spouses of non-deployed personnel, but their young children also exhibited increased behavioral symptoms compared to their peers without a deployed parent. Children with one deployed parent also have reported that helping their caregiver "deal with life" without their deployed parent was one of the most difficult aspects of the deployment (Chandra et al., 2011). Similarly, parents having difficulty coping emotionally with deployment were more likely to report that their children were having emotional problems as well. Families who access military support services, however, report fewer child psychological problems than those who do not seek services.

Reed et al. (2011) looked at risky behaviors among adolescents with military parents. The authors found that adolescents with one deployed parent were more likely to report binge drinking than their counterparts without military parents. Older boys (10th and 12th grade) with military parents (deployed or not deployed) were more likely to report thoughts of suicide. Older boys and older girls with deployed parents were more likely to report a depressed mood than boys and girls of the same age without military parents. Similarly, Gilreath et al. (2013) found

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that adolescents with a parent that had deployed at least once in the previous 10 years were more likely to report using alcohol, tobacco, marijuana, and other drugs in their lifetime or in the previous 30 days.

Using community-based survey data, Cederbaum et al. (2013) compared the psychological health of adolescents with parents or siblings in the military to the psychological health of adolescents without a family military connection. The study was conducted as a special module of the biennial state-wide California Healthy Kids Survey of public school students. Of 14,299 7th-, 9th-, and 11th-grade adolescents, more than 13 percent had a parent or sibling in the military. This group was more likely than those without a military connection to experience depressive symptoms and suicidal ideation. Deployment, in particular, had a noticeable impact. Multivariate analyses found a higher likelihood of feeling sad or hopeless for those with one family member deployed (odds ratio [OR] = 1.40, 95% CI, 1.24–1.59) or two or more family members deployed (OR = 1.56, 95% CI, 1.34–1.83) versus those with no family deployments. Likewise, there was an increased likelihood of depressive symptoms among those reporting one deployment (OR = 1.15, 95% CI, 1.00–1.33) and two or more deployments (OR = 1.41, 95% CI, 1.26–1.58). The study concluded that there is a need to screen military-connected adolescents for psychological health issues, especially during times of warfare.

In a meta-analysis, Card et al. (2011) reviewed 16 studies that examined maladjustment among children of deployed parents. Of those, five reported associations between parental deployment and academic adjustment. Overall, the analysis revealed that parental deployment is associated with slightly poorer academic outcomes among pre-adolescent children. However, the authors were unable to confidently comment on the strength of that association, due to the heterogeneity of the reviewed research.

Parental injury can take a toll on a child's emotional well-being; however, families with a high level of stress before the injury tend to be more distressed following the injury than those with lower levels of pre-injury distress (Cozza et al., 2010). Research is sparse on the impact of military death on military children; however, available data indicate that a bereaved child is at increased risk for psychiatric disorder and behavioral and emotional problems. Parental death that occurs during a long deployment can trigger maladaptive cognitions or omens, regret, and self-blame. In cases of suicide, the feelings of guilt, anger, shame, confusion, and rejection can be magnified (Cohen and Mannarino, 2011).

Family Violence

This section addresses the problem of interpersonal violence within military families, which includes intimate partner violence and child maltreatment.

Intimate Partner Violence

In 2011 the rate of substantiated incidents[3] of spousal abuse in DOD was 11.1 per 1,000 couples (DOD, 2012b). This rate extends an upward trend that began in FY 2009. Before then, from FY 2001 to FY 2008 the rate had been declining. The data are compiled annually by DOD's Family Advocacy Program (FAP), which was created in 1984 to identify, prevent, and treat family violence in the military. Because each report of spousal abuse reflects a single

[3] A "substantiated incident" is one that the DOD Family Advocacy Program believes to have occurred.

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incident, there can be more than one report for a single victim. The abuser can be an active-duty service member or a civilian.

Physical abuse accounts for 90 percent of spousal abuse cases, emotional abuse accounts for 6 to 8 percent, sexual abuse accounts for 0.5 percent, and neglect accounts for 0.4 percent (Rentz et al., 2006). Two-thirds (67 percent) of abusers are male, and one-third (33 percent) are female (DOD, 2012b). In FY 2011 there were 18 fatalities tied to spousal abuse (DOD, 2012b). The occurrence of spousal abuse, as compiled by the FAP, is probably an underestimate: Incidents often go unreported out of concern for the career implications for the active-duty service member or because of the victim's concerns about his or her physical safety. The figures are also underestimated because the DOD database of law-enforcement cases of abuse—the Defense Incident-Based Reporting System—includes only the minority of cases that rise to the level of a crime.

In a recent report the Centers for Disease Control and Prevention (CDC) assessed the prevalence of sexual and physical violence by an intimate partner among active-duty women and the wives of active-duty men and compared these groups with the general population (Black and Merrick, 2013). Women in the general population were more likely to experience lifetime sexual violence by an intimate partner (20.0 percent) than were active-duty women (12.5 percent) or wives of active-duty men (13.3 percent). Women who were deployed at least once in the 3 years prior to the survey were no more likely to be the victims of contact sexual violence by an intimate partner than those who were not deployed. Similarly, wives whose husbands had deployed at least once within the previous 3 years were no more likely to have experienced contact sexual violence by an intimate partner than wives whose husbands had not deployed.

According to the CDC report, in the general population nearly 36 percent of women aged 18 to 59 have experienced physical violence by an intimate partner at some time in their lives. Active-duty women and wives of active-duty men had lower rates of physical violence by an intimate partner, according to the study (28.4 percent and 26.9 percent, respectively). Women deployed in the 3 years prior to the survey were significantly more likely to have experienced lifetime physical violence by an intimate partner than those who had not deployed (32.2 percent and 23.9 percent, respectively) (Black and Merrick, 2013).

Risk Factors

In its review of the literature, *Returning Home from Iraq and Afghanistan* (IOM, 2013a) found that deployment and substance use were risk factors for spousal aggression among active-duty military service members (Martin et al., 2010; Merrill et al., 2004). Substance abusers were more likely to be physically violent and to exert more severe spousal abuse than those who were not substance abusers. That committee also found that deployment length was a factor. Deployments shorter than 6 months did not increase the risk of spousal aggression, but longer deployments did (McCarroll et al., 2010). Research has shown that among veterans and Navy recruits, PTSD is a risk factor for spousal violence or (Merrill et al., 2004; Taft et al., 2009).

In a review of intimate partner violence research among military veterans and active-duty service members, Marshall et al. (2005) found that alcohol use problems, depressive symptoms, having experienced childhood trauma, and low relationship satisfaction were all correlates of intimate partner violence perpetration.

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In the only study reported in *Returning Home from Iraq and Afghanistan* (IOM, 2013a) that looked at spousal abuse specifically among OIF and OEF service members, experiential avoidance—a coping strategy that seeks to avoid emotionally painful events—was associated with physical aggression perpetration and victimization among 49 male National Guard members who had returned from deployment to Iraq (Reddy et al., 2011).

Child Maltreatment

Although it has been increasing since 2009, the rate of child maltreatment among military children stood at only 5.8 per 1,000 children in 2011, which is approximately half the rate of the general population (DOD, 2012b). Emotional abuse accounted for 71 percent of all cases, physical abuse for 23 percent, and sexual abuse for 6 percent. More than half (54 percent) of the abusers were male; 45 percent were female. In FY 2011, 33 military children died from child maltreatment. Although rates are not as high as in the general population, Gibbs et al. (2007) suggest that the overall rates of child maltreatment (notably neglect) by the non-deployed parent appear to rise during deployment. In that study the rate of child maltreatment was 42 percent higher during a deployment cycle with one parent absent then when both parents were home. Another study by Rentz et al. (2007) found that the risk for child maltreatment during reintegration was elevated to the same degree as during deployment.

SCREENING AND SURVEILLANCE IN THE MILITARY

Risk identification in the military occurs in different ways at various points in the military life cycle. (The military life cycle is explained in Chapter 2; see Figure 2-3.) The approaches by which the military assesses the psychological health of its service members—universal screening, strategies for psychological health integration, and self-assessment—are described below. This section includes a discussion of the evidence for the effectiveness of these strategies, which are important because they set the stage for interventions that can prevent or mitigate negative psychological health outcomes. The section concludes with an overview of new clinical practice guidelines for the assessment and management of individuals at risk for suicide which are intended to encourage optimal evidence-based care.

Screening

The screening of service members for psychological health problems occurs during four different phases: accession, pre-deployment, post-deployment, and reintegration (see Figure 2-3 in Chapter 2). Although it is less focused on psychological health, the Periodic Health Assessment is discussed at the end of this section.

Accession

Accession—that is, entrance into the uniformed services—provides an opportunity to screen potential service members for potential psychological health issues. Certain learning, behavioral, and psychological conditions are considered disqualifying for military service. As part of the medical examination of applicants that is conducted at Military Entrance Processing Stations (MEPS), two screening questionnaires are used to identify potential markers of psychological and behavioral dysfunction that would be incompatible with military service. Applicants complete the Report of Medical History (DD 2807-1) and the Supplemental Health

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Screening Questionnaire (USMEPCOM Form 40-1-15-1-E) (see Appendix C), which are reviewed by DOD clinicians in making determinations about the acceptability of applicants for military service. To augment the limited number of psychological health questions on the Report of Medical History, the Supplemental Health Screening Questionnaire includes12 questions regarding the enlistee's psychological health history. The form contains questions about recent and lifetime depression**,** alcohol use (using the AUDIT-C screener), self-harm history, suicidal ideation, sleep patterns, and arrest history. In addition to these screens, lab tests for drugs and alcohol are performed.

The latest screening tool used in the medical assessment, the Omaha 5, is a set of questions regarding certain key behavioral areas that MEPS providers ask during brief interviews with applicants. The Omaha 5 questionnaire includes questions about encounters with law enforcement, school authority, and psychological health professionals; self-mutilation; and home environment. These questions have not been independently validated as predictors of psychological health problems, military success, or any other endpoint (DOD, 2013e). After the applicant interview, the provider determines whether to recommend a psychological health consult based on the applicant's answers.

Applicants with conditions that do not meet DOD standards for enlistment as outlined in DOD Instruction 6130.03 are disqualified from service. Disqualifying psychological conditions include (with exceptions in some cases) attention deficit disorder, developmental disorders, bipolar disorder, depressive disorder, speech disorders, obsessive-compulsive disorders, schizophrenic disorders, a history of suicidal behavior, eating disorders, alcohol or drug dependence or abuse, and other psychological disorders not mentioned that the examining clinician feels may interfere with satisfactory performance of military duties. The services have the authority to waive medical standards on a case-by-case basis (DOD, 2010). In FY 2009, of 296,000 accessions into service there were 1,178 psychological health waivers granted—127 for anxiety, 32 for depression, 182 for personality disorder, and 19 for PTSD (DOD, 2010).

The committee believes it is important to recognize the potential unintended consequence of elevated risk and the potential for adverse outcomes for cases in which psychological health waivers are granted. In addition, it is unclear to the committee whether information collected through the accession screening process about an enlistee's non-disqualifying psychological issues is in any way used to target prevention interventions if an enlistee's responses suggest a heightened risk for any negative psychological health outcomes.

Preexisting Psychological Conditions

DOD's accession process for assessing the psychological health of recruits relies on the applicants' knowledge of and willingness to disclose symptoms and conditions. Applicants have a strong incentive to appear qualified and therefore may withhold information, which has resulted in frequent psychological health conditions presenting during recruit training (DOD, 2013e; Gubata et al., 2012). That said, DOD's reliance on self-report screens for psychological health history and symptoms is not unique, as practitioners and health systems rely on the same screens with the same shortcomings in the civilian world.

Studies conducted by the DOD's Accession Medical Standards Analysis and Research Activity have shown that the majority of discharges for conditions that existed prior to service (EPTS) are for medical conditions that were not disclosed at the time of application for service.

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EPTS records for active-duty, reserves, and National Guard members show that psychiatric discharges were the most common cause of EPTS discharges in the Army and in the Marine Corps, accounting for 29.6 percent and 43.3 percent of all EPTS discharges, respectively. Psychiatric discharges are the second most common cause of EPTS discharge in the Navy, accounting for 11.1 percent of discharges, while they accounted for less than 1 percent of all EPTS discharges from the Air Force. The authors note any comparisons across services should be made cautiously as these differences in EPTS discharge rates may be due in part to differences in how each service categorizes and reports EPTS discharges for psychiatric conditions (DOD, 2013e).

There is debate over the relationship between preexisting psychological conditions and an individual's vulnerability to negative outcomes in times of stress (Warner et al., 2011b). Research into the effects of prior psychological health issues on successful military service is ongoing. Screening tools have been and are being piloted; however, to date there are insufficient data to determine whether these tools have any predictive value in determining the ability of a recruit to complete a successful tour of duty (Blakeley and Jansen, 2013).

Although research has been limited, studies have revealed that enlistees may enter the military with elevated rates of some psychological health disorders. Warner et al. (2007) examined a sample of about 1,000 Army service members in basic training and found higher depression levels than in the general population. More than one-third of all participants reported at least some depressive symptoms, with 16 percent of all participants reporting depressive symptoms consistent with a diagnosis of major depressive disorder. In the general population, lifetime depression prevalence is 7 to 12 percent. More than 25 percent of participants reported a history of verbal abuse (22.4 percent male; 46.7 percent female), and nearly 6 percent reported a history of sexual abuse (3.2 percent male; 24.4 percent female). Histories of verbal abuse and of psychiatric treatment were found to significantly increase the risk of moderate depression among participants (Warner et al., 2007). The study suggests that enlistees may have higher rates of depression than is found in the general population and may be entering the military with an elevated risk for depression or other psychological health outcomes.

As discussed earlier in the chapter, service members with depression are at increased risk for suicide. Although it did have some methodological limitations (see suicide section), a recently published study of 151,560 current and former service members in the Millennium Cohort found no association between deployment, combat, cumulative days deployed, or number of deployments and an increase in the risk of dying by suicide (LeardMann et al., 2013b). Indeed, the risk factors for suicide in this population were found to be quite similar to those in the general population: being male, being depressed, having manic depressive disorder, and having alcohol-related problems. The authors speculate the increased rate of suicide among service members may be the product of an increased prevalence of psychological disorders caused by general occupational stress in the military (deployment or otherwise). The study did not, however, investigate the timing of the onset of risk factors and symptoms. It is therefore plausible that psychological health disorders or other risk factors for suicide were present in some service members at enlistment. Regardless of when the risk factors arise, the authors suggest that the current DOD and VA prevention initiatives with the greatest potential to mitigate suicide risk are those "that address previous psychological health disorders and involve screening and facilitation of high-quality treatment for psychological and substance use disorders in primary care, specialty psychological health care, and postdeployment settings" (LeardMann et

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al., 2013b, p. 503). The Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS), a study of suicide risk and resilience factors in the military being carried out through the National Institute of Mental Health, is the largest and most comprehensive such study to date, and it should provide additional insights into the issue of risk stratification in the coming years.

In a study of 4,529 male soldiers who had not deployed to Iraq and 2,392 male soldiers who had, Cabrera et al. (2007) looked at how well adverse childhood experiences predicted future psychological health outcomes. For the purposes of the study, adverse childhood experiences included exposure to a psychologically ill person in the home, exposure to an alcoholic adult in the home, sexual abuse, physical abuse, psychological abuse, and violence directed against the respondent's mother. Approximately 53 percent of soldiers who had not deployed reported at least one adverse childhood experience, and 29 percent reported exposure to two or more. Deployed soldiers reported similar rates: 54 percent reported at least one adverse childhood experience, and 31 percent reported two or more. It is unclear if these rates are significantly different from those in the civilian population. For pre- and post-deployment samples, the authors found that the individuals who reported two or more traumatic childhood experiences were more likely to screen positive for depression and PTSD. Regression analysis results showed that although both adverse childhood experiences and combat were predictors of PTSD and depression, adverse childhood experiences were the stronger predictor of the two (Cabrera et al., 2007).

These findings further support the suggestion that pre-military experiences can affect psychological health outcomes in individuals after they join the military, indicating that these experiences should be among the risk factors considered for screening and prevention.

Pre-Deployment

All DOD service members expected to deploy for 30 days or longer must complete the Pre-Deployment Health Assessment (PreDHA) (see Appendix D). This assessment evaluates current physical and psychological health status, health behaviors, and treatment history. In the first stage of the PreDHA the service member completes an initial questionnaire, which includes several psychological health screening questions: the PC–PTSD screen for PTSD, the PHQ-2 for depression, and the AUDIT-C for alcohol use. If the service member screens positive for PTSD on the PC–PTSD tool or positive for depression according to the PHQ-2, he or she is required to complete expanded assessment tools for those conditions: the PTSD Checklist–Civilian Version (PCL–C) for PTSD and the PHQ-8 for depression. Finally, the service member meets with a health care provider to review and discuss the completed assessments face-to-face. The provider scores the completed screens and asks follow-up questions regarding suicidal ideation and violence. Based on the scores, the provider can provide brief counseling or consider referring the service member to appropriate care if he or she is not already receiving it. Based on the service member's answers and history, the provider assesses symptom severity and determines if the service member is deployable or not, in accordance with DOD policy (DOD, 2006a).

DOD policy dictates that individuals being treated for psychotic or bipolar disorders are not deployable. Those with other psychiatric conditions are evaluated based on symptom severity, duration of treatment, stability of the condition, and level of care required. Service members taking antipsychotic medications for bipolar disorder, chronic insomnia, or psychotic conditions are not deployable. Service members taking medications that require constant laboratory monitoring (such as lithium) are also not deployable, and although some medications

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for psychiatric illnesses are allowed, service members must be stable for at least 90 days prior to deployment unless a waiver is granted (Warner et al., 2011b).

One potential problem with this approach is that Nevin (2009) found the PreDHA to have low validity for identifying service members with diagnosed psychological health disorders. Using Defense Medical Surveillance System data, Nevin examined a cohort of 11,179 service members who had completed the PreDHA, 4.2 percent of whom had a recent psychological health disorder diagnosis. However, only 48.2 percent of those with a recent psychological health diagnosis answered "yes" to the PreDHA question "During the past year, have you sought counseling or care for your mental health?" This suggests the self-report nature of the PreDHA fails to accurately assess the psychological health profile of service members planning to deploy. A more accurate screen could identify service members with psychological health diagnoses and service members who are at risk of developing full-blown conditions. As an alternative to the PreDHA psychological health screening, Nevin (2009) suggests that screening the service members' existing electronic health records for psychological health histories—rather than relying on the apparently unreliable self-reports of the service members—may offer a more accurate way to screen for psychological health disorders before deployment. This committee, however, recognizing the need to balance risk, recommends careful consideration of this approach as it could discourage service members from seeking psychological health services for fear that doing so could lead to them being deemed not-deployable. Nevin (2009) supports the suggestion that stigma associated with psychological health conditions may be driving much of the false self-reporting of service members with recent diagnoses.

Despite the apparent low validity of the psychological health screening of the PreDHA, Warner et al. (2011b) found that the psychological health screening does reduce the occurrence of psychological health problems in theater by screening out service members unfit for deployment and by identifying service members who are fit but at risk for psychological health problems and thus making it possible to monitor them while they are in theater. The authors compared three brigades that completed the PreDHA screening to three brigades that were not screened prior to deployment. The unscreened brigades were combined with a division from other posts and were not screened because of the complexity of that process, a staggered deployment schedule, and time constraints. The brigades were of comparable size, deployment history, deployment location, and combat exposure. In the first 6 months of deployment, compared to the unscreened brigades the screened brigades had fewer occurrences of combat operational stress reactions (15.7 percent versus 22.0 percent; $p<0.001$); psychiatric disorders (2.9 percent versus 13.2 percent; $p<0.001$), suicidal ideation (0.4 percent versus 0.9 percent; $p<0.001$), occupational duty restrictions (0.6 percent versus 1.8 percent; $p<0.001$), and air evacuation for psychological health reasons (0.1 percent versus 0.3 percent; $p<0.05$). However, the Nevin (2009) study cited above suggests that a more accurate screening tool may reduce psychological health problems in theater even further.

DOD has taken considerable steps to improve resilience and to help service members better deal with military stresses. Comprehensive Soldier Fitness, an Army-wide program designed to improve psychological health and resilience, and the Marine Corps' Operational Stress Control and Resilience (OSCAR) are two examples of programs designed to help service members deal with stress and to help prevent negative psychological health outcomes. These programs and others, as well as the evidence of their effectiveness, are described in detail in Chapter 4.

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Post-Deployment

Service members returning from deploymentmust complete a Post-Deployment Health Assessment (PDHA) (see Appendix E) in a face-to-face session with a health care provider either during in-theater medical out-processing or within 30 days following the end of a deployment. The purpose of the PDHA is to document whether the service member has developed any of the physical and psychological health issues that are common following a deployment, to document possible exposures, to identify psychological health symptoms or conditions, and to discuss any deployment-related health concerns. Positive assessments for some conditions require the use of follow-up assessment tools or referrals for further consultation.

The PDHA screens for PTSD using the four-question PC–PTSD screening tool. Whereas the PreDHA uses both the PHQ-2 and the PHQ-8 to screen for depression, the PDHA uses the two-item PHQ-2. Both tools are validated and are considered to have good sensitivity and specificity for detecting depressive disorders (Kroenke et al., 2010; Lowe et al., 2005; Smith et al., 2010). To assess alcohol use, the PDHA includes the AUDIT-C screen.

Warner et al. (2011a) found that service members are often not honest with their answers on the PDHA. Following their completion of the self-report portion of the PDHA, 2,500 Army soldiers, out of a sample of 3,502, were invited to complete an anonymous survey that included the same psychological health questions as the PDHA, demographic questions, and questions about honest reporting on the PDHA. Using demographic data from the survey (number of deployments, age, rank, sex), the researchers were able to compare the answers of the anonymous survey to the PDHA. For PTSD, 7.7 percent screened positive in the anonymous group versus 3.3 percent of the PDHA group. For depression, 7.0 percent of the anonymous group screened positive versus 1.9 percent of the PDHA group. In terms of seeking care, 8.9 percent of the anonymous group was interested versus 4.3 percent of the PDHA group. Regarding suicidal ideation, 4.7 percent of the anonymous group reported having thoughts of suicide versus 1.2 percent of the PDHA group. Although having the entire sample complete both the PDHA and the anonymous survey would have strengthened the evidence, the study suggests that some individuals filter their responses to the PDHA to conceal psychological health problems. Despite the PDHA using valid, evidence-based measures, the self-report nature of the assessment, the well-documented stigma of psychological health issues (Ben-Zeev et al., 2012; Caetano et al., 2013; Gould et al., 2007; Momen et al., 2012), and the effects that negative psychological health outcomes may have on deployment may limit DOD's ability to identify individuals with risk factors for psychological health disorders or even to identify those individuals who have already developed full-blown psychological health disorders.

Reintegration

The Post-Deployment Health Re-Assessment (PDHRA) (see Appendix F) is completed by all deployed service members between 90 and 180 days after they have returned to their home stations. The current PDHRA, in use since September 2012, more closely resembles the PreDHA than the PDHA in that its PTSD assessment includes both the PC–PTSD and PCL-C and its depression assessment includes the PHQ-2 and PHQ-8. The alcohol abuse screening instrument is the AUDIT-C. The procedures for the PreDHA, the PDHA, and PDHRA are the same; that is, the first part is completed by the service member, and this is followed by a face-to-face session with a health care provider who asks follow-up questions, scores the assessment, and provides brief counseling or referrals, as needed.

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Skopp et al. (2012a) assessed the diagnostic efficiency of the PDHRA screens for alcohol abuse, PTSD, and depressive disorder. However, the study looked at the pre–September 2012 version of the PDHRA, which used only the PHQ-2 screen for depression and the PC–PTSD screen for PTSD. The alcohol abuse screen (AUDIT-C) is the same in the current version of the PDHRA as it was in the previous version. A sample of 148 soldiers completed both the PDHRA and SCID-I diagnostic interviews (using *DSM-IV* criteria). Overall, the authors found the alcohol abuse, depression, and PTSD screens to have excellent negative predictive values, meaning that they were highly efficient at ruling out cases of the three conditions. The positive predictive values for the screens were low, but the authors felt that was appropriate considering the low prevalence of the conditions in the population. The authors do note, however, that the face-to-face portion of the PDHRA was not evaluated and that it presents an opportunity for a health care provider to assess whether a condition is present (Skopp et al., 2012a).

Periodic Health Assessment

In addition to the above-mentioned screens, since 2006 all service members must annually complete the periodic health assessment (DOD, 2006b). Before meeting with a health care provider for the periodic health assessment, service members complete a self-administered Health Risk Appraisal (HRA). Health care providers use the completed HRA to complete the face-to-face periodic health assessment. Regarding psychological health, the HRA used by the Navy and Marine Corps includes questions on alcohol use; however, the questions differ slightly from the validated AUDIT-C screen for alcohol. Similarly, while the HRA does include a question about depression, it does not use the validated PHQ screen. The HRA does not include questions about PTSD, suicide, or any other psychological health conditions[4] (Navy and Marine Corps Public Health Center, 2013) and health care providers are not required to ask follow-up questions about these conditions during the Periodic Health Assessment; however, health care providers are supposed to document any unresolved health concerns identified by previously completed Post-Deployment Health Assessments or Post-Deployment Health Reassessments (DOD, 2008).

Strategies for Integrating Psychological Health Screening

DOD is implementing structural interventions that support the improved integration of line, non-medical caregivers, and clinicians in an effort to provide early recognition and early intervention that meet the psychological health needs of service members and their families. The three efforts described below—Re-Engineering Systems of Primary Care Treatment in the Military (RESPECT–Mil), embedded mental health providers, and Patient-Centered Medical Home—represent collaborative and integrated systems of care that are intended to improve access and care coordination.

RESPECT–Mil

The U.S. Army Medical Command implemented RESPECT–Mil, which provides primary care–based screening, assessment, treatment, and referral of active-duty personnel who have PTSD or depression. DOD is implementing a tri-service expansion of the program (DCOE,

[4] The committee was only able to locate the Navy and Marine Corps Health Risk Appraisal form. It is unclear to the committee if the Health Risk Appraisal form used by the other services differs from the Navy and Marine Corps Health Risk Appraisal form.

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2012b). Service members who present in RESPECT–Mil clinics are screened for depression and PTSD at every visit to a primary-care provider. To screen for PTSD, the RESPECT–Mil program uses the PC–PTSD screening questions. Those who screen positive are evaluated further with the PCL–C (Department of the Army, 2010; Vythilingam et al., 2010). To screen for depression, RESPECT–Mil uses the PHQ-2 screening questions. Service members who screen positive are evaluated further with the nine-item PHQ-9 (Department of the Army, 2010; Vythilingam et al., 2010).

Data from the RESPECT–Mil program show that from February 2007, when the program began, through the end of FY 2011, 76 clinics at 31 active RESPECT–Mil sites hosted more than 1.6 million primary care visits by active-duty service members, of which 1.3 million visits—almost 80 percent—included screening for PTSD and depression. Of visits that included screening, nearly 13 percent (168,519) resulted in positive screens; 49 percent of positive screens resulted in primary care diagnoses of depression, possible PTSD, or both (DCOE, 2012b). See the section on suicide in Chapter 4 for more information about this program.

Tollison et al. (2012), citing evidence that 90 percent of patients with SUD do not seek specialty care (for which they need a referral), suggest that a similar approach of integrating SUD treatment within existing primary care systems may be helpful. DOD does not currently offer such an approach.

Embedded Mental Health Providers

In theater there are no routine required psychological health screenings, although DOD is making an effort to identify service members who display signs of psychological stress during deployment and is improving access to psychological health care. Based on a recommendation from the DOD Task Force on Mental Health (2007), all branches employ the concept of embedded behavioral health by bringing psychological health clinicians closer to service members to improve access to care, increase mission readiness, identify service members with psychological challenges as early as possible, and improve communication between psychological health professionals and operational unit leaders (Cho–Stutler, 2013). In the Marine Corps, for example, the OSCAR program attaches psychological health providers directly to units throughout the training and deployment cycles. For a more detailed description of OSCAR, see Chapter 4 of this report. As of August 2013, the Army's Embedded Behavioral Health program had 45 embedded teams in place at U.S. and European installations with plans to expand to all deployable units by 2016 (U.S. Army, 2013).

Patient-Centered Medical Home

The Patient-Centered Medical Home (PCMH) is a team-based model that provides continuous, accessible, family-centered, comprehensive, compassionate, and culturally sensitive health care in order to achieve the best possible health outcomes. A PCMH practice is responsible for all of a patient's health care needs and for coordinating and integrating specialty health care and other professional services. In 2008 DOD adopted the concepts of PCMH as the framework for a new primary care model in the military health system. The model focuses on the "whole person" concept, preventive care, and early intervention and management of health problems (DOD, 2011).

In August 2013 DOD released Instruction 6490.15, *Integration of Behavioral Health Personnel (BHP) Services Into Patient-Centered Medical Home (PCMH) Primary Care and*

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Other Primary Care Service Settings (DOD, 2013b), which sets inter-service standards for adult psychological health care in primary care across the direct care system. Each military department is to establish a primary care services program that integrates psychological health personnel within 12 months of the instruction's effective date. The instruction defines competencies, roles, and responsibilities for primary care managers (PCMs), internal psychological health consultants, and psychological health care facilitators, who work together to provide screening, assessment, treatment, and monitoring for patients at risk of, or diagnosed with, a psychological health disorder. The instruction also specifies the service delivery standards for psychological health in primary care. These include minimum screening requirements for major depressive disorder and PTSD using evidence-based screening instruments. PCMs will conduct depression screening when a new patient enters the practice, will conduct annual screening for all patients, and will screen any patient who is scored as being at a higher risk for depression as defined by the VA/DOD clinical practice guidelines on major depressive disorder. For PTSD, PCMs will screen all new patients, will screen each patient annually, and, if clinically indicated due to clinical suspicion, will screen patients with recent trauma exposure (e.g., major disaster, sexual trauma, combat) or a history of PTSD.

Self-Assessment Tools

Military Pathways

Military Pathways provides free, anonymous psychological health and alcohol self-assessments for family members and service personnel in all branches, including the National Guard and reserve (Military Pathways, 2013). The self-assessments are a series of questions that, when linked together, are designed to create a picture of how an individual is feeling and whether he or she could benefit from talking to a health professional. Military Pathways is available online, over the phone, and at special events held at installations worldwide.

According to the Military Pathways website, the primary goals of the program are to reduce stigma, raise awareness about psychological health, and connect those in need to available resources. The self-assessments address depression, PTSD, generalized anxiety disorder, alcohol use, and bipolar disorder. After an individual completes a self-assessment, he or she is provided with referral information including services provided through DOD and VA. The committee did not examine the instruments used by Military Pathways, nor did it assess the thresholds used by the program to trigger psychological health referrals. Trials to evaluate the effectiveness of the self-screening and youth program components are ongoing (Weinick et al., 2011), but the committee is not aware of published outcome or utilization data on the alcohol, PTSD, or psychological health screening components. For more about Military Pathways, see Chapter 4.

Clinical Practice Guidelines

Under the auspices of the VA/DOD Evidence-Based Practice-Guidelines Work Group, representatives of DOD and VA serve on committees for developing, updating, and implementing joint clinical practice guidelines for a number of physical health and psychological health conditions. The guidelines document evidence-based procedures for screening, assessment, diagnosis, and treatment of adults who are seen in any DOD or VA clinical setting. VA/DOD joint guidelines have been in existence for several years for TBI, PTSD, major

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depressive disorder, and SUD, but the first guidelines for the assessment and management of patients at risk for suicide were not released until 2013 (VA and DOD, 2013). A summary of these new guidelines is offered below. A review of VA/DOD joint guidelines for TBI, PTSD, major depressive disorder, and SUD can be found in *Returning Home from Iraq and Afghanistan* (IOM, 2013a).

The committee acknowledges that the presence of clinical guidelines does not ensure that people receive optimal evidence-based care. Poor dissemination practices, the lack of uniform or quality training, and other barriers affect the extent to which clinicians use clinical practice guidelines and the fidelity of their implementation (Stein et al., 2009).

The VA/DOD guidelines addressing patients at risk for suicide are divided into four different modules: the assessment and determination of risk for suicide, including assessment of risk factors and protective factors; the initial management of the patient at risk for suicide, including determination of appropriate care setting and securing the patient's safety, especially through restriction of lethal means; the treatment of the patient at risk for suicide, including suicide-focused psychotherapy, psychotherapy for co-occurring psychological disorders, and pharmacotherapy; and follow-up and monitoring of the patient at risk for suicide, including adherence to treatment and follow-up care strategies and continuity of care. Under each of these modules the guidelines rank the strength of the evidence.

In the assessment of suicide risk, the guidelines specific three levels—high acute risk, intermediate acute risk, and low acute risk—and advise on what action should be taken for each level. For patients with high acute risk, the guidelines advise maintaining direct observational control of patients, transferring or escorting the patient to and urgent or emergency care setting for evaluation of need for hospitalization, and documenting risk assessment.

From the VA/DOD guidelines, Figure 3-1 shows the process for assessing the risk of suicide in a primary care setting. Any person who is identified as being at possible suicide risk should be formally assessed for suicidal ideation, plans, intent and behavior, the availability of lethal means, and the presence of risk factors and warning signs. A clinical judgment that is based on all this information should include a determination of the level of suicide risk and a formulation of the care setting.

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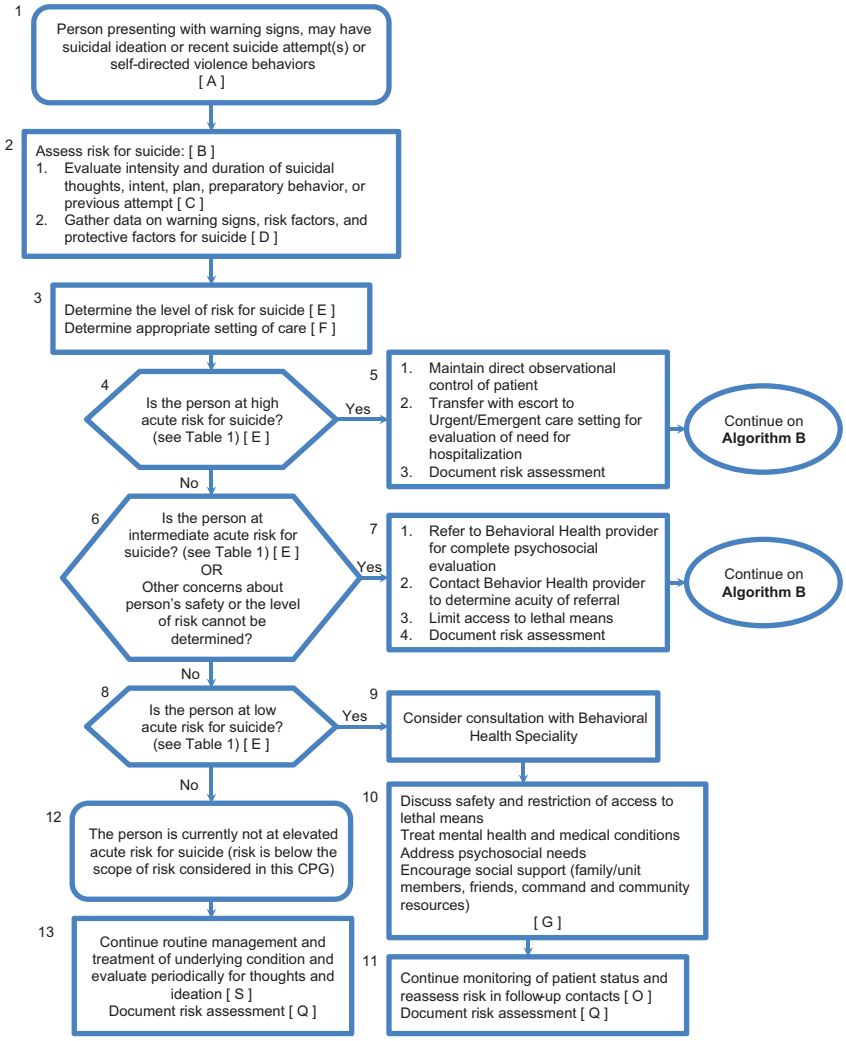

FIGURE 3-1 Algorithm A—assessment and management of risk for suicide in primary care.
SOURCE: VA and DOD, 2013.

Figure 3-2, which is taken from the VA/DOD guidelines, shows the process for the initial management of individuals identified as being at risk of suicide. The patient and provider should develop a collaboratively designed safety plan before the patient is discharged from acute care. This development should include inquiring about access to lethal means and, if possible, devising plans to restrict access to these means. The person at risk should be placed in an appropriate setting of care that provides the necessary supervision to ensure safety. Based on the assessment described, providers should implement the treatment protocol outlined in Algorithm C for high-risk suicide patients (see VA and DOD, 2010).

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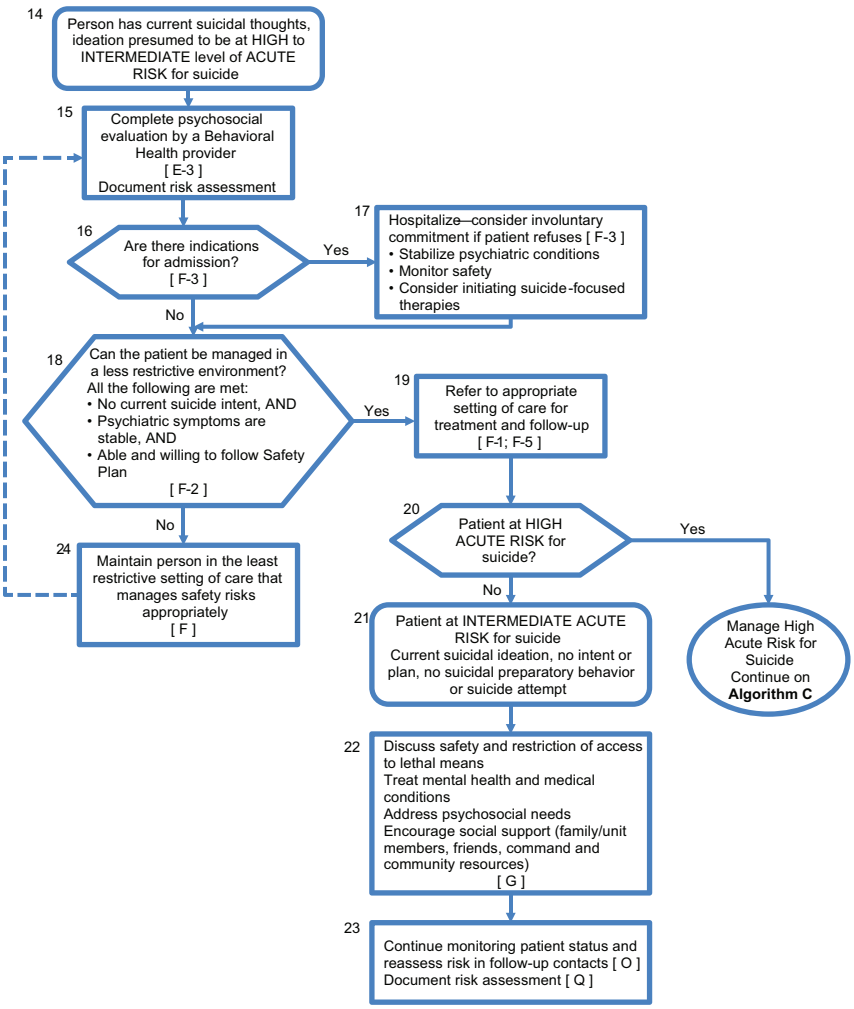

FIGURE 3-2 Algorithm B—initial management of patient at risk for suicide.
SOURCE: VA and DOD, 2013.

The new guidelines are a major step forward in suicide prevention; however, the committee is not aware of how DOD intends to promote the use of the guidelines or train clinicians on the recommendations.

PSYCHOLOGICAL HEALTH SERVICES IN THE MILITARY

Psychological health services are provided under DOD's Military Health System, which serves 9.7 million service members, retirees, and family members. There are two broad types of care: direct care at military treatment facilities, and contract care sponsored under DOD's TRICARE insurance plans (IOM, 2013b). Service members in a war theater have the additional benefit of an embedded psychological health professional who can perform the initial treatment for combat stress and PTSD in theater. Having embedded psychological health professionals also serves to reduce the stigma that deters soldiers from seeking and receiving psychological health care.

Under TRICARE, all of the main types of inpatient and outpatient psychological health services are available, including psychotherapy (individual, family, and groups), suicide

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prevention, psychological testing, medication management, tele-mental health, acute inpatient psychiatric care, psychiatric partial hospitalization, and residential treatment. To receive psychological health services through TRICARE, active-duty service members must obtain referrals from their military hospital or clinic (DOD, 2013c). Family members and other TRICARE beneficiaries do not need referrals or prior authorization for the first eight outpatient sessions per fiscal year (DOD, 2013c). Prior authorization and limits on the number of annual days of care apply to acute inpatient care, residential treatment, and partial hospitalization (DOD, 2013c).

The costs of psychological health services vary according to the type of TRICARE plan that is selected by the service member and family. For example, TRICARE's Prime plan functions like an HMO (health maintenance organization): TRICARE Prime has no costs using a civilian health care provider if subscribers go through their primary care provider; TRICARE's Extra plan sponsors a preferred provider network from which subscribers can choose their providers. If the subscriber elects to use an authorized provider outside the network, additional fees and special authorizations are often required. TRICARE's Standard plan is like a fee-for-service civilian policy, and it affords the greatest flexibility in choice of TRICARE-certified providers. Although this plan does not have premiums, the fees are higher than those of other TRICARE plans.

National Guard and reserve soldiers, when activated for at least 30 days, are eligible for the same health benefits as active-duty service members and their families (DOD, 2013d). When deactivated, National Guard and reserve soldiers and their families are eligible for only one type of plan under TRICARE. Known as TRICARE Reserve Select, the plan has monthly premiums and cost-sharing arrangements similar to those of civilian employer plans, although often at lower cost. Some members of Congress have called for having psychological health professionals embedded where National Guard and reserve troops train one weekend per month, but DOD opposes this policy as unnecessary and logistically difficult because of a shortage of psychological health providers (Zoroya, 2011).

Psychological health services provided or funded by DOD have not been without controversy. The National Defense Authorization Act for FY 2006 directed the Secretary of Defense to establish a task force to review and make recommendations about improving the efficacy of psychological health services. The task force found that psychological health professionals are not sufficiently accessible to service members and their families; that there are significant gaps in the continuum of care; that the military system does not have enough resources, funding, or personnel to sufficiently support psychological health of service members and their families in peace and during conflicts; and that psychological health stigma remains pervasive. The task force's main recommendations were to build a culture of support for psychological health, ensure a full continuum of care for service members and families, provide sufficient resources and allocate them according to requirements (including a recommendation to ensure TRICARE networks fulfill beneficiaries' psychological health needs), and empower leadership to advocate for psychological health (DOD Task Force on Mental Health, 2007). The committee could not find information regarding TRICARE's implementation of these recommendations.

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CONCLUSIONS

Being deployed to a war zone can result in numerous adverse psychological health conditions. As directed by the statement of task, the committee focused on PTSD, depression, SUDs, suicide, and interpersonal violence. Any one of these conditions can in turn have numerous sequelae and associated comorbidities that can have significant impacts on health, quality of life, and family functioning. Some of these comorbidities are complicated in nature—particularly the relationship between PTSD and TBI—and require further study to be fully understood. Others, such as chronic pain due to physical injury and its treatment, can further complicate psychological health conditions. DOD currently screens for many of these conditions at numerous points during the military life cycle. The committee is not aware, however, of any DOD health screening procedures that occur at separation. Additionally, stigma and service-related consequences, such as deployability associated with psychological health conditions and their treatment in the military, limit the usefulness of the screening instruments as many service members may not be reporting truthfully. RESPECT–Mil and embedded mental health providers are two efforts to help improve access to psychological health care and lessen the stigma associated with seeking care, but more needs to be done in this area to balance disincentives for care seeking and reporting with identifying and intervening for those at greatest risk for negative deployment-related outcomes and function.

The committee's review of risk and protective factors in military and family populations suggests that prevention strategies are needed at multiple levels—individual, interpersonal, institutional, community, and societal—to address the influence that these factors have on psychological health. For example, there are different experiences and conditions associated with the societal environment to which members of the reserve component return as compared to the active component. Reserve component members must immediately reintegrate into civilian work places and neighborhoods, environments which may have little comprehension of the military member's deployment experience. Active-duty members on the other hand return to a knowledgeable and relatively supportive societal environment, the military base. Thus, prevention strategies specific to this specific adjustment (risk factor) for reservists might be appropriate. For example, a program of third location decompression with additional concentrated social and psychological support for members of returning reserve units might be developed and tested.

At the institutional level, some risk and protective factors have their influence primarily at the military unit level (e.g., company, battalion). For example, service members and families who have chronic pain may be are exposed to different institutional-level risks for developing opioid addiction. A clinic within a "protective" institutional environment would be one that minimizes opioid dependence by adopting safe opioid prescribing practices that are promulgated in clinical practice guidelines and educational programs. Alternatively, other clinics may have patterns of over-reliance on opioid medications as the first-order treatment of chronic pain, and little or no adoption of safe prescribing practices. Finally, perceptions of stigma associated with having acute psychological symptoms, or a psychological disorder, and seeking professional help, is an example of an influence that operates at the relationship, social, and institutional level. Policies and strategies to change stigma could affect expression of all disorders not simply one disorder in terms of inhibiting early discussions of symptoms and distress, or early treatment seeking.

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4

EVIDENCE FOR DEPARTMENT OF DEFENSE INTERVENTIONS FOR PREVENTING PSYCHOLOGICAL DISORDERS

The committee was charged with conducting a systematic review and critique of Department of Defense (DOD) resilience and reintegration programs and prevention strategies related to the psychological health of service members and their families. This chapter discusses various DOD policies, programs, and services intended to enhance psychological health and prevent psychological disorders among service members and their families. It describes the nature of the interventions and reports on empirical studies that provide evidence concerning their effectiveness. Given the fast-track nature of the committee's work, the committee conducted a literature review sufficient to highlight some of the interventions that address the psychological health concerns identified in the statement of task. It did not attempt to create a catalog of all of the DOD prevention interventions in those areas.

The chapter begins with an overview of DOD prevention interventions. It includes findings from a recent comprehensive assessment of DOD psychological health and traumatic brain injury (TBI) programs. The overview also summarizes the interventions that are the subject of this committee's review. The sections that follow describe those interventions and their evidence and are organized by topical areas defined by the statement of task: resilience-related programs, posttraumatic stress disorder (PTSD), suicide (and depression), substance use disorders (including recovery support), reintegration, military sexual assault, and family-focused programs. The organizational structure aligns with the committee's statement of task, but it is imperfect as some interventions address more than one health concern. For example, RESPECT–Mil, a primary care program designed to encourage early identification of depression and PSTD, is discussed in the section on suicide prevention as depression and PTSD are both risk factors for suicide.

OVERVIEW OF DOD PREVENTION INTERVENTIONS

Recent Review of DOD Psychological Health Programs

In an effort to develop a systematic list of DOD's numerous programs that address various components of psychological health along the resilience, prevention, and treatment continuum, the RAND Corporation created a comprehensive catalogue of programs currently sponsored or funded by DOD to address psychological health and TBI. The catalogue, which is available in hardcopy and in an online searchable database, provides detailed descriptions of each program. As of November 2013, the electronic database contained 226 programs (RAND Corporation, 2013). Of the 226 programs, RAND classifies 94 as addressing the area of prevention (which includes resilience) (RAND Corporation, 2013). Appendix H shows RAND's list of prevention/resilience programs and three classification elements reported by RAND: the

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phase of deployment the intervention pertains to, whether it is a family-related intervention, and whether the intervention is based on evidence, as reported by program staff interviewed. RAND did not independently review or assess the strength of the evidence base employed. Fewer than half of the prevention programs shown are reported to be based on evidence.

RAND's assessment (Weinick et al., 2011) found no centralized mechanism to catalogue all these programs and track which are effective, whether they meet the needs of the target audience, whether there are any gaps in program activity areas covered, and whether the programs need more resources. Furthermore, while there are many programs addressing a wide array of outcomes, many are duplicative in nature (both within and across service branches), few are based on evidence, and few measure outcomes. Programs are evaluated infrequently—according to interviews with program staff, fewer than one-third of the programs in any branch of service had had an outcome evaluation in the previous 12 months. For those programs conducting an evaluation, there was variation in the rigor of the evaluation, including such things as whether it was conducted internally or by an independent party, whether it had a control group, whether it examined both processes and outcomes, and the appropriateness of the metrics used. RAND emphasized that the negative consequences of not having a process to systematically develop, track, and evaluate programs include the proliferation of untested programs that are developed without an evidence base, inefficient use of resources, added cost and administrative inefficiencies, and the increased likelihood of failing to identify a potentially harmful program. Similarly, Meredith et al. (2011), in a monograph on resilience programs in DOD, found no standard measure of resilience or outcomes across programs, a situation that makes it difficult to compare programs and approaches that share a common goal.

The Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCOE) was established in 2007 to "assess, validate, oversee and facilitate prevention, resilience, identification, treatment, outreach, rehabilitation, and reintegration programs for psychological health and traumatic brain injury" (DOD, 2010a) for DOD. The committee did not assess DCOE's role in psychological health programming across the department.

Selecting a Sample of Programs for Assessment

Deciding that there was little value in duplicating RAND's efforts and considering the fast-track nature of this study, the committee concentrated its assessment on a sample of DOD prevention programs and interventions. The committee focused on interventions with strong relevance to the targeted areas of this study and for which significant information and research findings were available in the literature. As such, the interventions discussed in the section should not be considered representative of all DOD prevention interventions.

RESILIENCE-RELATED PROGRAMS

There is no consensus on exactly how "resilience" should be defined (Meredith et al., 2011). Echoing the recent RAND report *Promoting Psychological Health in the U.S. Military* (Meredith et al., 2011), this committee defines *psychological resilience* as the ability to cope with or overcome exposure to adversity or stress. However, the use of the term "resilience" in the report reflects the inconsistencies in the state of the evidence within the field and differences across DOD programs.

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The capacity for resilience can be supported and enhanced across multiple systems, including within individuals, families, communities and cultural contexts, including the military unit or larger community. Resilience can occur along the continuum of response to stress, from the lack of development of psychological conditions such as PTSD and depression in response to trauma, through the ability to recover from a resultant psychological condition such as PTSD without developing a chronic condition with associated additional comorbidities (such as depression and substance abuse) and chronic functional impairment. Thus, enhancing resilience as a means of prevention can occur prior to exposure to stressors (either at a universal or selective level for those at higher risk), to decrease the development of persistent distress and psychological conditions, or can occur after initial symptoms occur to prevent chronic conditions (e.g., intervening for acute stress disorder to prevent PTSD) or can occur along the early treatment pathways (to prevent chronic disability and comorbid conditions and promote rapid recovery once PTSD has developed). As such, resilience is a concept that potentially comes into play in all phases of the deployment cycle.

In *Promoting Psychological Health in the U.S. Military*, Meredith et al. (2011) first examined the evidence base for resilience and then looked at the extent to which specific factors were reflected in DOD resilience-promotion programs. They reported that factors promoting psychological resilience can operate at various levels: the individual (positive coping and affect, positive thinking, realism, behavioral control, physical fitness, and altruism), the family (communication support, nurturing, emotional ties, and adaptability), the organization or unit (positive command climate, cohesion, and teamwork), and the community (cohesion, connectedness, belonging, and collective efficacy). Meredith et al. (2011) also reported that, generally speaking, most programs in the military emphasize factors with the strongest evidence in the literature. The resilience-promotion factors found in DOD programs at the individual level are positive thinking, positive coping, behavioral control, positive affect, and realism training. At the unit level a majority of programs incorporate positive command climate and teamwork. Many of the programs use enhancing family communication to promote resilience; however, there is more empirical evidence for the effectiveness of enhancing family support than for the effectiveness of enhancing family communication. Belongingness (which includes social integration and group membership) was the community factor most widely used by programs.

Concerning measures of effectiveness, Meredith et al. (2011) found no standard measures of resilience or outcomes used across DOD resilience programs. Moreover, although some of the programs have been widely disseminated and shown by research to be effective in non-military populations, by and large there is little evidence that these military programs truly build resilience. Meredith and colleagues reviewed 270 documents and found only 11 with a randomized controlled design. Three programs—Battlemind, Comprehensive Soldier Fitness, and Combat Operational Stress Control—are discussed in more detail below. See Chapter 5, *What Should Be Measured?*, for additional discussion about measuring the concept of resilience.

Battlemind

Battlemind, which is now called Resilience Training, is an Army program designed to foster resilience by teaching self-confidence and mental toughness in the context of deployment and transitioning home. The term “battlemind” is defined as the soldier’s inner capacity to face fear and adversity with courage. Developed by researchers at Walter Reed Army Institute of Research, Battlemind is a psycho-educational intervention that uses a cognitive and skills-based

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approach to normalize reactions to operational stress, to build resilience, to ease the transition to home, and to promote self-recognition of psychological problems, help seeking, and identification of difficulties in others (Adler et al., 2009a,b). Prior to the widespread implementation of the program, randomized trials showed that the intervention had a positive effect on soldiers' adjustment from combat, although the effect sizes were small (Adler et al., 2009b). Battlemind was launched in 2007 and mandated Army-wide.

There are several Battlemind modules,[1] the most prominent of which are Battlemind Debriefing and Battlemind Training. Battlemind Debriefing is used at various intervals during combat deployment and sometimes post-deployment to deal with deployment's cumulative effects. Among its goals are to identify the traumatic events that have placed a significant demand on unit members; to normalize thoughts and reactions; to discuss anger, withdrawal, and sleep problems; and to emphasize what individuals can do for themselves and their comrades. The debriefing seeks to restore a sense of duty and honor to the participants in order to enable them to proceed with their mission (Orsingher et al., 2008). Unlike other types of psychological debriefing, Battlemind Debriefing minimizes the degree to which traumatic events are recounted in order to avoid re-traumatization (Adler et al., 2009a).

Battlemind Training, on the other hand, is expressly designed for the post-deployment period. Based on Walter Reed Army Institute research (Adler et al., 2009a), it is a 1-hour psycho-educational intervention led by a psychological health professional which takes a cognitive and skills-based approach to informing military personnel about the post-deployment transition. It reinforces the point that specific skills that serve individuals well in combat need to be reframed and adapted for the transition home.

Several studies have evaluated the effectiveness of Battlemind. A randomized controlled trial involving 2,297 soldiers looked at Battlemind Debriefing and Battlemind Training interventions that were held 1 month post-deployment. The study found that Battlemind had positive effects on psychological health when compared to stress education, but only for those with high levels of combat exposure. More specifically, the study found that at 4 months follow-up both modules of Battlemind led to fewer symptoms of PTSD, less depression, and fewer sleep problems in those with high levels of combat exposure (Adler et al., 2009a). Another controlled trial of a 1-hour Battlemind training module carried out at 1 to 6 months post-deployment found fewer PTSD and depression symptoms at the 6-month follow-up; these benefits applied to participants as a whole, were of a small to medium effect size for PTSD symptoms (d=0.3 for PTSD Checklist (PCL) change score compared to a survey-only control condition), and were not restricted to those with high levels of combat exposure, although there was a high rate of loss to follow-up at 6 months (67 percent), which limited conclusions (Castro et al., 2012). The study also found less stigma surrounding help seeking immediately after the Battlemind session but not at follow-up. A UK version of Battlemind Training, described as more didactic in nature and lasting about 45 minutes, was studied in a cluster randomized controlled trial and showed no difference in PTSD and other psychiatric symptoms, although it did find a modest lowering of self-reported binge drinking (Mulligan et al., 2012). The control group was a standard post-deployment stress and homecoming brief and thus was more active than the survey-only condition used in the Castro et al. (2012) study; limitations of the study included relatively

[1] Modules have been created for delivery at different stages of deployment (e.g., pre- or post-deployment) and for different personnel (e.g., soldiers, leaders, spouses).

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minimal PTSD symptoms overall (mean PCL 23.6) and some crossover between the conditions. Some of the Battlemind modules have been converted from a standalone program into components of Comprehensive Soldier Fitness.

Comprehensive Soldier Fitness

In 2009 the Army launched the $125 million Comprehensive Soldier Fitness program (U.S. Army, 2009), the largest universal prevention program of its kind. At present it has already reached 1 million soldiers (Lester et al., 2011b). The goals of the Comprehensive Soldier Fitness (CSF) program are to prevent adverse psychological health consequences of trauma exposure—most notably, PTSD and depression—by increasing resilience in service members before deployment. The CSF program is based, in part, on the Penn Resiliency Program, which was developed by Martin Seligman at the University of Pennsylvania (Cornum et al., 2011). The Penn Resiliency Program is based on positive psychology as well as on cognitive behavioral theories of depression, and it includes training in assertiveness, negotiation, social skills, creative problem solving, the use of optimism and positive explanatory approaches, and decision making.

The CSF resilience-building program has four components that are designed to enhance service members' mental, spiritual, physical, and social capabilities: (1) master resilience training, a 10-day, hands-on, face-to-face training course that includes the principles of positive psychology (Reivich et al., 2011); (2) comprehensive resilience modules (formerly known as Battlemind), which are training modules that focus on specific resilience skills using precepts of positive psychology, cognitive restructuring, mindfulness, and research on posttraumatic stress, unit cohesion, occupational health models, organizational leadership, and deployment in order to prepare service members for military life, combat, and transitioning home; (3) the global assessment tool (GAT), a confidential online 105-question survey that must be taken annually; and (4) institutional resilience training, which is expected to occur at every level of the Noncommissioned Officer Education System and the Officer Education System (U.S. Army, 2013b). Master resilience training for noncommissioned officers and mid-level supervisors is a "train the trainer" component of CSF for sergeants to use with their troops. Versions of the program are also available for military families and Army civilians, although this committee found no evidence of their implementation with these groups. The CSF GAT measures psychosocial well-being in four domains: emotional fitness, social fitness, family fitness, and spiritual fitness. Results of the GAT are used to refer soldiers to programs aimed at enhancing their strengths and addressing their weaknesses, for example, training in flexible thinking if scores in this area are lower than the norm. A similar instrument, the Family GAT, is being developed for soldiers' spouses and partners to provide advice about possible resources for building emotional assets.

Internal Evaluation of CSF

Although evaluations that were conducted by CSF staff and were not subject to peer review have demonstrated statistically significant improvement in some GAT subscale scores, the effect sizes have been very small, with no clinically meaningful differences in pre- and post-test scores. Accordingly, it is difficult to argue there has been any meaningful change in GAT scores as a result of participation. For example, in *The Comprehensive Soldier Fitness Program Evaluation Report #3: Longitudinal Analysis of the Impact of Master Resilience Training on Self-Reported Resilience and Psychological Health Data* (Lester et al., 2011b), in a pre–post

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comparison the maximum effect size (partial η^2) of any outcome measured by the GAT was found to be 0.002 after exposure to the intervention. The only resilience or psychological health measures that saw significant improvement post-exposure were emotional fitness (a 1.31 percent improvement; 0.002 partial η^2) and social fitness (a 0.66 percent improvement; 0.000 partial η^2) (Lester et al., 2011b).

While Lester et al. (2011b) cite these figures as evidence of CSF's effectiveness for prevention, this committee does not find these results meaningful, given the low level of improvement and the very small effect size. External reviews, discussed below, have raised similar questions concerning the effect sizes of reported findings and related problems in accurate interpretation of the impact.

More recently, in another internal non–peer-reviewed report, *The Comprehensive Soldier and Family Fitness Program Evaluation Report #4: Evaluation of Resilience Training and Mental and Behavioral Health Outcomes*, Harms et al. (2013) examined psychological health diagnosis outcomes for 7,230 soldiers who received the GAT before Master Resiliency Training was initiated (October 2010) and again approximately 6 months later (about April 2011) and who consented to use of their data for research. The researchers compared five psychological health diagnoses recorded in the U.S. Army Medical Department's Patient Administration Systems and Biostatistics Activity (anxiety, depression, PTSD, alcohol abuse, and drug abuse) 3 months after return from deployment or completion of the second GAT for the 4,983 who had received the training (80 percent of whom had deployed) versus the 2,247 who had not (72 percent of whom had deployed). Findings revealed no change in the GAT factors and no difference in diagnosis among those receiving the intervention. Therefore, the subsequent mediation analysis performed by the authors cannot be interpreted as evidence of intervention/program impact.

External Reviews of CSF

In their review of CSF, Steenkamp et al. (2013) observed that the program that served as the blueprint for CSF, the Penn Resiliency program, did not, according to a meta-analysis, produce powerful effects in its own target, preventing depression in civilian adolescents and schoolchildren. The meta-analysis found that although the program reduced symptoms of depression, the effect size was small, and the program did not prevent, delay, or lessen "the intensity or duration of future psychological disorders" (Brunwasser et al., 2009, p. 1051). Prevention trials in adolescents and children find that an improvement in subclinical levels of depression is a more likely outcome than the prevention of a depression diagnosis in the future (Stice et al., 2009). With regard to the prevention of PTSD, Steenkamp and colleagues assert that no data at all support the effectiveness of the Penn Resiliency Program for adults; instead, they say, the best evidence for PTSD prevention can be found not in universal prevention programs like CSF, but in selective and indicated prevention programs, whose strongest effects are in preventing chronic PTSD in those who are already self-reporting clinically diagnosable stress-related symptoms (Bryant et al., 1998). Steenkamp and colleagues also criticized the GAT as not being designed to assess PTSD symptoms; it assesses only strengths and problems in emotional, social, family, and spiritual domains. "Thus the program evaluation could not adequately assess CSF's success in preventing PTSD" (Steenkamp et al., 2013, p. 509). Steenkamp and colleagues also question the underlying assumption of the program that increasing resilience prevents onset of PTSD, noting that "it is possible to be psychologically high functioning and still develop PTSD" (p. 510).

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In their article "The Dark Side of Comprehensive Soldier Fitness," Eidelson and colleagues (2011) emphasize that CSF was initiated without the use of pilot testing to determine program effectiveness. Like Steenkamp and colleagues, they criticize the application of the Penn Resiliency program in the face of the small effect sizes found in the meta-analysis by Brunwasser et al. (2009). Eidelson and colleagues also criticized the lack of CSF review by an independent ethics board, especially in light of the mandatory nature of the program. They assert that resilience training may "harm our soldiers by making them more likely to engage in combat actions that adversely affect their psychological health" (Eidelson et al., 2011, p. 643).

Smith (2013) critiques the CSF program as potentially causing harm. She observes that CSF's emphasis on positive emotions and reducing the frequency of negative emotions could be detrimental. Service members experiencing negative feelings could feel "marginalized and demoralized for failing to cope using CSF's strategies" (p. 244). To support this view, Smith cites a study by Norem and Illingworth (2004) finding that when a positive mood is induced, individuals who are pessimists display decreased ability to problem-solve. Smith also argues that CSF shifts responsibility for psychological health away from external causes, such as multiple deployments and prolonged periods of combat stress, and onto the individuals, who blame themselves for not preventing their own disorder. She points out that service members who experience self-blame are at risk for further mood disturbances and poorer quality of life (Smith, 2013).

Combat Operational Stress Control

During the past decade the Marine Corps has pioneered the development of the Combat Operational Stress Control (COSC) program whose goals are to prevent, identify, and treat combat and operational stress problems. Although the COSC program is being implemented in the Marine Corps and Navy, the generic concept of combat operational stress control informs activities in other service branches, albeit with different approaches. This section describes the Marine Corps and Navy program only. The program is taught and reinforced at multiple points during careers and deployment cycles. Its three major components are

1. The perception of stress as a continuum, according to a model that uses a color-coded tool to identify who is ready (green zone), reacting (yellow zone), injured (orange zone) and ill (red zone) (Nash, 2011). See Figure 5-1. The goal of COSC is to keep soldiers in the green zone or to treat them so they can return to the green zone.
2. The promotion of five core leadership functions: to strengthen service members; mitigate stressors; identify stress reactions, injuries, and illnesses; treat stress injuries and illnesses; and reintegrate stress casualties (Nash, 2011).
3. The oversight of combat operational stress first aid, a toolkit for non-medical care of stress injuries.

The Marine Corps requires that a percentage of leadership personnel in each operational unit be trained and certified in all three components of COSC under the related OSCAR (Operational Stress Control and Readiness) program. OSCAR is carried out by three different types of trained individuals: OSCAR "mentors," leaders who are strong role models and are ready to intervene and mentor other Marines with stress problems; OSCAR "extenders," who are chaplains, medical staff, and religious support specialists who can spot operational stress and provide a bridge to treatment by the third type of trained individual; and OSCAR psychological

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health personnel, who are embedded in operational units to provide formal psychological health services to troops and to provide training, oversight, and consultation to commanders. OSCAR is not an intervention per se, but rather the use of trained professional and leadership teams that promote healthy social norms and facilitate access to treatment.

READY (Green)	REACTING (Yellow)	INJURED (Orange)	ILL (Red)
DEFINITION • Optimal functioning • Adaptive growth • Wellness **FEATURES** • At one's best • Well-trained and prepared • In control • Physically, mentally, and spiritually fit • Mission-focused • Motivated • Calm and steady • Having fun • Behaving ethically	**DEFINITION** • Mild and transient distress or impairment • Always goes away • Low-risk **CAUSES** • Any stressor **FEATURES** • Feeling irritable, anxious, or down • Loss of motivation • Loss of focus • Difficulty sleeping • Muscle tension or other physical changes • Not having fun	**DEFINITION** • More severe and persistent distress or impairment • Leaves a scar • Higher-risk **CAUSES** • Life threat • Loss • Moral injury • Wear and tear **FEATURES** • Loss of control • Panic, rage, or depression • No longer feeling like normal self • Excessive guilt, shame, or blame	**DEFINITION** • Clinical mental disorder • Unhealed stress injury causing life impairment **TYPES** • PTSD • Depression • Anxiety • Substance abuse **FEATURES** • Symptoms persist and worsen over time • Severe distress or social or occupational impairment

FIGURE 4-1 Stress continuum model sponsored by the Marine Corps.
SOURCE: Nash, 2011.

The only formal study of the COSC program is a baseline assessment of 553 Marines from 4 different bases who were participating in COSC (Momen et al., 2012). In this baseline assessment, 43.5 percent of the sample reported that their most recent deployment was still causing stress, and 31 percent reported that the stress affected their job performance. The most common views of combat stress reactions were that they are treatable (70.5 percent), normal (68.2 percent), can be managed (57.4 percent), and are harmful to career (46.7 percent). The survey also reported on attitudes toward help seeking and the treatment of stress-related disorders and found that fears of treatment seeking included a lack of confidentiality, a loss of trust from their unit or being treated differently by members of their unit, harming their careers, and having a preference to solve their own problems. A formal evaluation of COSC/OSCAR, including its impact on Marine mission readiness, unit cohesion, stigma, and stress burden, is being conducted by the RAND Corporation and will be published in Spring 2014.

BOOT STRAP

BOOT STRAP (Bootcamp Survival Training for Navy Recruits—A Prescription) is a program designed to help recruits cope with the emotional challenges of training. There are two studies that have examined the effectiveness of BOOT STRAP. Interestingly, one study (Williams et al., 2004) randomly assigned delivery of a psychologist-led weekly 45-minute group intervention for only half of the 25 percent of recruits who scored at higher risk based on the Perceived Stress Scale (30 or above) or the Beck Depression Inventory (18 or above) at baseline. The manual uses a cognitive behavior therapy (CBT) approach to enhance coping skills, belonging, team building, and stress management and to reduce the thought distortions associated with depression. The remaining high- and low-risk recruits participated in a control condition with weekly education (e.g., on personal hygiene) but lacking CBT strategies or a focus on support. Among the high-risk group, a greater proportion of the intervention group (86

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percent) than the control group (74 percent) completed basic training; the completion rate among the intervention group was comparable to the 84 percent completion rate among the remaining 75 percent of recruits who had been deemed lower risk (Williams et al., 2004). In a follow-up study (Williams et al., 2007) of 1,199 Navy recruits cluster-randomized to either intervention or control status, the researchers did not find significantly different separation rates at 2 years or significantly different symptoms by the end of basic training (with differences in rate but not endpoint change in both studies), but they did find that those who trained in the more competitive summer "surge" recruitment months completed basic training at a significantly higher rate (10.3 versus 5.2 percent separation) (Williams et al., 2007). This program does show some feasibility and potential efficacy for the targeting of skills for those identified at risk upon initial entry into the military.

POSTTRAUMATIC STRESS DISORDER

This section summarizes a body of research on several clinical interventions designed to prevent the onset of PTSD after the traumatic exposure has occurred, some of which interventions have been demonstrated to be effective. These interventions can resolve PTSD symptoms effectively, possibly decreasing the likelihood of chronic and disabling outcomes in service members.

After exposure to a traumatic event, although rates vary based on many factors—approximately one-third of men and one-half of women—develop PTSD (North et al., 2005). Although symptoms may begin in the immediate aftermath of exposure to the traumatic event, PTSD is not diagnosed until at least 1 month later, most typically in the 1 to 3 months post-trauma. Frequently, PTSD is preceded by acute stress disorder (ASD), which can be diagnosed in the first 4 weeks post-trauma, after which PTSD criterion may be met (APA, 2013). This time separation is meant to separate those for whom symptoms are transitory from those who develop PTSD, which can become more chronic, and it affords the opportunity for early intervention to prevent PTSD in trauma-exposed individuals. Most prevention trials have tested interventions in trauma-exposed civilians. The main outcome measures have been either prevention of PTSD diagnosis or a reduction in PTSD symptomatology. This section evaluates the evidence for psychotherapy or pharmacotherapy interventions for the prevention of PTSD. For more information about PTSD prevention and treatment programs in DOD and VA, see *Treatment for Posttraumatic Stress Disorder in Military and Veteran Populations* (IOM, 2012). A second volume of that report, which will include an assessment of PTSD programs, will be released in summer 2014.

Psycho-Social Interventions

The strongest evidence for prevention of PTSD comes from studies of individuals with ASD who are given trauma-focused cognitive behavioral therapy. Eighty percent of individuals with ASD proceed to develop PTSD (Harvey and Bryant, 1998). Three randomized controlled trials in Australia by Bryant and colleagues (Bryant et al., 1998, 2003a, 2005) found that CBT prevents onset of PTSD in trauma-exposed individuals[2] who meet the criteria for ASD. The CBT

[2] Individuals were civilians who had experienced motor vehicle accidents, industrial accidents, nonsexual assault, or mild traumatic brain injury.

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consisted of five to six sessions of individual therapy that included education about trauma reactions, progressive muscle relaxation training, exposure to traumatic events, cognitive restructuring of fear-related beliefs, and graded exposure to avoided situations. Individuals were started on CBT within 2 weeks of trauma and were followed until 6 months post-trauma, at which point structured diagnostic interviews were conducted. In the first study Bryant and colleagues found fewer cases of PTSD in the CBT group (17 percent) than in the supportive counseling group (67 percent) (Bryant et al., 1998). Similar findings were reported in the second study, with fewer cases of PTSD in the CBT group (17 percent) than in the supportive counseling group (58 percent) (Bryant et al., 2003a). In the third study, subjects were randomized to supportive counseling, CBT, or CBT with hypnosis (including focused attention and muscle relaxation) for 15 minutes just prior to the imagined exposure exercises, the purpose of which was to help patients engage fully in the trauma exposure (Bryant et al., 2005). Although not significantly different at end of treatment or at 6 months post-treatment in the intent to treat analysis, fewer subjects in the CBT and CBT–hypnosis groups developed PTSD than subjects given supportive counseling; the findings were limited by a small sample size and a higher dropout rate in the CBT conditions. CBT–hypnosis yielded greater reduction than CBT in re-experiencing symptoms at post-treatment. These studies figured prominently in a meta-analysis by the Cochrane Collaboration, which concluded that individual trauma-focused CBT was effective at PTSD prevention for individuals with acute traumatic stress symptoms (Roberts et al., 2012). Still, the authors suggested additional study in the form of larger, high-quality trials with longer follow-up intervals. Other types of psychotherapy, such as trauma-focused group therapy, eye movement desensitization, and non-trauma-focused CBT, were not found effective in prevention of PTSD.

Two subsequent studies by the Australian research team are noteworthy. A 4-year follow-up of patients studied in an earlier trial (Bryant et al., 1998) found that PTSD rates continued to be lower in patients treated with trauma-focused CBT than those treated with supportive therapy (Bryant et al., 2003b). A separate randomized controlled trial compared the efficacy of the two main elements of trauma-focused CBT—exposure therapy and cognitive therapy—and found exposure therapy to be superior in preventing cases of PTSD in subjects with ASD (Bryant et al., 2008). In contrast, another study comparing exposure therapy and cognitive therapy found them to be similarly effective in reducing the prevalence of PTSD (Shalev et al., 2012). One difference between these two studies is that Bryant and colleagues (2008) required ASD at the time of recruitment, while Shalev et al. did not require dissociation or avoidance, but rather required at least two of the three *DSM-IV* PTSD diagnosis clusters without the 1-month time criterion.

Psychotherapy for civilians exposed to trauma—a group composed of people with and without ASD—shows less impressive results than psychotherapy for patients with ASD. In a meta-analysis for the Cochrane Collaboration, Roberts and colleagues (2010) evaluated eight randomized controlled trials of multi-session psychotherapies and found no evidence of PTSD prevention. In fact, they found that a trend for increased PTSD symptoms at 3- to 6-month follow-ups. Because of the potential for harm and the lack of evidence of a main effect, the authors concluded that no psychotherapy intervention can be recommended for routine use. The psychotherapies under study were trauma-focused CBT individual therapy, stress management/relaxation, trauma-focused CBT group therapy, eye movement desensitization, and non-trauma-focused CBT group therapy.

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Psychological debriefing, including critical incident stress debriefing (CISD), was created for use with rescue workers in the aftermath of potentially traumatic events. It includes a variety of single-session individual and group interventions that involve revisiting the trauma for the purpose of encouraging trauma-exposed persons to talk about their experiences during the trauma; to recognize and express their thoughts, emotions, and physical reactions during and since the event; and to learn coping methods. Specially trained debriefers lead the sessions, which usually focus on normalization of symptoms, group support, and provision of psychoeducation and information about resources (IOM, 2012). Most randomized controlled trials that have examined psychological debriefing for the prevention of PTSD have used one-time debriefings of victims of motor vehicle accidents or crimes, such as rape. Numerous reviews and meta-analyses of these studies have determined that this treatment is ineffective and occasionally harmful because it can cause re-traumatization or secondary exposure to trauma through forced discussion of trauma details experienced by the individual or others in group format (McNally et al., 2003; Rose et al., 2002). A more recent study (Adler et al., 2008) randomized 1,050 soldiers who served in Kosovo as peacekeepers into 62 groups that were subjected to 3 conditions: critical incident stress debriefing (the most common form of psychological debriefing), stress education, and wait list. No differences were found between groups in any of the measured psychological health outcomes, although it should be noted that soldiers in the study experienced relatively few traumas. In summary, psychological debriefing has not been shown to prevent PTSD, and the VA/DOD guidelines (VA and DOD, 2010) and the Cochrane review of this topic (Rose et al., 2002) have stated that compulsory psychological debriefing is contraindicated.

A different approach, prolonged exposure therapy, is based on fear-extinction models of PTSD and combines imagined and situational exposure through repeated confrontation of traumatic memories and avoided reminders to allow processing of the trauma, fear extinction (reduction in fear responses to trauma memories and reminders), and reduction in overgeneralization of fear contexts over time (e.g., learning that darkness alone does not mean another attack will occur) (VA, 2013). A key difference between this and psychological debriefing is that the exposures are repeated and maintained until anxiety diminishes. Rothbaum et al. (2012) examined whether an early intervention with a three-session modified version of prolonged exposure therapy following a traumatic event could reduce the onset of PTSD. Participants were trauma survivors found in an emergency department and were assigned to receive either prolonged exposure therapy or a symptom assessment only within 12 hours of experiencing the traumatic event. At 4 weeks following the intervention, there was no statistical difference in PTSD diagnosis (using the PTSD Symptom Scale Interview, PSS-I) between the two groups: 54 percent of the intervention group and 49 percent of the assessment-only group did not meet the criteria for PTSD at 4 weeks ($p=.60$). A treatment difference did emerge over time, however, as 74 percent of the intervention group and 53 percent of the assessment-only group ($p=.04$) did not meet the criteria for PTSD at 12 weeks. The effectiveness of the intervention varied according to the type of trauma. Those in the prolonged exposure group who had experienced sexual trauma saw significantly more improvement at both four ($p=.004$) and 12 weeks ($p=.05$) compared to the assessment-only group. Among those who experienced a transportation trauma or a physical assault, the prolonged exposure group did not see a significantly better outcome than the assessment only group at either 4 or 12 weeks (Rothbaum et al., 2012). These data provide a preliminary indication that the evidence-based approach of prolonged exposure therapy for PTSD may also be helpful as an early intervention strategy to

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prevent chronic PTSD development; additional research is needed to clarify the optimal length of treatment and target population for this approach.

Patients often take months or years to seek treatment for their PTSD (Kessler et al., 1995). Thus Zatzick and colleagues (2013) sought to deliver psychiatric care soon after the traumatic injury occurred in order to determine the ameliorative effects of such immediate treatment. Their study, which looked at 207 hospitalized injury survivors, was a stepped-care intervention trial of psychopharmacology and cognitive behavioral therapy. The CBT component included psychoeducation, muscle relaxation, cognitive restructuring, and graded exposure. Stepped care consists of case management targeted to the intensity of need and coordinated across different care settings by a team of psychological health professionals, including those with a master's degree in social work and nurse practitioners. Participants were initially screened in the hospital by the PTSD Checklist Civilian version (PCL–C). Patients with a score of at least 35 on the PCL–C were rescreened with a second PCL–C in the days and weeks post-discharge. Patients who again scored at least 35 were randomly assigned to stepped care or usual care. Symptoms of PTSD and functional impairment were assessed at 1, 3, 6, 9, and 12 months post-injury. At the 6-, 9-, and 12-month assessments, recipients of stepped care had clinically and significantly reduced symptoms of PTSD as determined by the Clinician-Administered PTSD Scale. Recipients of stepped care also exhibited significant improvements in physical function as measured by the Medical Outcomes Study Short Form 36 Physical Component Summary. The study concluded that a stepped-care intervention lowers PTSD symptoms and improves physical functioning during the first year post-injury, and provides an example of systematically adapting interventions based on screening.

Pharmacotherapy

The beta-adrenergic antagonist propranolol has been tested as a preventive intervention under the rationale that excessive noradrenergic activity is associated with PTSD. Although initial data in a small randomized trial of propranolol compared to placebo led to some suppression of physiologic reactivity to trauma cues when delivered in the emergency department 6 to 12 hours post-trauma and continued for the next 10 days, propranolol showed no significant reduction in PTSD symptoms 1 and 3 months thereafter (Pitman et al., 2002). Furthermore, a follow-up randomized controlled trial by the same group (Hoge et al., 2012) with propranolol dose maximized up to 240 mg/day for 19 days failed to find a significant difference in PTSD diagnosis, symptoms, or physiologic reactivity at 4 and 12 weeks post-trauma, and the authors concluded that propranolol could not be recommended as a PTSD prevention strategy in the acute aftermath of trauma. These findings were consistent with Stein and colleagues (2007), who also failed to find evidence for efficacy in PTSD prevention of 14 days of propranolol or gabapentin administered within 48 hours of traumatic injury compared to placebo in a small randomized controlled trial.

Hydrocortisone also has been tested under the rationale that low cortisol levels are associated with PTSD. Two small clinical trials found lower rates of PTSD at long-term follow-up (Schelling et al., 2001, 2004). In a third study by the same group, hydrocortisone given over a 4-day taper resulted in better postoperative adjustment after cardiac surgery, on the basis of measures of quality of life, stress, and PTSD (Weis et al., 2006). A small placebo-controlled randomized control trial (RCT) of 25 civilians with acute stress symptoms found the best results

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at 1-month and 3-month follow-up with a single high intravenous dose (100–400 mg) of hydrocortisone given within 6 hours of trauma (Zohar et al., 2011).

Selective serotonin reuptake inhibitors (SSRIs) also have been proposed to prevent PTSD by virtue of their established efficacy for PTSD and their anti-anxiety affects. Shalev and colleagues (2012) tested the SSRI escitalopram versus placebo given over 8 weeks, initiated within 1 month post-trauma. There was no difference between escitalopram and placebo in PTSD rates. The study also randomized patients to exposure therapy and cognitive therapy, which were found similarly effective in preventing PTSD in initially symptomatic patients, and more effective than medication, suggesting that CBT approaches may be more effective for PTSD prevention than this class of medication.

In a medical record study, the use of morphine during early resuscitation and trauma care of 696 wounded soldiers in Iraq was significantly associated with a lower risk of PTSD (odds ratio 0.47; $p < 0.001$) (Holbrook et al., 2010). The association continued to be significant after controlling for injury severity. The study was not randomized and was not designed to determine if the effect stemmed from pain reduction, antagonism of noradrenergic activity, or both. Another non-randomized study of trauma patients admitted to a hospital found that patients who met criteria for PTSD 3 months later received significantly less morphine at the time of hospitalization than those who did not develop PTSD (Bryant et al., 2009). The predictors of PTSD severity at 3 months were acute pain and mild traumatic brain injury after adjusting for injury severity, gender, age, and type of injury. The authors concluded that administration of morphine may attenuate fear conditioning. It is unclear whether morphine would be effective in the absence of physical injury and pain, although some animal data support attenuation of fear conditioning after a severe stressor (Szczytkowski-Thomson et al., 2013); additional randomized controlled trials are needed.

It should be noted that many patients receive benzodiazepines acutely, and there was early interest in benzodiazepines as an anxiolytic to prevent PTSD. Available data, however, suggest that benzodiazepines may impair extinction learning, lack efficacy for PTSD, and may even increase rates of PTSD when administered in the aftermath of trauma (Gelpin et al., 1996), leading the 2010 VA/DOD guidelines to list them as contraindicated.

Summary

PTSD may be preventable in patients at greatest risk—those with ASD or acute symptoms—who are given trauma-focused individual CBT, and one recent study suggests intervention starting within the first day post-trauma may be beneficial. It is less clear whether patients who are less symptomatic can have significant benefit from these types of early intervention strategies. Psychological debriefing is ineffective and possibly harmful; it is believed that required single-session debriefing with a review of trauma details is contraindicated and should be avoided. Although SSRI antidepressants have demonstrated efficacy for PTSD, a recent randomized controlled trial failed to show efficacy of escitalopram for PTSD prevention. The most promising pharmacotherapies with positive preliminary support are hydrocortisone and morphine given around the time of trauma, but large randomized clinical trials targeting individuals with a range of traumas, including trauma that does not include physical pain due to injury, are needed before definitive conclusions may be drawn.

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SUICIDE

The types of DOD suicide prevention interventions profiled here include crisis lines, gatekeeper training, primary care training and services, restricting access to lethal means, and a comprehensive suicide prevention program. When efficacy data are not available from DOD, the committee draws on efficacy data from similar programs in civilians. This section also describes a large-scale research effort that aims to inform ongoing health promotion, risk reduction, and suicide prevention efforts.

Suicide Crisis Lines

Each of the services prominently posts on its suicide prevention website the 800 number for the Military Crisis Line. Renamed the Military Crisis Line in 2012, the Veterans Suicide Crisis Line was launched in 2007 as a toll-free, confidential resource that links service members in crisis (or families and friends) to qualified responders. Two years after being launched, the Crisis Line added an anonymous online chat service and, in 2011, a text messaging service. The Military Crisis Line is a joint undertaking of DOD, VA, and the Substance Abuse and Mental Health Services Administration. The rationale for a suicide prevention crisis line is that suicide is often associated with stressful life events, and it is surrounded by psychological ambivalence; those surviving a suicide attempt often claim that their wish to die coexists with a wish to be rescued (Shaffer et al., 1988).

While the committee is aware of an National Institute of Mental Health–funded project to assess the feasibility of evaluating the Military Crisis Line (NIH RePORT, 2013), to date, the efficacy of the Military Crisis Line has not been evaluated. However, a descriptive study of the crisis call centers reported that the call volume to this national veterans crisis line, which is available 24 hours per day, 7 days per week, reached 171,000, with 70 percent of callers being male. It is worth noting that this service's advertising has been targeted at overcoming stigma and the resistance among service members to seeking help, with slogans such as "It takes the courage and strength of a soldier to ask for help." Over several years of implementation, the calls generated 16,000 referrals to care as well as referrals to services for homelessness and substance abuse (Knox et al., 2012).

The committee is aware of limited research in the biomedical literature that evaluate the efficacy of civilian crisis lines. Gould et al. (2007b) completed a study of 1,085 callers to a civilian hotline targeting suicidal adults in 2003–2004. This study assessed suicidality not only during the call, but also an average of 2 weeks afterward. It found that 50 percent of callers were indeed suicidal—they had a plan in place—and 8.1 percent had already taken some action to harm themselves immediately before calling the crisis line. The study also found a significant reduction, over the course of the call, in intent to die, hopelessness, and psychological pain. In the subsequent weeks hopelessness and psychological pain continued to decrease. The caller's intent to die by the conclusion of the call was the strongest predictor of subsequent suicidality (i.e., suicidal thinking, plan, or attempt). The findings underestimated the effects of the hotline because they screened out callers whose suicide risk status was deemed by the counselor to be "too high," according to their clinical criteria, to participate in the study. A subsequent study by the same team of investigators found that 50 percent of suicidal callers subsequently utilized psychological health referrals obtained by calling the crisis line (Gould et al., 2007a). A study of

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a suicide prevention program for adolescents succeeded in reducing the suicidality of callers over the course of the consultation (King et al., 2003).

In a study of 14 call centers in the 1-800-SUICIDE network, Mishara et al. (2007) found great variability in adherence to protocol among volunteers receiving the calls. Most volunteers did not ask the most basic questions about suicidal ideation, such as how the caller intended to commit suicide or if the caller had the means to complete the suicide. Similarly, in 10 observed cases when a suicide appeared to be in process, the volunteer failed to follow protocol and send an ambulance to the caller's location. The authors suggest establishing a routine monitoring system would help ensure that minimum standards are met by suicide call centers (Mishara et al., 2007).

Gatekeeper Training

Gatekeeper training is a generic approach that teaches specific groups of people to identify those around them who are at high risk for suicide and then to refer those people for treatment. The two most prominent gatekeeper training programs are sponsored by the Army: Ask, Care, Escort (ACE) and Applied Suicide Intervention Skills Training (ASIST). The former uses peers as gatekeepers, while the latter is generally reserved for health professionals, clergy, or officers.

The ACE program aims to use peers to target at-risk soldiers. Developed by the U.S. Army Center for Health Promotion and Preventive Medicine, the program includes 1.5 hours of formal training with DVDs, PowerPoint files, handouts, and training tip cards. Its specific aims are to

- Train soldiers to recognize suicidality in fellow soldiers, including warning signs;
- Target soldiers who are reluctant to seek care because of stigma;
- Enhance the gatekeeper's confidence to ask whether a peer is contemplating suicide;
- Train soldiers in active listening; and
- Encourage gatekeepers to take peers directly to the chain of command, a chaplain, or a behavioral health clinician (Ramchand et al., 2011).

The efficacy of the ACE program has not been evaluated, but according to a major review of DOD programs by the RAND Corporation (Ramchand et al., 2011), the program has been reviewed by a panel of three suicide prevention experts and "found to meet standards of accuracy, safety, and programmatic guidelines."

The ASIST program for gatekeepers uses a 2-day training workshop. Its specific aims are to

- Identify soldiers who have suicidal ideation;
- Comprehend how gatekeepers' beliefs and attitudes affect suicide intervention;
- Search for a shared understanding of reasons for suicidal ideation and reasons for living;
- Assess risk and develop a plan to increase safety from suicidal behavior for an agreed amount of time; and
- Follow up on safety commitments and ascertain whether additional help is needed (Ramchand et al., 2011).

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The Army's goal is to have at least two ASIST-trained gatekeepers for each installation, camp, state, territory, and reserve support center. The Army's policy requires training for chaplains and their assistants, psychological health professionals, and Army Community Service staff members. ASIST was founded in 1983 by researchers at the University of Calgary and a decade later was taken over by the company LivingWorks Education. ASIST is being used by the U.S. Army, U.S. Air Force, Canadian armed forces, and many civilian agencies (U.S. Army, 2013c).

The efficacy of ASIST has not been investigated by the Army. The RAND study of military suicide prevention programs identified five evaluations of civilian ASIST programs, but only one was published in the peer-reviewed literature. It was a survey of gatekeeper-trained staff members of a two-site health care facility serving over 1 million residents in Ontario, Canada (McAuliffe and Perry, 2007). The survey, which was conducted before and 2 years after gatekeeper training, found an annual increase of 14 to 21 percent in identification of suicidal risk by patients in the emergency department. It also found a 14.5 percent reduction in the length of stay for admitted patients. Respondents' knowledge of what steps to take after assessing suicide risk increased from 87 to 97 percent. The percentage of staff endorsing the statement "I am provided with adequate ongoing training in how to assess and respond to patients with suicide risk" increased from 30 to 80 percent. The survey was not designed to evaluate the program's impact on suicide rates or suicidality.

A systematic review of seven other gatekeeper programs (not including ASIST) found that the programs produced a significant improvement in gatekeeper's attitudes, skills, and general knowledge of suicide prevention (Isaac et al., 2009). One of the seven programs being reviewed was for the Department of Veterans Affairs. That review found significant improvement in counseling center clinical and administrative staff (n=602) in staff knowledge, self-efficacy, and three gatekeeper skills from pre- to post-training (Matthieu et al., 2008). None of the gatekeeper programs, whether military or civilian, has been evaluated for their impact on rates of suicidality or suicide.

Primary Care Training and Services

Although not expressly intended to prevent suicides, one widespread DOD program designed to encourage recognition and high-quality treatment of depression and PTSD in primary care (using existing evidence-based screens), RESPECT–Mil,[3] does have ingredients of effective suicide prevention. That is because the program requires that soldiers who are identified as having depression or PTSD symptoms be screened for suicide risk. Primary care provider education is one of only two effective types of suicide prevention programs according to an influential review article (Mann et al., 2005). Primary care offers a valuable opportunity for suicide prevention because most suicidal patients have contact with their primary care providers in the months before their death (Andersen et al., 2000; Luoma et al., 2002) and because entering primary care is considered less stigmatizing than entering specialty care. No patient outcome data are available for the RESPECT–Mil program, but a research psychologist is working with the program to implement a continuous program evaluation effort (RAND Corporation, 2013). A

[3] RESPECT–Mil stands for Re-Engineering Systems of Primary Care Treatment in the Military. The program trains primary care providers in detection and treatment of PTSD and depression, relies on a nurse facilitator to ensure continuity of care, and has a behavioral health specialist review each case and consult with the nurse facilitator. For details of the program and reporting of efficacy, see Engel et al. (2008).

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2009 internal evaluation of the RESPECT–Mil program found that among a convenience sample of service members previously deployed, RESPECT–Mil appeared to detect depression and PTSD problems in up to 5 percent of returning service members who were not detected as having problems during their post-deployment health assessment screening,[4] a population-based screening process performed immediately following return from deployment (Military Health System Clinical Quality Management, 2009b). Among a different sample of RESPECT–Mil participants, 43 percent of service members who screened positive for PTSD or depression or received a diagnosis for either condition contacted psychological health services within 30 days (Military Health System Clinical Quality Management, 2009a).

Two of the most prominent primary care programs for civilians give primary care providers depression education or extra support, or both. On the Swedish island of Gotland, a program in primary care education led to a reduction in the suicide rate (Rutz et al., 1989). In the United States, a program[5] using a depression care manager in primary care to provide algorithm-based care and monitoring of symptoms, adverse effects of drugs, and adherence to treatment was associated in a randomized controlled trial with less depression, less suicidal ideation, and less mortality (Alexopoulos et al., 2009; Bruce et al., 2004; Gallo et al., 2013). All-cause mortality was studied because the sample size (20 primary care practices) was too small to have the power to detect changes in the suicide rate.

Restricting Access to Lethal Means

Research shows unequivocal evidence of an association between firearm possession and increased risk of suicide (Freeman et al., 2003). Guns are the primary method of suicide by service members and veterans; these groups are known to have high rates of gun ownership (Claassen and Knox, 2011). A recent population-based study of veterans found that they were twice as likely as non-veterans to die by suicide and 58 percent more likely than non-veterans to use firearms rather than other suicide methods to end their lives (Kaplan et al., 2007). According to the DOD Suicide Event Report program, of the 301 military members in all services who died by suicide in 2011, 172 (60 percent) used firearms to kill themselves. Of those who used firearms, 141 (82 percent) used non-military-issue firearms and only 31 (18 percent) used military-issue firearms (DCOE, 2012a). That underscores the importance of assessing and addressing the access to non-military-issue firearms as well as military-issue firearms by people who are at risk for suicide.

International experts who reviewed the literature on suicide prevention interventions concluded that the restriction of access to lethal means is one of the few suicide prevention policies with proven effectiveness (Mann et al., 2005). In the United States, legislation aimed at tightening handgun control in the general population has been shown to reduce suicide deaths by firearms among some subgroups (Loftin et al., 1991; Ludwig and Cook, 2000).

DOD gun-safety protocols for military-issue weapons exist, but the guidance on lethal-means counseling and restricting gun access is vague. Current DOD policy does not have provisions for restricting access to privately owned firearms for those believed to be at risk for suicide. In fact, the fiscal year (FY) 2011 National Defense Authorization Act (PL 111-383, Section 1062) prohibits the Secretary of Defense from issuing any regulation or policy on legally

[4] See Chapter 4 for a description of the post-deployment health assessment.
[5] The PROSPECT trial (Prevention of Suicide in Primary Care Elderly: Collaborative Trial).

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owned personal firearms or ammunition kept by troops or civilian employees off base as well as from collecting any information on their guns or ammunition.[6] More recently, however, DOD military leaders have been quoted in the popular press as stating that they are considering a policy that "will allow separation of privately owned firearms from those believed to be at risk of suicide" (Jordan, 2012). After the Israeli military restricted access to military-issue firearms,[7] the suicide rate among adolescents (defined as ages 18 to 21) declined by 40 percent (Lubin et al., 2010). The VA/DOD Clinical Practice Guideline for the Assessment and Management of Patients at Risk for Suicide (VA and DOD, 2013) advocates restriction of lethal means for the suicidal patient.

In a study of National Violent Death Reporting System data, Caetano et al. (2013) found that in the general population alcohol was present in between 23 percent and 47 percent of people who died by suicide, with the percentage varying by race/ethnicity. Among those of Asian/Pacific Islands ancestry, 23 percent had positive blood alcohol, compared with 26 percent of blacks, 33 percent of whites, 38 percent of Hispanics, and 47 percent of American Indians and Alaskan Natives. The authors reported that the percentage of suicides with positive blood alcohol was lower in veterans than in non-veterans, although they did not present that data (Caetano et al., 2013).

In a study for DOD, Luxton et al. (2012) found that among active-duty service members who died by suicide in 2011, 21.3 percent had positive blood alcohol, and 8.7 percent tested positive for drugs. Among active-duty service members who attempted suicide, 64 percent showed evidence of drug or alcohol use. Prescription drugs, largely antidepressants and anti-anxiety medications, were the most frequently misused psychotropic drugs among service members with known drug use who completed or attempted suicide (Luxton et al., 2012). Restriction of medications commonly used in suicide is an effective method of suicide prevention, according to the systematic review by Mann and colleagues (2005). The military does not have any specific policy on restrictions on prescription drug availability.

Comprehensive Suicide Prevention Program

Responding to a spike in its suicide rate, in 1997 the U.S. Air Force (USAF) leadership implemented a multifaceted suicide prevention program consisting of 11 initiatives (see Box 5-1) (Knox et al., 2003). The broad-based initiatives were aimed at removing the stigma of seeking psychological health care, enhancing understanding of psychological health, and changing policies and social norms to encourage psychological health care and help individuals avoid negative career consequences from seeking help. The innovators who developed the program described it as a shift from viewing suicide as a medical problem to viewing suicide as a community-wide problem. During the program's first 5 years, investigators found a 33 percent reduction in the rate of suicide, from approximately 12.1 per 100,000 to 8.3 per 100,000. They also found reductions in severe and moderate family violence (54 percent and 30 percent, respectively) and decreased rates for accidental death and homicides. A second report published in 2010 indicated that the lower suicide rates had continued in the years following 2003, except for 2004 when the program was implemented less rigorously (Knox et al., 2003). This USAF

[6] PL 111-383: 111th Congress, Jan. 7, 2011.
[7] The study restricted access by preventing soldiers who were going home for the weekend from taking their military-issue firearms with them.

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program stands out among all other military prevention efforts for its comprehensiveness and for its evidence-based approach to reducing the suicide rate.

BOX 5–1
Initiatives of USAF Suicide Prevention Program

1. Leadership participation in suicide prevention activities
2. Provision of suicide prevention education in all formal training
3. Education of commanders to encourage help-seeking by subordinates
4. Increasing preventive functions performed by mental health personnel
5. Annual suicide prevention training for all military and civilian employees
6. Changes in policies to ensure that individuals under investigation for legal problems are assessed for suicide potential
7. Trauma stress response teams established to respond to terrorist attacks, serious accidents, or suicide
8. Establishment of a seamless system of services and Community Action Information Board to achieve a synergistic impact on community problems and reduce risk of suicide
9. Increased confidentiality when seen by mental health providers
10. Use of the IDS (Integrated Delivery System) Consultation Assessment Tool to enable commanders to assess unit strength and areas of vulnerability
11. Reliance on Suicide Event Surveillance System that tracks suicide events and facilitates analysis of potential risk factors

SOURCE: Knox et al., 2003.

Army STARRS

Although it is not a program intervention per se, Army STARRS (Study To Assess Risk and Resilience in Servicemembers) is a 5-year research study of risk and protective factors for suicide whose objective is to better understand psychological resilience, psychological health, and risk for self-harm among soldiers. Launched in 2009 through a partnership between the Army and the National Institute of Mental Health, Army STARRS supports an interdisciplinary team of investigators working on five separate study components: the Historical Administrative Data Study, New Soldier Study, All Army Study, Soldier Health Outcomes Study, and Special Studies (NIMH, 2013; U.S. Army, 2013a). Findings from these studies will be used to inform ongoing health promotion, risk reduction, and suicide prevention efforts.

Summary

DOD sponsors numerous types of suicide prevention programs, most of which vary by service (Ramchand et al., 2011). The USAF has the strongest program, and it is the only comprehensive program. Although it is commendable that DOD supports many programs, few have been evaluated. From the civilian literature it is clear that many programs being used by the military—involving gatekeepers, educational campaigns, and hotlines—have some limited evidence of effectiveness. The type of suicide prevention with the strongest evidence of effectiveness—restricting access to lethal means such as firearms and psychotropic medications—is not being undertaken by the military, in spite of the fact that firearms,

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particularly non-military-issue firearms, are used in 60 percent of military suicide deaths and psychotropic medications are frequently used in suicide attempts. DOD is sponsoring a large-scale research study to better understand psychological resilience, psychological health, and risk for self-harm among soldiers, which may further inform targets for future prevention efforts.

SUBSTANCE USE DISORDERS

A 2013 IOM committee—the Committee on Prevention, Diagnosis, Treatment, and Management of Substance Use Disorders in the U.S. Armed Forces—completed a comprehensive assessment of DOD policies and programs to prevent, identify, diagnose, and treat substance use disorders (SUDs) in active-duty service members, members of the National Guard and reserves, and military dependents. That committee's report, *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b), and other recent literature provide the basis for the following discussion of military policies, programs, and services for SUD prevention and the evidence base for SUD prevention interventions. Appendix G includes a full descriptive analysis of the SUD programs that committee reviewed. This section is organized by the types of DOD substance abuse prevention interventions profiled in that committee's report—drug testing, community-level education and outreach, service member education and training, screening and brief intervention, environmental strategies—and discusses the available evidence for these interventions.

Drug Testing

DOD and branch-specific policy emphasize drug testing as a SUD prevention strategy. The Military and Civilian Drug Testing Program requires all active-duty members to undergo a urinalysis at least once per year to test for illicit drug use (DOD, 2012b). All urinalyses test for marijuana, cocaine, and amphetamines, but testing for other drugs (LSD, opiates, barbiturates, PCP) is not done uniformly (Miech et al., 2013). Under the current zero-tolerance policy, a positive urinalysis result leads to separation from service. In 2012 DOD expanded the urinalysis drug testing programs to screen for some of the most commonly abused prescription medications, such as hydrocodone and benzodiazepines. Service members who have approved prescriptions will not be subject to disciplinary action for using them within the prescribed dosages and times.

Until recently, none of the branches tested for alcohol. In February 2013 the Navy rolled out an alcohol breath-testing program. Random breath testing is being conducted aboard Navy ships, and positive tests may be used to identify individual who receive assistance through the drug and alcohol program advisor and the Navy Alcohol Abuse Prevention Program (U.S. Navy, 2013).

As a prevention strategy, drug testing has a presumed deterrent effect by increasing awareness of the consequences of testing positive for illicit drug use (i.e., separation from the military). There is no research, however, showing that drug testing is an effective prevention strategy for service members and their dependents. As argued in *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b), reports that cite decreasing rates of illicit drug use as evidence of the effectiveness of drug testing (Bray and Hourani, 2007; Bray et al., 2010; Miech et al.,

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2013) do not take into account causality, secular trends, or other factors that affect rates of illicit drug use.

However, results from a recent study suggest that stringent military drug policy and programs may lead to a lifelong reduction in illegal drug use. Using a life-course perspective, Miech and colleagues (2013) examined long-term trends in past-year hallucinogen use among veterans and non-veterans by analyzing self-reported data from the National Survey of Drug Use and Health for 1985–2010. The results indicate that among a subgroup of respondents who reported a history of illegal drug use before the age of 18, the prevalence of hallucinogen use was lower among veterans than among non-veterans. The authors concluded that this finding suggests that the policies had their greatest effect by altering substance use trajectories that had already started.

Community-Level Education and Outreach

Aside from drug testing, DOD relies heavily on campaign-style prevention programs, including That Guy and the national Red Ribbon campaign. The That Guy campaign uses online and offline public service announcements, a website with animated risk scenarios and modeling of prevention techniques, and prevention marketing. The overall aims are to increase awareness about the hazards of excessive drinking and to change attitudes about this behavior. *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b) reviewed the campaign and found that it uses evidence-based practices of modeling, rehearsal, discussion, and practice and focuses primarily on negative perceived consequences, negative social consequences, and peer pressure. The committee is not aware, however, of any evaluation of the That Guy campaign.

Red Ribbon Week is an annual campaign conducted every October on military bases and in communities nationwide to raise awareness about SUD prevention and risk factors (National Family Partnership, 2013). The program is a universal prevention campaign aimed at addressing peer pressure and prosocial bonding in youth, as well as parent monitoring. In its review of the program, IOM (2013b) found no published information on Red Ribbon's theoretical basis and concluded that the program varies in campaign implementation across branches and bases and suffers from a lack of specification of participation requirements.

IOM (2013b) could not determine whether the That Guy or Red Ribbon programs are effective at preventing risky drinking and alcohol misuse among service members. There are at present no published peer-reviewed studies on formal outcome evaluations of these campaigns. Research on media campaigns to prevent drug use in youth has found that theory-based and evidence-based media campaigns can be effective in that population (Crano and Burgoon, 2002). However, the effectiveness of campaign activities within the military is unknown.

There are several notable population-based and community outreach initiatives sponsored by the Air Force. The Culture of Responsible Choices (CoRC) is a commander's program with emphasis on leadership and individual-, base-, and community-level involvement—underscoring responsible behaviors, including avoiding alcohol and drug abuse; the prevention of accidents; tobacco cessation; decreasing obesity and increasing fitness, health, and wellness; prevention of sexually transmitted diseases; and so on. The program includes annual training of leadership (i.e., commanders and health care providers) in prevention programs. Program implementation targets, in order, service members and their families, military bases, and, finally, surrounding communities. It specifies a clear chain of command regarding leadership, training, responsibility

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for implementation, and dissemination from the base to the surrounding community. Although there are no published studies on the efficacy of CoRC, the IOM (2013b) concluded that CoRC provides a good model for standardizing prevention training and delivery across the military branches and that it should be evaluated to determine its efficacy.

The New Orientation to Reduce Threats to Health from Secretive Problems That Affect Readiness (NORTH STAR) program is a community-based framework for the prevention of substance problems, family maltreatment, and suicide. It is an integrated delivery system involving commanders and providers partnered with Air Force community action and information boards at each of the 10 major commands (Heyman et al., 2011). The partners at each command selected the programs that matched their specific risk and protective factor profiles using a guide on evidence-based programs that called for rating the programs according to evaluation outcomes and targeted risk and protective factors. The guide also includes training, implementation, and survey evaluation protocols. The use of a framework, delivery system, and guide to select prevention programs that fit a particular base's risk and protective factor profile is based on extensive community-based prevention research strategies that have been evaluated in civilian populations (Heyman and Smith Slep, 2001; Pentz, 2003; Riggs et al., 2009). Studies of the effectiveness of the NORTH STAR program indicate that the program is promising. A randomized controlled trial of the program involving 24 Air Force bases and more than 50,000 active-duty military members found reductions in alcohol abuse and prescription drug use (as well as suicidality and partner physical abuse), after controlling for the level of integrated delivery system functioning and command support (Heyman et al., 2011).

In addition to the CoRC and NORTH STAR programs, Enforcing Underage Drinking Laws (EUDL) is another promising Air Force program. EUDL is a pilot program designed to reduce drinking and associated alcohol-related misconduct among underage active-duty Air Force members. The program funds the development of broad-based community coalitions to implement environmental prevention strategies that reduce the availability and consumption of alcoholic beverages by underage service members. The strategies employed include (1) enforcement aimed at reducing the social availability of alcohol, (2) compliance checks at alcohol establishments, (3) driving-under-the-influence checks, (4) education of state legislatures and development of local policies, (5) a media awareness campaign, and (6) provision of alternative activities to alcohol use. (See the section about environmental strategies below for more information about this type of SUD prevention.) Evaluation results from the five sites showed significant reductions in arrest rates for minors in possession of alcohol and for driving under the influence, both within sites and compared with control communities (Spera et al., 2010, 2012). *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b) reported that there are currently no plans to expand it to all Air Force bases; however, some of its components will be implemented within other Air Force–wide initiatives.

Service Member Education and Training

DOD-wide policies (DODD 1010.1 and DODD 1010.4) call for the provision of education to ensure that personnel understand the implications of not adhering to DOD policies concerning the use of alcohol and other drugs. However, the policies provide little or no guidance for prevention strategies involving large-scale efforts to educate individuals on the risks and health consequences of the use of alcohol and other drugs.

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Each service has specific policies for providing education and training. Alcohol and other drug abuse prevention curricula are included in the general military training provided by the services. The nature of the information and the frequency with which it is provided vary by service, but generally training entails providing service members with information about substance use policies, responsible behavior, risks and consequences of use, and available SUD programs and services.

In addition, each of the services has policies that focus specifically on training individuals in leadership roles to identify early substance abuse problems among their personnel (IOM, 2013b). These training programs vary among the services but can include the training of commanders and supervisors to recognize risk factors, serve as role models, and provide support for prevention. For example in the Navy, senior Navy personnel act as alcohol and drug control officers and provide guidance to drug and alcohol program advisors (DAPAs). DAPAs manage substance abuse prevention programs and conduct prevention education courses, including Alcohol-AWARE, Personal Responsibility and Values Education and Training, Alcohol and Drug Abuse Management Seminar for Leaders/Supervisors, and Skills for Life. In the Air Force, Airman Leadership School or Non-Commissioned Officer Academy students receive education and training that emphasize leadership in delivering prevention, the identification and referral of substance abusers, and education and counseling processes.

Research emphasizes the importance of training military leaders to identify at-risk personnel as early as possible in order to reduce risk of alcohol-related problems (Bray et al., 2013; IOM, 2013b). Leadership skill building should focus on how best to approach military personnel in a way that encourages help-seeking behavior and reduces defensiveness, negative attitudes, and stigma (Bray et al., 2013). Little is known about the quality of the SUD training and education provided in the military. The committee authoring *Returning Home from Iraq and Afghanistan* (IOM, 2013b) did not receive data or information about the theoretical underpinnings of the training and education programs, effects and outcomes, the proportion of service members who receive the education and training, or methods of delivery.

Screening and Brief Intervention

Routine screening and brief interventions for alcohol misuse within primary care settings are two effective approaches used by the military to deal with alcohol abuse. The Screening, Brief Intervention and Referral to Treatment (SBIRT) model is an evidence-based, comprehensive psychological health approach for the prevention of and intervention in risky alcohol use. The model includes screening for at-risk drinking, providing a brief intervention, and providing referrals to specialty substance use treatment for those who have alcohol dependence (IOM, 2013a). Evidence supporting the efficacy of the SBIRT model is not yet as plentiful or compelling for drug misuse as it is for alcohol misuse. It is also important to note that the effectiveness of SBIRT programs can depend on their fidelity, application, and comprehensiveness, and significant staff training and continuing monitoring are needed to maintain their effectiveness (IOM, 2013a).

Environmental Strategies

In addition to efforts aimed at affecting individual behavior, there are also system-level or environmental prevention strategies that target the community at large. Environmental

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prevention strategies are directed at community norms, institutions, attitudes, and policy regulation and can be highly effective (SAMHSA, 2012). For example, during the past several decades, anti-smoking campaigns have resulted in major reductions in smoking initiation and tobacco use through a combination of higher prices (i.e., taxation), restrictions on where use is permitted, and changed social norms about smoking. In *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b), the committee concluded that the military has a unique opportunity to communicate consistent messages about drinking, illicit drug use, and non-medical use of prescription drugs and to control environmental factors driving heavy drinking and prescription drug misuse. Such controls include restricting availability, increasing cost, and limiting permitted times and locations for the use of legal drugs.

Until recently, the military had few control measures directed at changing environmental factors that contribute to alcohol misuse. However, in August 2013 reports in the *Military Times* announced that commanders in four major Army garrisons were, or were considering, restricting sales of liquor at post exchange stores operated by the Army and Air Force Exchange Service. The types of restrictions would vary by garrison and would include halting the sale of hard liquor (not beer and wine) or the sale of all alcohol at certain store locations and limiting the hours that liquor is sold (Gould, 2013). At this time, the committee is not aware of any DOD-wide effort along these lines, but it sees this as a positive development. It is a first step in addressing problem drinking and the military's inconsistent messaging surrounding alcohol, which includes having a zero-tolerance policy while promoting the availability of alcohol.

In response to the growing problem of prescription drug abuse in the military, DOD has taken steps to foster a military medical practice environment that reduces the risk of prescription drug abuse (IOM, 2013b). For example, DOD's Pharmacoeconomic Center (PEC) developed systems and tools for monitoring the use of controlled substances prescribed for individuals. Despite noting some limitations,[8] *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b) found PEC's activities and reporting tools to be comprehensive. The Army recently set limits on the length of prescriptions for controlled substances as well as on the quantity dispensed (U.S. Army, 2011). Service members who need ongoing treatment with controlled substances will have greater contact with their prescribing physician, and those who are prescribed these medications on a short-term basis will not be allowed to use them beyond 30 days.

The environmental control measures taken by DOD to reduce misuse of alcohol and prescription drugs are consistent with research in this area. For alcohol, Babor and colleagues (2010b) discuss four environmental policy approaches that are appropriate in the military context: strategies controlling affordability through pricing and taxation, restricting the availability of alcohol for purchase, altering the context in which alcohol is consumed (e.g., requiring and implementing age identification), and preventing impaired driving through, for example, sobriety checkpoints and random breath tests. Partnerships within the larger communities in which military bases are located are also integral to a solid environmental prevention strategy (Spoth et al., 2011).

[8] The PEC data systems do not include in-theater pharmacy data in settings where there are no electronic medical records. Nor are they equipped to assess illicit activity on the part of service members who obtain prescriptions from civilian providers and retail pharmacies.

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For preventing illicit drug use and abuse of prescription drugs, Babor and colleagues (2010a) discuss three environmental, population-level approaches that are pertinent to the military. The first is supply control, which involves disrupting the production, distribution, and sale of drugs. Military commands can work with the communities around the bases to help implement actions (e.g., the arrest of traffickers and dealers) that disrupt local drug markets at the street level. A second approach involves the criminalization or decriminalization of drug use. Evidence on the effectiveness of both criminalization and decriminalization comes from U.S. and international studies (Hughes and Stevens, 2010), none of which has been based on military populations. Criminalization of drug use in the military is driven in part by the need for combat readiness, which is not an imperative in civilian populations. The use of prescription regimens is the third approach. Such regimens focus on controlling the safety, storage, and distribution of prescription drugs. Some of these measures entail tight regulation of prescription dispensing and control and over-the-counter sales, physician education, and increased enforcement of prescription regulations.

In addition, the Office of National Drug Control Policy has environmental prevention strategies that correspond with the prescription regimes of Babor and colleagues (Babor et al., 2010a; ONDCP, 2013). These include education for parents, children, patients, and providers; prescription drug monitoring programs; responsible prescription drug disposal programs; and proper implementation and enforcement of related policies and laws.

Recovery

Navy MORE (My Ongoing Recovery Experience) is the only DOD recovery program that the committee is aware of. Established in 2010, Navy MORE is targeted to substance abusers in their recovery period 12 to 18 months after the conclusion of formal substance use treatment. It is a Web- and phone-based program run by a contractor for the Navy Bureau of Medicine and Surgery. Each Navy MORE recipient is assigned a recovery coach who is a licensed alcohol and drug counselor trained in relapse prevention. Coaches are connected to clients via phone and the Internet. Clients in Navy MORE are given 7 online assessments over the course of 12 months. After filling out the assessment, clients receive a tailored educational recovery program designed according to their own unique needs in recovery. Navy MORE also sponsors workbook activities designed to enable clients to explore the challenges of recovery through hypothetical situations. Furthermore, the program's website has a "commitment tool" with which clients are able to track and report on their commitments and goals for recovery. The website also has an online library of more than 160 articles, fact sheets and videos and also a "serenity" tab that helps clients manage stress through meditation, prayer, affirmations, sober fun ideas, inspiring movies, and humor. Clients can remain connected with the recovery community through online tools, including an alumni bulletin board. The design of Navy MORE is based on evidence-based practices and milestones of recovery originating from the Butler Center for Research at Hazelden. Navy MORE is planning to perform an evaluation of its effectiveness (Hazelden Foundation, 2013; RAND Corporation, 2013).

Summary

By focusing on drug testing as prevention, DOD and the different military branches may fail to implement more evidence-based prevention strategies that have proven effectiveness, such as environmental strategies (e.g., reducing availability or raising the price of alcohol on bases).

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DOD policies provide little or no guidance for other prevention strategies, such as large-scale efforts to educate individuals on the risks and health consequences of alcohol and other drug use, indicated prevention programs for those identified as being at risk, prevention efforts aimed at military families, and environmental prevention strategies. Although some branches have policies that address these additional prevention strategies, DOD's delegation of SUD prevention to the individual branches results in the inconsistent availability of SUD prevention services for service members and their families (IOM, 2013b; Weinick et al., 2011).

As described in a previous committee's review (IOM, 2013b), programs exist that appear to meet prevention needs in that they are appropriate to the populations served, are theory based, address multiple risk factors, and have evaluated psychological outcomes. However, many of these programs adapted materials and concepts from civilian prevention programs and have not been tested with military populations. Furthermore, many of the prevention efforts appear to be focused on campaigns, Internet games, and camps or events with no research evidence that they affect substance use.

REINTEGRATION

Reintegration has been defined as the process of transitioning a service member back into personal and organizational roles following deployment (DCOE, 2012b). This period includes positive events, such as reunions with family and friends and a return to one's pre-deployment life, but it is also a time during which the service member faces increased tension at the personal, family, and work levels and exacerbation of deployment-related stress conditions.

Characteristics of the service member and his or her military status influence the length and nature of the reintegration period (DCOE, 2012b). The reintegration period for active-duty service members is generally a defined time-frame that occurs before, or concurrent with, preparations for a new mission or deployment. Veterans who transition out of active-duty status and members of the National Guard and reserve components may experience a more extended reintegration period as they transition back into a permanent civilian life. A significant concern for National Guard members and reservists is that they may not have ready access to reintegration resources at military facilities following their return from a deployment (DCOE, 2012b). Wounded service members experience additional reintegration challenges and may have unique needs for reintegration support. Studies have concluded that the current understanding of reintegration is extremely limited and should be expanded upon with significant research (Currie et al., 2011). This understanding is important to the development of interventions targeted at facilitating the reintegration process.

Currently, each service has its own distinct approach to the deployment cycle, and each defines the process of reintegration slightly differently, making it difficult to develop DOD-wide programs and initiatives for returning service members and their families (DCOE, 2012b). Moreover, although many resources to support reintegration exist, very few have well-defined policies, procedures, and metrics for assessing the needs and outcomes of the populations they serve (DCOE, 2012b).

The sections below describe four programs—third location decompression, Real Warriors, Yellow Ribbon Reintegration Program, and Wounded Warrior Programs—that are

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intended to support reintegration following deployment. The discussion includes what the committee has found in the literature about the evidence and effectiveness of these programs.

Third Location Decompression

Third location decompression (TLD) is a program held at the end of deployment and before reentry to home in a comfortable and relaxing stopover of 1 to 5 days in duration. The rationale for the program stems from research showing that Vietnam veterans with difficult homecoming experiences were more likely to have prolonged psychopathology (e.g., Borus, 1973; Koenen et al., 2003). While widely implemented by UK and Canadian Armed Forces, the U.S. military has used TLD in a more limited manner for specific units, such as the Marine Special Operations Command (Military Suicide Report, 2012) and some personnel in the Air Force and in the Naval Special Warfare Command (Garber and Zamorski, 2012).

The TLD program of the Canadian Armed Forces has two goals: to minimize distress and offer guidance on how to manage common problems related to the transition; and to promote help-seeking for psychological health and transition problems by reviewing personal signs and symptoms and refuting common misperceptions. Those goals are addressed by 3 hours of psychoeducation over the course of a 5-day stay at a resort in Cyprus. One hour is devoted to Battlemind Training, and the other 2 hours are spent on two electives on such topics as "Coping with Stress and Anger," "Healthy Relationships," and "Post-Deployment Reintegration From the Veteran's Perspective." Veterans' perceptions of the program, measured at program completion and 4 to 6 months later, were studied by Garber and Zamorski (2012). They found that 95 percent of the 3,300 participants endorsed the statement that "some form of TLD is a good idea," 74 percent endorsed the statement that TLD "made reintegration easier for me," and 60 percent endorsed the statement that TLD "made reintegration easier for my family."

Another evaluation compared the original Canadian TLD program with a new one (Zamorski et al., 2012). The purposes remain the same, but the new program scuttled Battlemind Training in favor of a review of the difficulties and accomplishments of the mission, a greater focus on assessing the severity of transition and psychological health problems, and a focus on the physiology of the human stress response. The evaluation of 22,113 Canadian personnel returning from Afghanistan found that the new program was superior to the old in terms of perceptions of the program's value, in confidence of psychological health knowledge and abilities, psychological health literacy, and sense of responsibility toward others. It was also found superior in self-management of psychological health problems and more positive attitudes about psychological health care. Neither of the evaluations assessed psychological health symptoms or mental functioning.

The UK Armed Forces sponsors a 24- to 36-hour TLD program with two distinct psychoeducational briefings dealing with identification and management of psychological health problems and with easing reintegration with family and friends. In an evaluation of TLD attendees (n=1,407) and non-attendees (n=1,664), Jones and colleagues (2013) found a positive effect on psychological health. The TLD group was less likely to report PTSD symptoms than those in the control group (3.0 percent versus 4.5 percent, AOR 0.57, 95% CI = 0.36–0.91). Those in the TLD group were also less likely to report multiple physical symptoms than the controls (6.6 percent versus 9.4 percent, AOR 0.65, 95% CI = 0.45–0.95), and less likely to report harmful levels of alcohol use (16.8 percent versus 19.5 percent of controls, AOR 0.74,

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95% CI = 0.54–1.00). There were no differences in readjustment as measured by a special self-report scale and no differences on the General Health Questionnaire, which assesses common psychological disorders. Attendees with medium combat exposure were less likely than controls with medium combat exposure to report PTSD symptoms and multiple physical symptoms. Attendees with low combat exposure were less likely to report symptoms on the General Health Questionnaire. The findings with respect to combat exposure were counterintuitive, as one would expect high combat exposure to carry the largest effects. One possible explanation suggested by the study authors is that a high combat exposure and high PTSD symptomatology may limit the service member's ability to engage in the TLD process. The authors concluded that TLD should continue to be used for deployed military personnel.

Real Warriors

Real Warriors is a high-profile multimedia DOD education campaign that employs public service announcements, social media, podcasts, a website, fact sheets, and press releases. The campaign's stated purposes are to build resilience, facilitate recovery, and support reintegration from deployment. The campaign is sponsored by the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury. The campaign features real stories of service members who reached out for help and had beneficial outcomes, such as learning coping skills, maintaining security clearances, and succeeding in their careers. In one of the campaign's take-home messages, the Army declared that "Real Warriors are proving through their example that reaching out is a sign of strength that benefits the entire military community" (Department of the Army, 2013).

The utility of the Real Warriors campaign has been assessed by the RAND Corporation (Acosta et al., 2012). RAND conducted a literature search to discern best practices and empirically defined features of effective psychological health media campaigns, it convened an expert panel, and it performed a content analysis of the Real Warriors website, among other methods. RAND's assessment found that the campaign's core messages, while appropriate and relevant, were not articulated anywhere on the Real Warriors' website. The assessment also found that the video profiles of personal stories of service members coping with psychological illness were compelling and constituted the heart of the campaign. However, the website was found to be so overwhelming that it caused "information overload." RAND's assessment also found that while most of the campaign's social media tools were viewed as useful, use of the tools was still fragmentary and not all partner organizations were actively involved in the campaign's dissemination. The RAND assessment was limited insofar as it did not perform an evaluation of the effectiveness of the campaign in terms of achieving health outcomes, such as gains in knowledge, symptom reductions, or changes in perspectives on seeking help. Although public education campaigns are a standard method of encouraging help seeking and promoting resilience, systematic reviews of similar campaigns for other populations find that they have only modest effects in curtailing suicidal behavior, increasing help seeking, or increasing use of antidepressants (Fountoulakis et al., 2011; Mann et al., 2005).

Yellow Ribbon Reintegration Program

The Yellow Ribbon Reintegration Program (YRRP) provides support to reserve component service members and their families before, during, and after mobilization. This population is eligible for an array of services and benefits at the different phases of mobilization;

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however, the resources are often difficult to navigate and many are located on or near active military installations—away from where many reserve component service members live. Through one-on-one meetings and workshops, the YRRP helps reserve component service members and their families connect to the health, financial, and employment services to which they are entitled (DCOE, 2012b).

The program activities are structured by deployment phase: pre-deployment, deployment, demobilization, and post-deployment. To find program activities, users can search the YRRP online event portal. Service members (or family members) using the portal can filter events by location, service branch, and deployment phase to find events that are relevant to them. Some, but not all, of the activities are mandatory (Yellow Ribbon Reintegration Program, 2013a).

One recent notable reintegration component of the YRRP is Hero2Hired, a Web-based comprehensive career services program that seeks out employers committed to hiring reserve component service members. Using the Hero2Hired website, reserve component service members and veterans can search for positions in private industry that match well to their military specialties. The program also provides resume assistance, interview preparation, and skills assessment tools to help reserve component service members match their skills and interests with potential careers (Yellow Ribbon Reintegration Program, 2013b).

In FY 2012, YRRP provided information and resources to 248,252 individuals—106,468 of which were family members—at 2,028 events. Based on event participant survey data, 80 percent of respondents were satisfied with the programming, and 91 percent reported that the YRRP event helped increase their knowledge of available support programs and resources. Nearly 80 percent of those surveyed noted an increase in their ability to communicate with their families, manage deployment-related stress and anxiety, manage finances and employment issues, and prepare for their continued military service (Yellow Ribbon Reintegration Program, 2013b).

Wounded Warrior Programs

The DOD Office of Wounded Warrior Care and Transition Policy, which was established in 2008, seeks to ensure that wounded, ill, injured, and transitioning service members obtain high-quality care (both medical and non-medical) and experience a seamless transition back to active duty or to civilian life. The office supports the programs offered by each military service's Wounded Warrior program and provides assistance and guidance to these programs. However, the office does not have the authority to direct the service-specific programs (GAO, 2012). The office developed and distributes several handbooks, among them a compensation and benefits handbook that covers recovery resources, medical care, DOD pay, the disability evaluation system, and reintegration. Another handbook addresses the resources available to caregivers, who are eligible for receipt of DOD compensation for their efforts on behalf of a catastrophically afflicted service member. The office also sponsors an education and employment initiative designed to assist recovering service members identify their skills and assist them in matching those skills with education and career opportunities. Finally, the office sponsors Operation Warfighter, which supports internships that place wounded warriors in real-world jobs and provides special supports to help them remain employed (DOD, 2013e).

In an evaluation report of DOD's and VA's progress in implementing policies on care, management, and transition of recovering service members and veterans, the Government

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Accountability Office (GAO) found that the DOD Wounded Warrior programs were not always accessible to those who needed them (GAO, 2012). The two main reasons were inconsistent methods for referrals and inconsistent eligibility criteria. For example, some Wounded Warrior programs restrict eligibility to those who only have combat-related injuries or illnesses, while others allow non-combat injuries as well. Additionally, GAO found that the Office of Wounded Warrior Care and Transition Policy lacked sufficient leadership and authority over the individual services. Currently, the office cannot direct how the services implement their Wounded Warrior programs. GAO identifies this as the main reason for program inconsistencies across the service-specific programs (GAO, 2012). Furthermore, GAO found, there is currently no body that collects information regarding the performance of the programs.

GAO recommended that DOD create an office to oversee and monitor activities of the wounded warrior programs. Among its tasks, the office should ensure uniform eligibility criteria and create a common mechanism to monitor the performance of Wounded Warrior programs. GAO also recommended more vigorous leadership to resolve the challenges with care coordination, disability evaluations, and electronic sharing of medical records (GAO, 2012). The Office of Wounded Warrior Transition Policy is currently conducting a Wounded Warrior program assessment at six sites (RAND Corporation, 2013).

MILITARY SEXUAL ASSAULT

As discussed in Chapter 4, sexual assault in the military is a significant problem that is associated with various psychological health disorders among victims, including PTSD, depression, and SUDs. The Sexual Assault Prevention Response (SAPR) program, which was established in 2005, oversees DOD policy and programs pertaining to military sexual assault (DOD, 2013f). A recent DOD directive instructs all military services to align their sexual assault prevention policies with the central SAPR program (DOD, 2013a). The SAPR program is mandated to focus on prevention, education and training, response capability, victim support, and reporting procedures (DOD, 2013c). DOD policy requires that sexual assault awareness and prevention training occurs at accession, as part of all professional military education activities, and during pre-command training.

A core tenet of the SAPR program is prevention at six levels of military culture and society. Those six levels are (1) strengthening individual knowledge and skills, (2) promoting community education, (3) educating providers, (4) fostering coalitions and networks, (5) changing organizational practices, and (6) influencing policy and legislation. The aim of this approach is to engage members of the military at all levels to do their part to help reduce sexual assault (DOD, 2013a).

Although each service branch must adhere to the central SAPR policy, there is some flexibility for branches to adapt programs to reflect their own individual cultures and structures. One of the primary strategies for preventing sexual assault in the military is to encourage service members to look out for each other, recognize potentially harmful situations, and intervene if they suspect unwanted sexual contact is likely to occur. This behavior is encouraged using a variety of methods. In the Army, for example, the I.A.M. Strong (Intervene. Act. Motivate.) campaign trains soldiers at all levels to create a shift in culture in which precursors to sexual assault are rejected and soldiers continually look out for each other. The program uses the Army's existing warrior ethos of "never leaving another comrade behind" to encourage this shift

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(DOD, 2013d). Additionally, commanders are trained to help create an environment of respect that encourages soldier intervention, reporting, and rejection of sexual innuendo and suggestion. The Army's sexual assault prevention program also has a website with training materials, policies, and video content (DOD, 2013d). Programs in other branches have a less visible online presence, but all encourage a combination of bystander intervention and the training of leaders to help foster a culture that rejects attitudes and behavior conducive to sexual assault, creates an environment of respect, and encourages the reporting of sexual assault after it occurs.

Because sexual assault is often unreported (and a goal of the SAPR program is to increase reporting), looking at the reported cases of sexual assault in the military is not necessarily a good indicator of the program's effectiveness at reducing sexual assaults. That said, reported sexual assaults among women rose significantly from 4.4 percent in fiscal year (FY) 2010 to 6.1 percent in FY 2012. Among men, there was no significant change between FY 2010 (0.9 percent) and FY 2012 (1.2 percent). However, SAPR also looks at other measurable outcomes, such as changes in knowledge, skills, and behaviors (DOD, 2013a). Overall, the military achieved nearly universal training of its service members in 2012 (96 percent of active-duty women and 97 percent of active-duty men received training). Service members also generally rated the training highly: 94 percent of men and women thought the training effectively explained what is considered sexual assault; 94 percent of men and women agreed the training communicated that alcohol may increase the likelihood of sexual assault; 93 percent of men and women felt the training taught them how to avoid situations that may be conducive to being a victim of sexual assault; and 92 percent of women and 93 percent of men agreed that the training taught them how to intervene when they witnessed a potential "risky situation" (DOD, 2013a).

In January 2012 the SAPR completed a rapid assessment of the commander training provided by the branches of service to officers (in pay grades O-4 through O-7) before they assumed command (DOD Sexual Assault Prevention and Response Office, 2012). This exercise was directed by (and delivered to) the Secretary of Defense. Although the training does appear to reach most service members, this exercise arose out of the concern that some of the service-specific elements of the SAPR program are not standardized across the services, are inconsistent in their application, and are missing critical evaluation components needed to measure their effectiveness (DOD Sexual Assault Prevention and Response Office, 2012). The assessment found that most of the program's messages were consistently presented and that the training appeared to be fully integrated into the pre-command curriculum. It also found, however, that the content varied across the services and that certain core SAPR messages were missing from some training programs. Additionally, the report noted that there were no assessments of training participants to ensure that they had mastered the core SAPR concepts, and it suggested that data should be collected and assessed to assist in validating the training curriculum (DOD Sexual Assault Prevention and Response Office, 2012). SAPR recommended that the Secretary of Defense direct the services to ensure that the core concepts of SAPR training are incorporated into the services' training materials and also that the revised training curricula be submitted to the Under Secretary of Defense to ensure they are in compliance with SAPR standards (DOD Sexual Assault Prevention and Response Office, 2012). DOD Instruction 6495.02 directs the services to comply with this recommendation (DOD, 2013c). That instruction also requires the services to submit to the Under Secretary of Defense quarterly and annual reports that assess the implementation of policies and procedures, advocacy activities (planned and completed), and data on restricted and unrestricted reports of sexual assault within the given service (DOD, 2013c).

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FAMILY-FOCUSED PROGRAMS

The care and support of military families is considered a national security policy priority because of the integral role that family members have in supporting service members and, therefore, the mission of the military. This section describes some of the DOD interventions for preventing psychological health problems among families and reviews what the committee has found in the literature concerning the evidence and effectiveness of these programs.

There are hundreds of family-related programs (DOD-wide and service-specific), and the policy and management responsibilities for them range across the DOD enterprise. The *Annual Report to Congress on Plans for the Department of Defense for the Support of Military Family Readiness* (DOD, 2011) contains a descriptive list of military family-readiness programs and activities for each of the military services and for the Office of the Secretary of Defense (OSD); however, it is not readily apparent which ones are considered prevention programs. OSD offices with family-related programs and activities include

- Office of the Deputy Assistant Secretary of Defense for Health Affairs;
    - Force Health Protection and Readiness
    - TRICARE Management Agency
    - Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury
    - Uniformed Services University of the Health Sciences' School of Medicine
- Office of the Assistant Secretary of Defense for Reserve Affairs
- Office of the Deputy Assistant Secretary of Defense for Military Community and Family Policy
- Office of the Deputy Under Secretary of Defense for Wounded Warrior Care and Transition Policy

The Office of the Assistant Deputy Secretary of Defense for Military Community and Family Policy (MC&FP) is responsible for family support policies and programs. Program areas include family center operations, child care, youth programs, family advocacy, relocation, transition support services, and support during mobilization and deployment. MC&FP has responsibilities for dependents' education programs, community programs, and coordination of the services of nonprofit agencies. In 2008 MC&FP launched the Joint Family Support Assistance Program to provide services solely to National Guard and reserve families, particularly those who live beyond the reach of services available on military installations (Blaisure et al., 2012). A major MC&FP program includes Military OneSource and Military and Family Life Counselor services, which are discussed later in the section on non-medical counseling services.

Recent Reviews of Family Programs

The committee examined several reviews that assess military family programs. A common finding is that there are gaps in the evidence supporting the effectiveness of interventions for military families. As mentioned in the beginning of this chapter, the RAND Corporation compiled a list of DOD programs that address psychological health and traumatic brain injury (Weinick et al., 2011). Of the 94 programs classified as prevention/resilience

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programs, 47 serve families in some capacity, and fewer than half (21) of those include an evidence-based intervention (see Appendix H) (RAND Corporation, 2013).

Similarly, the committee authoring the 2013 IOM report *Returning Home from Iraq and Afghanistan* (2013a) assessed family-focused programs and found a lack of information on the effectiveness of broad-based, universal prevention efforts targeting military families and children. It found that many interventions for family members have been developed and tested in civilian communities but not in military populations (see also Lester and Flake, 2013). That committee recommended that DOD increase its efforts to identify, develop, and test new prevention (and treatment) interventions targeted toward military families, including interventions directed specifically at children and adolescents. It also recommended that DOD include nontraditional families (e.g., same sex couples, non-married domestic partners, families with stepchildren, etc.) in its research and policies. This committee echoes that sentiment.

The DOD Military Family Readiness Council[9] annually provides to Congress an assessment of the adequacy and effectiveness of the military family readiness programs and activities. The Council's 2012 report (DOD, 2012c) made the following recommendations about strengthening program evaluation for family support programs:

1. Review existing programs and prepare them for program evaluation.
2. Include evaluation components when a new program is developed and implemented. When possible, these programs should be modeled on research-based programs.
3. Include funding for assessment in the program's budget.

The next section describes some of DOD's efforts to address gaps in program evidence and evaluation that were identified by the recent reviews of family programs.

Program Evaluation Projects

OSD recently launched a large-scale 5-year (FY 2013–FY 2017) program evaluation of DOD-wide family support programs (DOD, 2012c). It builds on a program review project started by MC&FP, in collaboration with the Penn State University Clearinghouse for Military Family Readiness, to assess the effectiveness of military family support programs. The objective of this effort is to measure the impact of family support programs across DOD and to move the portfolio of family support programs from being assessed with performance measures toward being assessed with outcome measures. The evaluation plan calls for the evaluation of two major OSD-sponsored programs including the non-medical counseling program that involves face-to-face counseling from Military OneSource and Military and Family Life Counselor services, and the Spouse Education and Career Opportunities program.

IOM (2013a) reported on an evaluation tool developed by Miller and her colleagues at the RAND Corporation (2011) that measures the performance of military family readiness programs.[10] Rather than developing program-specific evaluation instruments, they developed an adaptable survey instrument to measure five aspects of family readiness programs: (1) the problems and needs of service members and their families, (2) the actions families take to address their needs, (3) their satisfaction with the resources they use to meet their needs, (4) why

[9] Established in 2008 under section 1781a of title 10, U.S. Code, and the Federal Advisory Committee Act of 1972.
[10] The research was sponsored by the Under Secretary of Defense for Personnel and Readiness.

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certain resources were used and others were not (either military, civilian, formal, or informal resources), and (5) the effectiveness of the resources on retention and readiness. The authors noted that by measuring these issues rather than focusing on the individual programs, service providers and military leadership at all levels can better understand the needs of their service members, identify unmet needs among specific demographic groups and locations, and adjust service provision as needed to more effectively meet their needs (Miller et al., 2011). It is not known whether DOD has used or plans to use the survey instrument in any capacity.

Selecting a Sample of Family-Focused Programs for Assessment

In the sections that follow, the committee describes a sample of family-focused prevention programs administered by DOD. The committee did not conduct an exhaustive review of family prevention programs given the fast-track nature of this study and a determination that there was little value in duplicating the program reviews discussed above. The committee concentrated its assessment on a sample of DOD prevention programs and interventions with strong relevance to the targeted areas of this study and for which significant information and research findings were available in the literature. As such, the interventions discussed in the section should not be considered representative of all DOD prevention interventions. The programs are organized into the following areas: family-centered resiliency, non-medical counseling, couples education, military children, SUD prevention for military families, and family violence.

Family-Centered Resiliency

Families OverComing Under Stress (FOCUS) is a family-centered resiliency training program developed by researchers at the University of California, Los Angeles, and Harvard University and implemented under contract with the Navy. Adapted from an evidence-based family-centered preventive intervention for civilian families, the FOCUS program is designed to meet the specific needs of military families facing combat operational stress associated with wartime deployments, reintegration issues, and combat-related physical and psychological injuries. FOCUS is a selective prevention program, as families entering the program may be proactively seeking to enhance coping in the face of increased challenges or may already be experiencing deployment distress (Lester et al., 2012).

Designed to enhance resiliency—defined as "engagement in adaptive behaviors and achieving developmental milestones in the face of stressful or traumatic life events" (Lester et al., 2011a, p. 19)—FOCUS entails a series of integrated prevention services and employs a family narrative approach. Among these are eight structured family-training sessions that are designed to increase resiliency skills in the domains of communication, emotion regulation, managing trauma or loss reminders, problem solving, managing traumatic stress, and goal setting (Lester et al., 2011a). In addition, FOCUS uses a standardized psychological health assessment to customize service delivery and screens for a range of psychological health problems (e.g., PTSD, depression, suicidal ideation) in adults and children, supporting referrals to psychological health or other social support services for family members with an untreated significant psychological health problem or ongoing domestic violence or active substance abuse problems. Between 2008 and 2011, FOCUS delivered family resiliency training and parent child skill-building groups to more than 5,000 military children, spouses, and service members and also

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provided family-centered consultations, briefings, and educational workshops to more than 100,000 family members, providers, and other community members (Lester et al., 2013).

Lester and colleagues (2012) conducted a pre–post evaluation at the time of the program's initial implementation period which included 331 families with a mean of 4.5 service-member deployments. Post-intervention findings showed improved family function[11] and adaptation among FOCUS participants ($p<0.001$). There were significant reductions in symptoms of anxiety and depression among parents ($p<0.001$) and significant reductions in emotional and behavioral problems for boys and girls in all age groups ($p<0.001$).

A subsequent study on the impact of FOCUS by Lester and colleagues (2013) in 280 families with at least 1 active-duty military parent and at least 1 child aged 3 or older had two goals: to develop an understanding of how different type of distress (deployment-related stress, posttraumatic distress, family functioning, child adjustment, spousal adjustment) are related among families that participated in the program; and to evaluate the pathways of program impact on child psychological health symptoms using longitudinal assessment data following program participation. The findings confirmed the researchers' theory that psychological stress in military families reverberates throughout the family. In addition, the findings showed that at the time that families entered the program, distress levels among the service-member parent, civilian/caretaking parent, and children were all significantly related. Consistent with the initial evaluation, this study demonstrated that FOCUS improved family functioning, which can be expected to have helped reduce child distress. The authors acknowledge the limitations of conclusions drawn due to the open nature of these service evaluations and note that additional data from a randomized design with a control condition would offer more definitive support for the intervention.

Another resiliency program for families is Military Pathways, a multi-component program that uses universal and selective prevention approaches designed to help educate and support military families in coping with deployment stress, recognizing signs and symptoms of psychological health problems, and building resiliency and to help service members reconnect with their children. Program components include educational materials and anonymous, psychological health and alcohol-use self-assessments accessible online, via the phone, and through special events held at installations (Military Pathways, 2013). The self-assessments address PTSD, depression, generalized anxiety disorder, alcohol use, and bipolar disorder. After completing the self-assessment, individuals receive referral information, including information about services provided by TRICARE Health Program, Military OneSource, and Vet Centers. In addition, the family resiliency kit and a special program for youth (Signs of Suicide, or SOS) are special components aimed directly at military family members; trained paraprofessionals deliver the family kit, and school professionals (not specified) deliver the SOS program to youth in schools. A theoretical basis is implied by program content that includes empowerment building and social and family support seeking (IOM, 2013b).

Military Pathways targets active-duty service members and their families primarily at entry into the military and pre-deployment; however, the online, telephone, and video components can be accessed at any stage of military life. The program reaches more than 305,000 active-duty service members and their families each year (Weinick et al., 2011). Trials to evaluate the effectiveness of the self-screening and youth program components are ongoing

[11] Measured with the McMaster Family Assessment Device.

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(Weinick et al., 2011), but the committee is not aware of published outcome data on the alcohol, PTSD, or psychological health screening components.

Non-Medical Counseling

Non-medical counseling refers to short-term, problem-focused counseling designed to address general conditions of living; it addresses such issues as stress management, marital problems, parenting issues, grief, and crisis intervention. (Medical counseling, by contrast, is designed to address long-term, medically diagnosable issues, such as substance abuse, psychological illness, or PTSD.) DOD offers confidential, free non-medical counseling sessions to all active-duty, National Guard, and reserve members and their families. Services are available through Military OneSource and the Military and Family Life Consultant (MFLC) program. In FY 2011, Military OneSource provided more than 313,000 in-person counseling sessions (DOD, 2012a). Data regarding the number of telephone or online counseling sessions completed by Military OneSource were not reported. The MFLC program provides services, including evidence-based problem solving–focused behavioral and short-term counseling to active-duty service members and families on or off military installations. Support is provided to the reserve components for mobilization, deployment, and reunion activities as requested by reserve unit commands. In FY 2011 the MFLC program completed 6.9 million face-to-face contacts (DOD, 2012a).

DOD sponsored two studies assessing the effectiveness of the counseling services (DOD, 2012a). In one study, conducted in 2010 in collaboration with Virginia Polytechnic University, researchers collected data from an assessment tool completed by counseling participants in order to measure the impact of counseling through the MFLC program. The study found that 98 percent of respondents reported that the counseling sessions helped them deal more effectively with their problems and that they would use the service again. Virtually all (99 percent) reported that they received the kind of counseling service they wanted and that they would recommend MFLC services to a friend (DOD, 2012a). In the second study, DOD included questions on the use of non-medical counseling in the May 2010 Military Family Life Survey for military spouses and a paired subset of active-duty personnel. Spouses reported that MilitaryOne Source counseling was the second most utilized source of counseling. More than half found it to be “very useful” (Defense Manpower Data Center, 2011). (The most utilized source is medical counseling sponsored under TRICARE.)

Couples Education

The Prevention and Relationship Enhancement Program (PREP) for Strong Bonds is a scientifically based educational program for couples designed to address the stress on military couples posed by long separations, frequent relocations, and deployment. The program is based on research that shows that couples education is effective at improving couple functioning (Stanley et al., 2010). Its goal is to strengthen the family and prevent divorce by teaching couples skills, principles, and strategies associated with healthy relationships. The program, which is led by trained Army chaplains, includes a 1-day weekday training on post, followed by a weekend retreat at a hotel off post.

Program modules address such topics as communication and effective management skills, deployment and reintegration issues, fun and friendship, and relationship dynamics. An

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RCT found that the divorce rate for Army couples assigned to participate in PREP for Strong Bonds was one-third of that for control couples (2.03 percent for Army couples versus 6.2 percent for the control group) when assessed 1 year after the intervention. The study authors concluded that couples education—at least in the short run—can reduce the risk of divorce (Stanley et al., 2010).

It is also worth noting that couples-based cognitive behavioral therapy interventions specifically targeting PTSD are now available. For example, Cognitive Behavioral Couple Therapy (Monson et al., 2012) for PTSD is an evidence-based intervention designed to target both PTSD symptoms and couple functioning; in a randomized controlled trial it was found to lead to a significantly greater reduction in PSTD symptoms and significantly greater relationship satisfaction when compared with a waitlist control.

Military Children

Established in 2010 and funded by the Department of Defense Educational Activity, the Building Capacity Consortium project aims to make civilian school systems more aware of and responsive to the needs of military children. The project serves approximately 117,000 students in 140 schools in 8 school districts in San Diego and Riverside counties in Southern California. Approximately 10 percent of the students served by the program are from military families. The project has three primary aims:

1. Enable public schools to create military-friendly school environments that improve students' social, behavioral, and academic outcomes;
2. Build each local education agency's capacity to sustain the initiative long after grant funding ends; and
3. Create an infrastructure for replication and scaling up nationwide (Benbenishty and Esqueda, 2012).

A core component of the project is the placement of University of Southern California master's of social work students as interns in participating military-connected schools. In this way future social workers are trained about the needs of military children and military-connected schools, and the participating schools are provided with social work services (Astor et al., 2011).

In addition, the project has worked with the state of California, as part of the state's school-based health survey, to identify and collect data on military children for the first time. This information will help schools track psychological health trends and the needs of military children (Astor et al., 2011). The project also identifies and implements existing evidence-based programs that serve military children. This involves either adapting an existing program that serves military families to work in a school environment or adapting a school-based program that is not military focused to address the needs of military children. Some of the programs the Building Capacity Consortium has scaled up within participating schools include FOCUS, Family Readiness Express, Partners at Learning, A STEM, and Support for Students Exposed to Trauma (Astor et al., 2011).

The project released evaluation reports in 2011 and 2012 that offered project achievements, assessments of intern performance, and feedback from the interns on their training. Also reported were data from the California Health Kids Survey that include behavioral health information on substance use, violence, victimization, school performance, weapons, and

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gang membership in the participating schools. Trend data from 2000 to 2011 (the first year of the program) are reported, but no comparison data from non-participating schools are presented (Benbenishty and Esqueda, 2012).

SUD Prevention for Military Families

While some SUD-prevention resources target military spouses and children, no single uniform DOD program provides comprehensive SUD-prevention programming for dependents, and the committee authoring *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b) was not aware of any reports on the effectiveness of prevention resources for this population. *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b) did identify the following programs that exemplify SUD-prevention resources for military family members.

The Red Ribbon campaign is a universal prevention campaign aimed at addressing peer pressure and prosocial bonding in youth as well as parental monitoring. Thus, it is most developmentally appropriate for young military members with families. Red Ribbon Week is an annual campaign that is conducted nationwide in the United States every October both at the community level and on military bases. There is no evidence on this program's effectiveness, and both military bases and communities vary widely in the activities they sponsor under the auspices of the campaign.

Drug Education for Youth, or DEFY, is a comprehensive prevention program offered by the Air Force, Navy, and Marine Corps. It is aimed at adolescents and consists of a summer leadership camp and a school-year mentoring program. The program's curriculum includes a variety of topics, including substance abuse prevention and other vital life skills, such as conflict resolution, self-management skills, study skills, leadership, and community service. *Substance Use Disorders in the U.S. Armed Forces* (IOM, 2013b) did not find any formal outcome evaluations that have been conducted with military dependent participants, so it is unknown whether the program is effective at preventing SUDs for military dependents or at building any of its other targeted life skills.

As discussed earlier in the section on substance use disorders, the EUDL program is a pilot program that showed significant reductions in drinking among underage airmen (Spera et al., 2010). Its aims include making environmental changes in the community that may benefit spouses and child dependents. There are currently no plans to expand it to all Air Force bases; however, some of its components will be implemented as part of other Air Force–wide initiatives.

In studies of the effectiveness of prevention programs with civilian adolescent populations, SUD-prevention programs that focus only on increasing knowledge or changing attitudes have had fewer effects on substance use behaviors than programs that focus on building resistance skills as well as social and life skills (Botvin et al., 1995). The social resistance skills approach to drug use prevention recognizes the role of various social influences. These programs promote ways to avoid high-risk situations—where there is pressure to smoke, drink, or use drugs—and teach knowledge and skills needed to handle social pressure in such situations (Botvin and Griffin, 2004). Evidence-based SUD-prevention programs often address skills that are particularly relevant to military members and their families, such as resisting peer pressure, avoiding high-risk situations, identifying and bonding with individuals who provide social support and a non-use norm, and practicing emotional regulation and impulse control.

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Family Violence

In its review of family-focused programs, *Returning Home from Iraq and Afghanistan* (IOM, 2013a) found little information about the prevention of family violence or abuse in the military. In 2010 GAO concluded that, despite some improvements subsequent to the mandate to establish a DOD Task Force on Domestic Violence that was included in the National Defense Authorization Act for Fiscal Year 2000, "DOD lacks the sustained leadership and oversight of its efforts to prevent and treat domestic abuse that would enable the department to accurately assess the effectiveness of these efforts" (GAO, 2010, p. 23).

In studies of civilian populations, there is evidence supporting the restriction of access to lethal means in cases of domestic violence. The Federal Domestic Violence Gun Ban (the Lautenberg Amendment, in the Omnibus Consolidated Appropriations Act for FY 1997, P.L. 104-208) prohibits persons convicted of misdemeanor crimes of domestic violence from possessing firearms and ammunition (Krouse, 2012). There is no exception for law enforcement or military personnel. However, studies suggest that in cases of domestic violence other types of gun restrictions are more effective than misdemeanor laws, which is the only type of gun restriction implemented by the military in cases of domestic violence. Vigdor and Mercy (2006) examined the impact of three types of state law on intimate partner homicides in the civilian sector: (1) laws that prevent individuals who have been convicted of domestic violence misdemeanors from owning or purchasing a firearm, (2) laws preventing those individuals subject to a current restraining order from owning or purchasing a firearm, and (3) laws that allow law enforcement officers to confiscate firearms at the scene of an alleged domestic violence incident. They found that laws restricting access to firearms by individuals subject to a restraining order are an effective way to reduce interpersonal homicide rates. They find no evidence of an effect from domestic violence misdemeanor laws or laws that allow police to confiscate firearms at a domestic violence scene. The committee is not aware of whether DOD collects data on the numbers of service members with restraining orders.

Every military installation has a Family Advocacy Program (FAP) in place to provide an array of services dealing with sexual, physical, or emotional abuse of a family member (DOD, 2010b). Every service has an accreditation process with standards for counseling, record keeping, quality measurement, and staff credentials (DOD, 2013b). One prominent component of the program, the New Parent Support Program (NPSP), is a voluntary home visitation program targeting active-duty parents with children under age 3 identified as being at risk for family violence. Families can self-refer or be referred by a health provider. From 2005, when the program assessment began, to 2011, at least 85 percent of families who received intensive NPSP services for at least 6 months were not reported for child abuse or neglect within 1 year of completing the program (DOD, 2011, 2012a). No control group data were presented.

In regard to spousal abuse in FY 2009, 90 percent of service members who completed FAP treatment had not been reported for spousal abuse (physical, sexual, or emotional) within 1 year of program completion (DOD, 2010b); in FY 2010 that figure rose to 96 percent of service members who had completed a FAP treatment program (DOD, 2011) and in FY 2011 to 97 percent of participating service members (DOD, 2012a). Again, no control group data were presented, but DOD cited evidence indicating that abusers who complete a treatment program are less likely to repeat abuse than those who drop out of the program (DOD, 2012a). DOD noted, however, that spousal abusers are a heterogeneous group (for example, men or women who are

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emotional or physical abusers) and that the treatment for the various types of abuser differs greatly. The outcome data do not stratify by treatment type, so some treatments may be more effective than others (DOD, 2010b). The FAP is working toward capturing treatment-specific outcome data, but DOD did not report on the specifics of those efforts (DOD, 2010b).

A community-based program designed to address family violence as well as substance problems and suicidality is the NORTH STAR program (see the substance use disorder section for program details). Results from an RCT of more than 50,000 active-duty military members from 24 Air Force bases found that the program resulted in reductions in partner physical abuse (as well as suicidality, alcohol abuse, and prescription drug use) after controlling for the level of integrated delivery system functioning and command support (Heyman et al., 2011).

CONCLUSIONS

DOD has implemented numerous resilience and prevention programs that address various aspects of psychological health. The committee identified some programs that are based on evidence and that have demonstrated effectiveness; however, comprehensive assessments of DOD programs show that a majority of the programs are not based on evidence and that programs are evaluated infrequently. Programs tend focus on individual-level interventions, with few exceptions. There is a lack of a process within DOD to systematically develop, track, and evaluate programs; among those that are evaluated, there is wide variability in the rigor of the evaluation. Similarly, although some of the evidence that DOD cites as justification for some of its programs may be statistically significant, it is not always clinically meaningful. The committee is also concerned DOD does not systematically consider the cost-effectiveness of its programs to ensure that resources are directed to programs that see the greatest results per dollar spent.

For military families, the committee found no DOD universal prevention programs for which there is an evidence base. Many programs for military families originate in the civilian world and are not tested with military populations before they are implemented. Given the exceptional demands that deployments to Iraq and Afghanistan have placed on military families and the impact that family concerns have on soldiers' well-being, there continues to be a need for military leaders to gain a better understanding of the needs of families and to use that understanding to implement more effective coordinated programs and services for the good of military families and, thus, for the military as a whole.

DOD's delegation of prevention efforts to the individual branches results in inconsistent availability of prevention services for service members and their families. However, because many are not evaluated, inconsistent application of programs allows for piloting and experimentation, although currently there is not a systematic process for DOD or the individual branches to monitor or share best practices.

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5

MEASUREMENT OF DEPARTMENT OF DEFENSE PREVENTION INTERVENTIONS RELATED TO PSYCHOLOGICAL HEALTH

Building on the measurement frameworks discussed in Chapter 2, this chapter focuses on the committee's task of identifying the best metrics for evaluating Department of Defense (DOD) resilience and prevention interventions (programs and policies) that address psychological health. It is important to note that the assessment of prevention programming and policy overlaps in part but not entirely with performance measurement of psychological healthcare treatment programs. Prevention interventions are on a continuum and can include population health risk reduction carried out through policy changes as well as indicated risk-reduction screening combined with early intervention. Although "performance measurement" is typically used to refer to the assessment of health delivery services, the committee adapted this term in this chapter to refer to the metrics appropriate to all prevention initiatives.

The chapter begins with discussions about the purposes of and standards for good performance measures and the need for using measures at multiple levels (e.g., population health measures, individual- and system-level measures, and measures of process and the structure of services) when monitoring resilience and prevention programs and policies. Next is a brief overview of current efforts at DOD that can inform performance measurement of prevention interventions. Then, this chapter conceptualizes those domains that are appropriate to measure in a manner consistent with the committee's Model for Prevention Program Development and Measurement presented in Chapter 2. Reflecting the committee's finding that the current state of measurement for psychological health programming is inadequate, this section also illustrates how these measurement domains could be applied to prevention programs along the Institute of Medicine (IOM) continuum model. Finally, the committee presents findings from its review of performance measures promulgated by current national efforts. In this review the committee discusses the limitations and relevance of existing metrics to the development of metrics for quality improvement for the full continuum of prevention initiatives, again referring to the committee's model for prevention program development and measurement.

STANDARDS FOR PERFORMANCE MEASUREMENT

Although they are not specific to prevention contexts, recommendations on how best to measure and improve the quality of psychological health interventions already exist and provide useful guidance. The 2006 IOM report *Improving the Quality of Health Care* (IOM, 2006)

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emphasized that to measure quality effectively requires structures, resources, and expertise as well as strategic efforts among key stakeholders to

- Conceptualize the aspects of care to be measured.
- Translate the quality-of-care measurement concepts into performance-measure specifications.
- Pilot-test the performance-measure specifications to determine their validity, reliability, feasibility, and cost.
- Ensure calculation of the performance measures and their submission to a performance-measure repository.
- Audit to ensure that the performance measures have been calculated accurately and in accordance with specifications.
- Analyze and display the performance measures in a format or formats suitable for understanding by multiple intended audiences, such as consumers, health care–delivery entities, purchasers, and quality-oversight organizations.
- Maintain the effectiveness of individual performance measures and performance-measure sets and policies.

Related to these directives concerning appropriate measurement are the National Quality Forum (NQF) measure-selection criteria discussed in Chapter 2; briefly, the criteria include the importance of the measure, the scientific acceptability of measure properties (reliability and validity), feasibility, usability and use, and comparison to related or competing measures. The purpose of all quality-measurement initiatives is to improve the performance of the service delivery system (e.g., the health system). The process of conceptualizing performance and identifying quality-improvement processes has not been formally developed and applied to many population-level prevention initiatives or to prevention strategies and programs outside the formal healthcare system. Although the committee's charge was to examine existing performance measures, current quality measurement initiatives cover only a narrow slice of possible measures for prevention activities. Given this situation, the committee provides a discussion of how to broaden measurement to include prevention programs and proposes that DOD stakeholders engage in this process as a necessary starting point.

In order to effect change, quality measurement should be linked with activities at the locus of program delivery, and quality improvement techniques should be woven into the day-to-day operations of all organizations that are delivering programs (e.g., the local installation, the local family advocacy program, or the Air Force suicide prevention initiative) (IOM, 2006). For performance measurement to be effectively integrated with improvement and quality initiatives, it is also necessary for organizations such as DOD, the military service branches, and program offices to invest in the infrastructure and staffing necessary to ensure the selection of relevant measurements and also in program assessment and feedback based on routine data management and analysis. The initiation and continuation of novel programs without measurement interferes with creating an evidence base and with improving the intervention's implementation based on data concerning such things as feasibility, acceptability, and outcomes. At worst, a lack of measurement risks not a only failure to meet pressing needs or the continuation of programs that are ineffective and costly, but also a failure to detect potential harm caused by program components (e.g., increased drug addiction and suicidality associated with polypharmacy). Such quality measurement has become standard for evidence-based care, and such measurement and

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regular review by appropriately trained individuals charged with program oversight should be included in all supported DOD programs.

SCOPE OF PREVENTION MEASUREMENT

To translate the principles of quality-improvement initiatives and performance measurement into resilience and prevention interventions requires broadening the scope of measurement application. The committee found that current quality performance measurement initiatives place significant attention on health care quality as it affects individuals in clinical settings, focusing on narrow, technical, and clinical aspects of health care. There is growing recognition that the next stage of improving health and preventing disease will emphasize measurement at the population health level (and not solely the measurement of individuals entering clinical programs), population-based strategies including environmental changes (e.g., regulating alcohol availability by controlling the number of alcohol outlets in communities), policy changes (e.g., random breathalyzer testing of service members at work), and training and support for prevention programs (e.g., training of gatekeepers for suicide prevention) (IOM, 2012).

For resilience and prevention, the focus on health care quality inappropriately encourages improvement in a narrow set of outcomes and in those population groups using health care. Yet, the goals of resilience and prevention programs are broader and include proximal and distal health outcomes at the individual and population level. Thus, the quality of interventions that are delivered outside health care, the cost and resource use by the prevention system, and the exposure and engagement of all service and family members in these interventions are also important targets to assess (Berwick et al., 2008).

MEASUREMENT IN THE MILITARY

As is the case with all large enterprises, DOD maintains many kinds of operational measurement programs, but these activities are decentralized, uncoordinated, and organized at inconsistent levels. Indeed, military populations are subjected to more data collection than the general population, including mandatory data collection (e.g., random drug testing and self-report post-deployment health assessments) and voluntary data collection (e.g., periodic anonymous surveys of health behaviors and annual surveys of spouses). There are a variety of challenges facing these data collection programs, including that they support specific operational functions; that they are owned by disparate, uncoordinated, organizational entities; and that the data review or monitoring that occurs may benefit only one operational function, one DOD office, or one DOD level (e.g., service branch) and be uncoordinated with the informational needs of other DOD levels (e.g., operational managers and local prevention staff). In short, there is no systematic use of extant data as part of strategic DOD prevention initiatives. It was beyond the committee's charge to review these extant data collection programs at all levels of DOD, although such a review would be an important starting point. If a broad representation of DOD prevention stakeholders (e.g., public health and commander's programs) and content experts (e.g., headquarter sexual assault program experts and external experts, as needed) could be engaged in such a review of data collection, reporting, and interpretation, it could become a

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forum for an associated discussion of ongoing improvement of prevention programs and policies to enhance psychological health.

Broadly speaking, measurement and reporting occur within individual services (e.g., the Navy or the Army) and at DOD-level offices of Force Health Surveillance, Personnel, and Readiness (epidemiology); Defense Health Cost Analysis and Evaluation (health behavior surveys, special analyses); and Defense Manpower and Data Center (deployment records, surveys of spouses). Another layer of data collection for operational purposes is maintained by local commanders on high-risk behaviors of unit members, often linked to drug testing programs (e.g., the Army Risk Reduction Program; see Army Substance Abuse Program, 2013) and on unit climate assessments, including reports of sexual harassment and sexual assaults (e.g., the Air Force Unit Climate Assessments; see Schogol, 2013). These unit-level data appear to be reviewed by local commanders quarterly and may result in discussions with local prevention coordinators (e.g., sexual assault prevention coordinators), but the committee found no systematic use of these reports to assess or improve the quality of the prevention strategies chosen. The reliability and validity of data elements are unclear, and the training provided to local staff collecting assessments, interpreting the data, and suggesting next prevention steps is unknown. In sum, the uncoordinated, non-standardized collection of relevant prevention data within numerous program silos and at different organizational levels contributes to the complexity of improving assessment initiatives going forward. Although the committee's review discovered DOD offices responsible for the coordinated management of clinical quality, it did not discover any comparable entities responsible for quality review of prevention initiatives. The activities of those offices with clinical management functions are briefly reviewed here for context. The DOD office responsible for the oversight and management of clinical quality and population health is the Office of the Chief Medical Officer (OCMO), one of six directorates in the Defense Health Agency (DHA).[1] Responsibilities of the OCMO include a range of programs for quality assessment and improvement, patient safety, and population-based health management which are scattered across the TRICARE Military Health System and affect both the direct care and the purchased care components of TRICARE[2] (Defense Health Agency, 2013).

DOD has a number of quality-measurement activities for the clinical management of a range of health conditions. However, among the measures DOD identified in a report to Congress (DOD, 2012), the committee did not find any measures specifically addressing psychological health. For example, in its centralized Military Health System–wide database for health management—called the Military Health System Population Health Portal[3]—measures relate to outpatient and inpatient care for physical health conditions. Outpatient measures of care address issues from disease prevention (i.e., screenings for various cancers) to chronic disease management (i.e., diabetes). Inpatient care measures exist for heart conditions, pneumonia, asthma, and surgical care.

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[1] In October 2013 DOD established the DHA to manage the activities of the Military Health System, including those previously managed by TRICARE Management Activity, which was disestablished.

[2] There are seven divisions in OCMO: Behavioral Health, Clinical Quality, Health Care Benefits and Risk Management, Information Management, Patient Centered Medical Home, Patient Safety, and Population Health and Medical Management.

[3] The Military Health System Population Health Portal contains administrative health care data on TRICARE Prime/Plus enrollees who receive care through military treatment facilities and contracted providers.

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It is worth noting that DOD has implemented population health initiatives for tobacco cessation and education, obesity prevention and management, sexual assault prevention, suicide prevention, and alcohol abuse prevention. However, the committee is not aware of any measures being implemented by DOD to monitor the effectiveness of these population health programs. Although some data on these topics are routinely collected (e.g., epidemiological sexual assault incidence and suicide incidence), those data are limited to distal outcomes and do not appear to be used in efforts to evaluate specific prevention efforts. Quality-improvement approaches would prescribe that any system-level, program-level, or operational-level prevention initiative should always be accompanied by the careful, strategic planning of monitoring and surveillance of changes in the desired structures, processes, and outcomes with the appropriate oversight to enable utilization of such findings for ongoing quality improvement of prevention efforts.

WHAT SHOULD BE MEASURED?

Experts in the field of performance measurement agree that it is challenging to identify key indicators across the prevention continuum for psychological health for adults and children. This is because there are gaps in the empirical evidence in support of prevention programs and limitations in the breadth of existing indicators of quality (SAMHSA, 2013b). Useful and appropriate performance measurement is predicated on the existence of empirical evidence for specific interventions. As described in Chapter 2, the Substance Abuse and Mental Health Services Administration (SAMHSA) quality framework captures prevention and wellness in some population-level measures, but most measures are screening measures of health programs. Measuring the quality of population-based preventive interventions, such as policy change and stigma reduction programs, presents more challenges than measuring the quality of individual-based or family-based interventions. Generally, with selective or indicated interventions, appropriate measurement can demonstrate improved outcomes in the relative short term, while population-level public health or prevention efforts (e.g., hotlines for suicide prevention or bystander training) may require a focus on proximal outcomes and take time to diffuse to a sufficient proportion of the population before their overall impact can be detected through measurement (IOM, 2013c).

Evidence-Based Program Development

Recognizing these limitations and the current status of DOD prevention program assessment, the committee developed the Model for Prevention Program Development and Measurement (see Figure 5-1) to show the basic process for prevention program development in association with the measurement of implementation processes and program quality. This model, described in Chapter 2, identifies the development of evidence-based programming as the essential first step in performance measurement.

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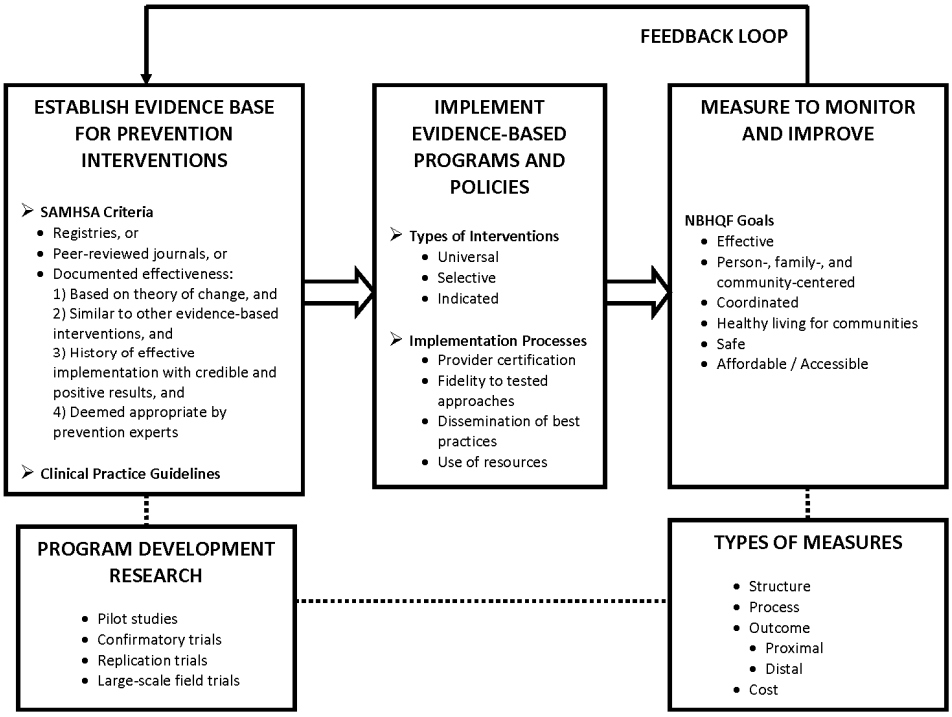

FIGURE 5-1 Model for prevention program development and measurement.

In deliberations about the current state of resilience and prevention program measurement in DOD, the committee focused on the lack of evaluative evidence and the need for standardized validated measurement of the effects of prevention programs on targeted outcomes that are mapped to clear and documented theoretical models for improved psychological health (e.g., symptom reduction and increased positive functioning). In addition, committee discussions emphasized the need for standardized measurements of implementation processes, including training, fidelity, dissemination, and resource use. The model used by the committee (see Figure 5-1) is based on the Donabedian paradigm (discussed in Chapter 2) and includes measurements of structure, process, and both proximal and distal outcomes of DOD prevention programs. These types of measurements or assessments are needed across the full continuum of programs and policies (including local commanders' initiatives) targeted at reducing risk, population screening, and selective and indicated prevention programming.

Structure Assessment

Application of this model to prevention includes measurement of the structural attributes of the provider and of the operational settings (e.g., the commander's unit, community, school, or healthcare provider) in which services are delivered, a review of available and appropriate evidenced-based programs, information on program adaptation to the target populations, a documented logic model that details the link between program components and outcomes, and standardized training curriculum, supervision procedures, and delivery materials. In addition, structural assessment includes measurement of organizational readiness (e.g., of a unit or an installation) for program implementation, the availability of adequate space and material resources (e.g., the data monitoring infrastructure), and human resources (e.g., staff expertise and what training is available).

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Process Assessment

Process assessment refers to assessing the delivery of prevention services and the implementation of policy changes. This can include anything regarding participant encounters with program elements, access to prevention resources (e.g., website hits), dissemination of program messages (social marketing), and enforcement of policy changes. It can also include interpersonal processes associated with participant, leadership, and community engagement, such as collaborative partnerships, and the provision of information, consultation, and emotional support. Process measurement domains include the monitoring of participant preferences, such as tracking participation, drop-outs, and satisfaction with services. One can also measure the monitoring of the reach and consistency of implementation of policy change as well as enforcement approaches to non-compliance. In support of rigorous program implementation, process measures assess the actual services to individuals and actual changes to system operations and the fidelity with which they were delivered. Such process assessment is critical both to assuring high quality and consistency (minimizing unwanted variability among program sites) and to assuring that the intended interventions have been implemented so that conclusions about their effect on outcomes are valid.

In order to measure prevention outcomes, it is important to align standardized, measurable outcomes with the targets of the program or policy goals. When focusing on enhancing resilience and risk factor reduction (targets), prevention components may include installation-level policy changes, new protocols for enhanced screening and risk-reduction counseling, and also preventive approaches aimed at community climate and family support. Given that many prevention programs have targets in multiple domains, it is often important to assess and monitor a range of relevant outcomes, and the assessment must be done relative to the preventive intervention, the population, and the context. For example, a family-based prevention program designed to reduce social and emotional risks in children may have a variety of targets, including reduction of parental depression, increased positive parenting practices, and increased positive coping in the child. Furthermore, the domains that are targeted may be interrelated, with mutual and reciprocal impacts across outcomes over time.

Proximal and Distal Outcomes

Outcome measures should include standardized, evidence-based measurement of both proximal and distal outcomes longitudinally. Proximal outcomes refer to short-term consequences, and distal outcomes refer to long-term consequences. Examples of proximal outcomes include reduced days of binge alcohol use, decreased days absent from work, improved parenting skills, and reduced family conflict. Examples of downstream consequences—distal outcomes—include a lower prevalence of alcohol use disorder, lower mortality resulting from alcohol-drug overdoses, a reduction in incidents of spouse and child abuse, and reductions in divorce rates. For example, comprehensive measures of a suicide prevention program should use validated assessments to measure short-term consequences on suicidal attempts and calls for help to suicide hotlines as well as the distal assessment of trends in suicide rates in the target population. Furthermore, measurement of a suicide reduction intervention should include observations on reductions in known risk factors (depression symptoms, hopelessness, and identifying a supportive relationship). Thus, outcome assessments should include the multiple domains targeted simultaneously and should be followed consistently over time. Furthermore, when multiple related programs are being simultaneously implemented

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across components of DOD and at multiple organizational levels, it is imperative that there be consistency and standardization in the measurement approaches of shared proximal and distal targets so as to enable the comparison and dissection of impact.

Validated, Reliable Measures Exist

The committee found that standardized measurement for prevention outcomes is not sufficiently covered by the national datasets or available national quality-assessment initiatives (see the section Measures Identified in National Quality Initiatives below). However, the committee notes that validated and reliable measures are available in the scientific and evaluation literature for all of the common prevention targets (proximal and distal outcomes) for children, adults, and families. Hence, DOD should not develop new measures of constructs until it has carried out a careful review of widely used valid measures, and in existing measurement programs (e.g., commanders' risk reduction assessments and periodic health assessments) DOD should consider replacing non-validated measures with validated measures. For example, well-established evidence-based measures of adult posttraumatic stress disorder (PTSD) symptoms (e.g., PTSD Checklist, both civilian and military versions; see National Center for PTSD, 2013), anxiety (e.g., the Generalized Anxiety Disorder seven-item scale; see Spitzer et al., 2006), depression (e.g. the Patient Health Questionnaire nine-item scale; see Pfizer, 2013), and alcohol consumption (e.g., Alcohol Use Disorders Identification Test-Consumption; see SAMHSA, 2013a) are available in the scientific literature and are currently being used in both civilian and military clinical settings, yet they are underused by many prevention programs, even when such outcomes are targets of prevention and resiliency. The committee felt it was most important that the selection of such standardized measures follow an appropriate review process informed by evidence reviews and led by subject-matter experts advising a knowledgeable, empowered measurement team. It may be necessary to develop a coordinated review process in order to ensure the adoption of these measures consistently among all programs with similar targets, among services, at all levels of the organization, and for a sufficient length of time to observe trends associated with the introduction of novel programs and policy changes. Such assessment should be linked to a mechanism for prevention program oversight, with a structure for routine reporting and review to enable ongoing quality improvement, increased adoption and dissemination of the most effective prevention programs and strategies, and discontinuance of ineffective or harmful programs and strategies.

Resilience

In addition to direct health outcomes, DOD prevention and resilience programs are frequently focused on domains thought to be protective, such as positive psychological attitudes, or domains related to theoretical models of individual and family resilience (Masten, 2001; Walsh, 2006). These domains include the availability and perception of social support, parent–child relationships, positive coping, and family communication. The selection of outcome measures for a specific program should be guided by the program logic model and by evidence within the scientific literature. The committee notes that the selection of outcome measures to assess an individual's or family's capacity for resilience is challenging, given the complexity of defining the construct of resilience (see discussion of resilience-related programs in Chapter 4). While scales for measuring resilience have been developed, Windle and colleagues (2011) conducted a methodological review and found no "gold standard" among 15 identified measures

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of resilience, and they noted only one scale (the Connor-Davidson Resilience Scale; see Connor and Davidson, 2003) had been used to assess intervention impacts in adults. Furthermore, current measures of resilience, including the Connor-Davidson scale, the Resilience Scale for Adults (Friborg et al., 2003), and the Brief Resilience Scale (Smith et al., 2008), were found to be of only moderate quality at best, to focus primarily on individual capacities, and to not measure systemic domains noted to be relevant to resilient processes in the context of stress or adversity.

Child Outcomes

Selective and indicated prevention programs designed to mitigate risk and enhance resilience in children often include standardized psychological health outcome measures, such as screening measures of emotional and behavioral symptoms (e.g., Strengths and Difficulties Questionnaire or the Pediatric Symptom Checklist; see, respectively, Goodman, 1997, and Jellinek et al., 1988) designed to assess a range of symptoms and behavioral problems. Additionally, validated psychological heath measures used to screen for child and adolescent mental health risks are available across developmental periods. Similar to adult outcome measures, such assessments should be selected according to the specific program context. Considerations in the selection of child outcome measures include the developmental period and the available reporters (parent, child, or teacher). Other functional domains important in the children and adolescent populations that are relevant to prevention strategies include academic outcomes and peer relationships, both of which have emerged as important consequences in military children (Chandra et al., 2010; De Pedro et al., 2011; Hazelden Foundation, 2013).

Family Outcomes

Paying attention to the ecological framework and to a prevention program's logic model is central to the selection of measures that will increase the evidence base for prevention in military populations. For both adult and youth populations, the measurement of family-level domains is often relevant to the theory of action and to the logic model of prevention programs. For example, marital conflict, divorce, and domestic violence have been identified as risk factors for poor psychological states in military members and their partners, including increased PTSD symptoms and suicidal behaviors, while reductions in marital conflict and domestic violence are appropriate targets indicative of good psychological health in and of themselves. In children, negative parenting practices and parental depression or other psychological symptoms are known to increase the risk for childhood behavioral problems. Evidence-based prevention interventions that target improved parenting skills have demonstrated a positive impact on child adjustment (NRC and IOM, 2009; Spoth et al., 2002).

Measurement Gaps

The Example of Community Reintegration

A review of post-deployment reintegration programs conducted by the Defense Centers of Excellence for Psychological Health & Traumatic Brain Injury (DCOE, 2012) emphasized the need for standardized measures for outcome assessment that could be used across programs and the individual service branches. The dearth of instruments for measuring reintegration has stimulated the creation of at least two new self-report measures. The first is the Military to Civilian Questionnaire (M2C-Q), a 16-item self-report questionnaire that assessed difficulty with community reintegration (Sayer et al., 2011). The second new measure is Community

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Reintegration for Injured Service Members, or CRIS, (Resnik et al., 2009, 2011) and a shorter, computer adaptive test version, CRIS-CAT (Resnik et al., 2012). The committee noted that the development and inclusion of new "custom" measures inconsistently across programs can diminish generalizable knowledge and slow the growth of an evidence base for prevention programs. New measures are often developed even when other well-defined measures could provide assessment on common outcomes shared among many programs, such as relationship counseling, rates of separation or divorce, and standard validated measures of relationship and family functioning. Similarly, transition-to-work programs could measure rates of hiring and length of employment. The establishment of common program aims and the objective measurement of those aims are the key components; idiosyncratic definitions of program aims and measures could lead to so much variability in what is measured that DOD will not be able to assimilate important lessons across interventions and studies and ultimately not be able to define successful reintegration and targets of reintegration programs.

Measurement of DOD Prevention Implementation

As noted above, the systematic identification of structure, process, and outcome domains is important to the successful implementation of an intervention and relevant to the successful scaling and sustainment of effective prevention programs. Studies of DOD prevention programs have demonstrated a need for improving their implementation processes, including those associated with provider certification, training, and supervision of program personnel; ongoing fidelity to established program approaches; linkages among commander programs and care systems within the enterprise; dissemination of program information and best practices; and cost and efficient use of resources (IOM, 2013a; Weinick et al., 2011). Program implementation is a specific target of quality improvement that requires greater attention through the use of standardized measures of structure and process for all prevention programs. Furthermore, DOD needs to have in place a data collection platform and tracking system that can be used for program-level implementation of a variety of activities and also be used across service branches and organizational levels. Transparent summaries of program data and information should be made accessible across DOD to ensure that any part of the organization can review that information before embarking on development of new programs and could potentially use the information to adapt an existing program. Transparent information on programs that experienced theory ineffectiveness or implementation failure is also valuable for organizational learning. Sharing information across DOD will make it possible for proven programs to be disseminated or transferred to new settings while remaining faithful to the original approach, will reduce duplication of effort, and will help ensure that approaches that were found to be ineffective in previous efforts are not tried again (Weinick et al., 2011).

Cost-Effectiveness

The measurement of program effectiveness is necessary but not sufficient to guarantee the optimal use of scarce DOD resources, especially if there is pressure to reduce funds devoted to non-mission-driven programs. The amount of resources (costs) needed to effect a change in outcomes must be known and compared among programs to determine the cost-effectiveness of DOD prevention interventions. Paying attention to effectiveness only can result in ranking one intervention (e.g., clinic-based treatment) as more effective than another intervention (e.g., family support) on the basis of the average participant outcomes (e.g., change in depression scores) even if the other intervention may be a wiser investment. Such a situation can occur if,

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for a given budget, the alternative intervention reaches and serves many more members of the target population and leads to significant improvement in outcome at a lower per-participant cost even though the average improvement per participant is smaller. An intervention is cost-effective if it achieves a unit change in outcome at significantly lower cost than an alternative, or if, for a given budget, it is the one with greatest change in total participant outcomes. A corollary is that the feasibility of program implementation (e.g., the ease of attracting participants) may be critical in selecting programs that will be cost-effective.

Ideally, DOD would be able to assess the value of all of its resilience and prevention programs for psychological health using a core set of metrics that reflect its highest-priority target outcomes. That would permit the department, using cost-effectiveness analysis based on current program operations, to determine how to maximize the outcomes for the resources it expends. This would result in maximal efficiency in the use of taxpayer-provided resources toward the goal of improving the psychological health and hence the readiness of service members. However, as we discuss elsewhere in this report, there is no single outcome metric that adequately measures the contributions of the very diverse set of programs that the department runs in the broad area of psychological health. This means that, practically speaking, it is impossible to directly compare all such interventions on an equal footing. Rather, evidence-guided judgment must be used to determine the optimal mix of programs and associated outcomes sought by the department. However, measuring outcomes and then estimating the cost of achieving each program's outcomes gives the department substantial additional insight into the value of the various interventions, thereby aiding it in making decisions about resource allocation. Thus, the utilization of the same validated assessments for high-priority target outcomes that are in common (e.g., PTSD prevention goals and measurement with the PTSD Checklist) for two or more interventions supports cost-effectiveness calculations and improved information for decisions about which program is better in terms of the next dollar invested. When possible, DOD should evaluate program costs and hence cost-effectiveness using standardized metrics as part of its standard evaluation of interventions' performance measures.

Measurement Framework with Examples

The development of performance measures for evidence-based prevention efforts will relate to the particular intervention being implemented and also be context specific. In this section, the committee offers measure examples to illustrate the measure concepts that are broadly applicable and essential to the systematic assessment of prevention programs. The measure examples reflect the goals of SAMHSA's quality framework, the National Behavioral Health Quality Framework (NBHQF), as applied to three illustrative programs that provide universal, selective, and indicated prevention. The NBHQF defines six program goals that are useful for considering the quality of a prevention program as follows (SAMHSA, 2013b). A prevention program should be:

1. Effective—Promote the most effective prevention, treatment, and recovery practices for behavioral health disorders
2. Person centered—Assure that behavioral health care is person, family, and community centered

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3. Coordinated—Encourage effective coordination within behavioral health care and between behavioral health care and community-based primary care providers, and other health care, recovery, and social support services
4. Healthy living—Assist communities to utilize best practices to enable healthy living
5. Safe—Make behavioral health care safer by reducing harm caused in the delivery of care
6. Affordable/accessible—Foster affordable high-quality behavioral health care for individuals, families, employers, and governments by developing and advancing new and recovery-oriented delivery models

These aspects of quality can be assessed within the structure, process, and outcomes domains, as described in the section below. These examples are not meant to include an exhaustive list of possible measures, but rather to illustrate some of the possibilities. With each example, the aspect of quality that the measure taps is noted in parentheses. Note, however, that there is overlap and that a measure may tap multiple domains.

Illustrative Example of Measures for Universal Prevention

The first example is of a media campaign designed to be delivered Army-wide to reduce suicides.

Structural Measures

- Use of a campaign with evidence of positive impact on suicide targets, or development of one based on related campaigns by a qualified campaign developer (effective)
- Consumer input from the target population (patient centered)
- Consistent messaging across other Army suicide prevention efforts (coordinated)
- Planning includes community suicide prevention partners (coordinated)
- Consideration of unintended effects (safe)

Process Measures

- Timing of advertisements (effective/accessible)
- Target market(s) (patient centered/accessible)
- Number of advertisements (accessible)
- Cost of program (affordable)

Proximal Outcomes

- Change in knowledge of and attitudes about suicide signs, help-seeking behaviors, help giving behaviors (effective)
- Number who recognize the campaign message (accessible)
- Number who saw advertisements (accessible)

Distal Outcomes (long-term population measurement to include follow-up)

- Change in rate and type of help seeking for suicidal ideation (multiple aspects)
- Change in rate of suicide attempts (multiple aspects)
- Change in rate of deaths by suicide (multiple aspects)

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Illustrative Example of Measures for Selective or Indicated Prevention

The second example is of a youth mentoring program designed to be delivered to youth experiencing parental deployment.

Structural Measures

- Use of a program with evidence of positive impact on youth targets, or development of one based on related program by a qualified program developer (effective)
- Consumer input from youth and mentors (patient centered)
- Attention to reduction of logistical barriers to participation such as timing and transportation during deployment (patient centered/accessible)
- Planning includes community partners such as schools (coordinated)

Process Measures

- Knowledge and attitudes of mentors following training (effective/accessible)
- Type and degree of supervision of mentors (effective, safe)
- Number of youth involved in mentoring program (accessible/affordable)
- Number and type of mentoring contacts (patient centered, accessible)
- Number of contacts between mentor and school (coordinated)
- Youth and mentor satisfaction with program (patient centered)
- Number and reason for drop-outs from the program (patient centered)
- Cost of program (affordable)

Proximal Outcomes

- Coping behaviors in youth during deployment cycle (effective, healthy living)
- Social support in youth during deployment cycle (effective, healthy living)
- Risky behaviors in youth during deployment cycle (effective, healthy living)

Distal Outcomes

- Youth adjustment (effective)
- Youth anxiety (effective)

As demonstrated by these examples, there may not be measures that address every framework category or domain. In addition, judgment needs to be applied to the mapping of measures to framework categories, and measures may address more than one category. Nonetheless, the framework provides a useful and systematic approach to the development and selection of measures to assure the quality and effectiveness of DOD prevention programs.

MEASURES IDENTIFIED IN REVIEW OF NATIONAL QUALITY INITIATIVES

This final section presents the findings from the committee's review of existing performance measures from three national efforts to organize, manage, and promulgate the use of performance measures: the NBHQF, developed by SAMHSA (2013b); the NQF Quality Positioning System (NQF, 2013); and the National Quality Measures Clearinghouse, maintained by the Agency for Healthcare Research and Quality (AHRQ) (AHRQ, 2013). These sources consolidate measures that have been developed by various entities in the health field. In general,

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the committee found that the relevant measures from these sources are primarily clinically focused screening measures that do not sufficiently address all of the domains relevant to prevention as defined by the NBHQF. As discussed earlier in this chapter, the committee believes there are many opportunities for expanding measurement to better assess the domains relevant to resilience and prevention for good psychological health.

The measures identified in this review are organized by topic area, with a brief summary of the rationale for the measures of each topic. Measure tables provide the following details: the measure title; whether it is endorsed by NQF; the NBHQF category addressed, if applicable; measure type (i.e., structure, process, or outcome); measure description; and the name of the organization that owns or developed the measure. These tables provide only general descriptions. The measure developers and owners or the NQF maintain the complete measure specifications (e.g., definitions of numerators, denominators, exclusion criteria, data sources, etc.), which are necessary for standardized implementation and reporting.

It is worth noting that in 2012, a previous IOM committee (IOM, 2013a) searched performance measures in the AHRQ measures clearinghouse and identified several screening measures associated with the performance management program in the Department of Veterans Affairs (VA). However, when this committee searched the AHRQ measures clearinghouse for this report, it did not find any VA measures; therefore, it appears that VA is no longer reporting its measures to AHRQ. The VA screening measures found in the previous committee's search are included here because of their relevance to this committee's review, but the committee is unsure of their current implementation status within VA.

Depression (Adult Population)

In the measure sets it reviewed (see Table 5-1), the committee found several measures specific to different aspects of early intervention (indicated prevention) for depression in adults. Although each measure has a unique algorithm (e.g., a definition of what to count, a specification of how to count, and a definition of the appropriate population denominator), the committee notes that the selection of a standardized, validated instrument to assess depression (e.g., PHQ-9 or a variant) is common to all the measures. After examining measure sets from multiple sources, the committee found two categories of measures: process and outcome. The process measures address depression screening. Evidence supports the practice of screening for depression in primary care as a population prevention initiative (USPSTF, 2009; Yano et al., 2012). To screen for depression, DOD uses the PHQ-2 in its deployment health assessments, and the Army recently introduced its use in the RESPECT–Mil demonstration. In deployment health assessments, clinicians are supposed to administer the PHQ-8[4] to further assess service members who have positive PHQ-2 screens. In the RESPECT–Mil program, service members who have positive PHQ-2 screens complete the PHQ-9 (IOM, 2013a).

[4] DOD uses a variation of the PHQ-9, the PHQ-8, which omits the suicide-screening item because suicide screening and assessment do not occur until the diagnostic interview.

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TABLE 5-1 Depression Measures in Adults

Title	NQF Endorsed (measure #)	NBHQF Recommended /Category	Type	Description	Owner/ Developer
Screening for Clinical Depression[a]	Yes (#0418)	Yes/ Effective	Process	Percentage of patients aged 18 years and older screened for clinical depression using a standardized tool and follow-up plan documented.	Centers for Medicare & Medicaid Services
Depression Utilization of the PHQ-9 Tool[a]	Yes (#0712)	Yes/ Effective	Process	Adult patients age 18 and older with the diagnosis of major depression or dysthymia (ICD-9 296.2x, 296.3x, or 300.4) who have a PHQ-9 tool administered at least once during the 4-month measurement period.	MN Community Measurement
Depression Remission at 6 Months[a]	Yes (#0711)	Yes/ Effective	Outcome	Adult patients age 18 and older with major depression or dysthymia and an initial PHQ-9 score > 9 who demonstrate remission at six months defined as a PHQ-9 score less than 5. This measure applies to patients with either newly diagnosed or existing depression whose current PHQ-9 score indicates a need for treatment.	MN Community Measurement
Depression Remission at 12 Months[a]	Yes (#0710)	Yes/ Effective	Outcome	Adult patients age 18 and older with major depression or dysthymia and an initial PHQ-9 score > 9 who demonstrate remission at 12 months defined as a PHQ-9 score less than 5. This measure applies to patients with either newly diagnosed or existing depression whose current PHQ-9 score indicates a need for treatment.	MN Community Measurement
Depression: Screening[b]	No	No	Process	Percentage of eligible patients who are screened annually for depression with the PHQ-2 or PHQ-9.	VA
Depression: Screening Documentation[b]	No	No	Process	Percentage of veterans who have a positive screen during their annual depression screening and have a disposition documented in the record. A disposition is defined as a timeline for care; an arrangement for treatment, such as a mental health appointment; or the giving of instructions to the patient.	VA
Depression: Timely Screening Documentation	No	No	Process	Percentage of veterans who have a positive screen during their annual depression screening and have a disposition documented in the record and have timely documentation of the disposition, which is defined as completion of the disposition by the next calendar day after a positive screen.	VA

[a] NQF, 2013.
[b] IOM, 2013a.

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The Minnesota Community Measurement has developed outcome measures for depression that address relapse prevention. However, as an indication of the challenge of implementing outcome measures, the measure steward reports that only about 20 percent of the patients eligible for inclusion in the denominator of remission at 6 or 12 months currently have record of a follow-up PHQ-9 score. The definition of remission is a PHQ-9 score <5. The relapse measures promote ongoing contact between the patient and provider as, in this specification, patients who do not have a follow-up PHQ-9 score at 6 months and 12 months are also included in the denominator (and hence lower the observed rate of remission).

PTSD (Adult Population)

There are no measures addressing PTSD in the NBHQF, NQF, and AHRQ measure sets reviewed for this report (PTSD is viewed as infrequent in the general population and thus not appropriate for population-wide screening), but a previous IOM committee (2013a) identified three PTSD screening-related process measures that VA uses (see Table 5-2). Evidence suggests that identifying PTSD in this high-risk population and providing people who score positive with additional treatment can decrease symptoms as well as lessen the severity of functional impairment (VA and DOD, 2010). Two PTSD instruments are used for different purposes within DOD and VA. To screen for PTSD, DOD uses the Primary Care PTSD Screen (PC–PTSD), a four-item screen adapted from the PTSD Checklist, for both its deployment health assessments and the RESPECT–Mil program (IOM, 2013a). The PTSD Checklist is used selectively in DOD to confirm positive PC–PTSD scores and used by the VA to screen and selectively monitor the outcome of treatment.

TABLE 5-2 PTSD Measures

Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
PTSD: Screening[a]	No	No	Process	Percentage of eligible patients who are screened for PTSD at required intervals.	VA
PTSD: Screening Documentation[a]	No	No	Process	Percentage of veterans who have positive PC–PTSD screens whose disposition is documented in the record. A disposition is defined as a timeline for care; an arrangement for treatment, such as a mental health appointment; or giving of instructions to a patient.	VA
PTSD: Timely Screening Documentation[a]	No	No	Process	Percentage of veterans who have positive PC–PTSD screens whose disposition is both documented in the record and timely. Timely is defined as completion of the disposition by the next calendar day after a positive screen.	VA

[a] IOM, 2013a.

Suicide Risk (Adult Population)

In the measure sets reviewed (see Table 5-3), the committee identified one NQF-endorsed process measure for conducting suicide risk assessment in persons who have tested

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positive for major depression as well as several VA process-of-care measures for suicide assessment (selective prevention). It should be noted, however, there is no widely accepted, scientifically validated tool to assess suicide risk directly. Thus, the assessment process that qualifies for the measure is not standardized. In the DOD suicide risk assessments are done routinely as part of the department's periodic health assessments, and in post-deployment health assessments interviewers ask about how often a person thinks about harming himself or herself and about harming others; if the service member reports having such thoughts frequently, the interviewer escorts the service member to a health provider (IOM, 2013a). This process measure applies only to a selected population rather than to the whole population because the U.S. Preventive Services Task Force (USPSTF) found no evidence that universal screening for suicide risk among primary care patients (that is, among individuals without a current mental health disorder or history of mental illness) is an effective strategy for reducing the number of suicide attempts or the level of suicide mortality in the general population (USPSTF, 2004, 2013b).[5] The measures in the table below apply to a selected population—either adults diagnosed with major depression or adults with a positive PHQ screen or adults with a positive PC-PTSD screen.

TABLE 5-3 Measures of Suicide Risk for Adults

Title	NQF Endorsed (measure #)	NBHQF Recom-mended/ Category	Type	Description	Owner/ Developer
Major Depressive Disorder: Suicide Risk Assessment[a]	Yes (#0104)	Yes/ Effective, Safe	Process	Percentage of patients aged 18 years and older with a new diagnosis or recurrent episode of MDD who had a suicide risk assessment completed at each visit during the measurement period.	American Medical Association—Physician Consortium for Performance Improvement
Suicide Risk Assessment: Positive PHQ Screens[b]	No	No	Process	Percentage of patients who screen positive on a screen for major depressive disorder (PHQ-2 or PHQ-9 or endorsement of question 9 on the PHQ-9) and have a suicide-risk evaluation completed within 24 hours.	VA
Suicide Risk Assessment: Positive PC–PTSD Screen[b]	No	No	Process	Percentage of eligible patients who screen positive on the PTSD screen (PC–PTSD) and who have a suicide-risk evaluation completed within 24 hours.	VA
Suicide Risk Assessment: Positive PHQ Screens or PC–PTSD Screen[b]	No	No	Process	Combines the populations of the first two measures to assess the percentage of patients who screen positive for major depressive disorder (on the PHQ-2 or PHQ-9) or positive for PTSD (on the PC–PTSD) and who have a suicide-risk evaluation completed within 24 hours.	VA

[a] NQF, 2013.
[b] IOM, 2013a.

[5] The draft Recommendation Statement is not USPSTF's final recommendation; USPSTF distributed the draft solely for the purpose of pre-release review.

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Alcohol Screening and Treatment Engagement (Adult Population)

For alcohol use—and, in some cases, other drug use—the measure sets reviewed by the committee (Table 5-4) contained a series of process measures, ranging from screening and brief counseling to engagement in treatment services and ease of access. In 2004 the USPSTF found good evidence that universal screening in primary care can accurately identify adult patients whose alcohol consumption elevates the risk of morbidity and mortality. The USPSTF also found good evidence that brief behavioral counseling in primary care produces small to moderate reductions in alcohol consumption (HHS, 2004). There is as yet no evidence demonstrating the effectiveness of universal screening for other drug use (e.g., marijuana) in primary care populations, primarily because the incidence level is low in most population groups. In DOD, routine screening of alcohol use with the AUDIT-C is expected at periodic health assessments, but the committee found no reports to confirm that this is happening. The AUDIT-C is contained on the deployment health assessments, but there is no requirement to offer brief counseling to service members with positive screens. DOD does not mandate alcohol screening and brief counseling in RESPECT–Mil or other primary care settings. During the past two decades DOD has operated a commander-driven mandatory drug testing program on the belief it is an effective deterrent (prevention policy) for illicit drug use (IOM, 2013b). In recent years the panel of drugs that are screened has been expanded to include prescription opioid formulations; other drugs on the panel include marijuana, cocaine, heroin, and certain amphetamines. Commanders are to refer those with positive drug tests for further assessment by the service's specialty alcohol and drug treatment program and to begin procedures for administrative discharge.

TABLE 5-4 Measures of Alcohol Use and Abuse

Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
Alcohol Use: Screening[a]	No	No	Process	Percentage of eligible patients who are seen in outpatient or inpatient settings and screened annually for alcohol misuse with the three-item AUDIT-C.	VA
Alcohol Misuse: Brief Counseling[a]	No	No	Process	Percentage of veterans who are screened for alcohol misuse with AUDIT-C and meet or exceed a threshold score of 5 and who have timely brief alcohol counseling. The VA/DOD guideline indicates that although AUDIT-C scores greater than 4 points in men and greater than 3 points in women mean a positive screen, an AUDIT-C score of 5 or more is appropriate for performance measurement in a setting where brief alcohol counseling is required for everyone who screens positive for alcohol misuse.	VA
Initiation and Engagement of Alcohol and Other Drug (AOD) Dependence Treatment[b]	Yes (#0004)	No	Process	The percentage of adolescent and adult members with a new episode of alcohol or other drug (AOD) dependence who received • Initiation of AOD Treatment. The percentage of members who initiate treatment through an inpatient AOD admission, outpatient visit, intensive	National Committee for Quality Assurance

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Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
				outpatient encounter or partial hospitalization within 14 days of the diagnosis. • Engagement of AOD Treatment. The percentage of members who initiated treatment and who had 2 or more additional services with a diagnosis of AOD within 30 days of the initiation visit.	
Average Time from First Request to First Client Treatment Session[c]	No	Effective—for consideration[d]	Process	Measures the time elapsed between the date a client first contacts the agency requesting service and the date the client received his or her first treatment session, which can be an individual or group session. Waiting time represents the average time for a specific client population and will be calculated as follows: Sum across all clients (date of first treatment–date of first contact)/ (number of clients who receive a first treatment session)	NIATx
No-Shows[c]	No	Effective—for consideration[d]	Process	Measures the number of patients who do not keep an appointment. The No-Show measure attempts to determine the number of clients who schedule a clinical assessment but fail to keep that appointment. Within NIATx, agencies typically look at client no-shows on a monthly basis, which is then calculated as follows: (number of clients with an assessment)/ (number of clients who schedule an assessment appointment)	NIATx
Continuation[c]	No	Effective—for consideration[d]	Process	Continuation measures the number of clients who attend 4 additional units of services (i.e., treatment sessions) within 30 days of admission to treatment. How a unit of service is defined varies by level of care.	NIATx

[a] IOM, 2013a.
[b] NQF, 2013.
[c] SAMHSA, 2013b.
[d] Defined by NBHQF as measures that are either critical to broad measurement but not rising to the level of a core measure; promising but have not been tested or otherwise subjected to a consensus discussion and selection process; represent a specific level of granularity; or have emerged from the stakeholder review process.

Outside DOD other treatment process measures have been adopted by the National Committee for Quality Assurance and NIATx which focus on engagement and ease of access. NIATx is an example of a system quality-improvement approach applied to substance use disorder facilities which typically are not covered by other quality-assurance programs. NIATx

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promotes practice and system change in order to improve access to and retention in treatment using a simplified version of the Institute for Healthcare Improvement Model for Improvement (IOM, 2013b).

Domestic Violence (Adult and Adolescent Populations)

The AHRQ database of measures includes a set of screening measures for assessing interpersonal violence (IPV). Studies show that assessing IPV in medical settings has been effective in identifying victims and that patients are not offended when asked about current or past IPV (Family Violence Prevention Fund, 2004; Moyer, 2013). USPSTF recommends that clinicians screen women of childbearing age—including those who do not have signs or symptoms of abuse—for IPV and that they refer women who screen positive to intervention services (Moyer, 2013).

Futures Without Violence (FWV) national consensus guidelines for domestic violence offers specific recommendations for assessing for and responding to IPV that may be applied to multiple health settings. There are eight process measures that may be used to assess compliance with the clinical recommendations outlined in the FWV guideline (see Table 5-5) (Family Violence Prevention Fund, 2004).

TABLE 5-5 Measures for Domestic Violence

Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
Domestic Violence: Disclosure[a]	No	No	Process	Percentage of adult and adolescent patients who received health care services in the clinical setting within the past year and who were screened for IPV who disclosed that they were victims of abuse.	Futures Without Violence
Domestic Violence: Assessment[a]	No	No	Process	Percentage of adult and adolescent patients seen by a provider who received health care services in the clinical setting within the last year who were assessed* for IPV during the past year. *See FWV guideline for IPV victimization assessment questions.	Futures Without Violence
Domestic Violence: Information and Referrals[a]	No	No	Process	Percentage of adult and adolescent patients who received health care services in the clinical setting who screened negative for current or past IPV but whom the provider is still concerned may be a victim of IPV who were offered information about IPV and referrals.	Futures Without Violence
Domestic Violence: Follow-Up Questions[a]	No	No	Process	Percentage of adult and adolescent patients who received health care services in the clinical setting who screened negative for current or past IPV but whom the provider is still concerned may be a victim of IPV whose records include prompts for specific follow-up questions about IPV to occur at	Futures Without Violence

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Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
				the patient's next visit.	
Domestic Violence: Suicide and Homicide Assessment[a]	No	No	Process	Percentage of adult and adolescent patients who received health care services in the clinical setting who screened positive for current or past IPV and who answered yes to initial danger assessment questions* for whom records indicate that a suicide and homicide assessment was conducted. *See FWV guideline for IPV victimization assessment questions.	Futures Without Violence
Domestic Violence: Specified Assessments[a]	No	No	Process	Percentage of adult and adolescent patients who received health care services in the clinical setting who assessed positive for current or past IPV for whom records indicate that the following assessments* were conducted: Immediate safety and initial danger Abuse history (severity and extent) Impact of abuse on health issues and presence of related health care issues. *See FWV guideline for IPV victimization assessment questions.	Futures Without Violence
Domestic Violence: Specified Intervention and Treatment Plans[a]	No	No	Process	Percentage of adult and adolescent patients who received health care services in the clinical setting who screened positive for current or past IPV for whom records indicate that intervention and treatment plans were offered including • Verbal and/or written information about safety planning (current victims only) • An option to talk with an advocate in person or on the phone (current victims only) • Verbal and/or written information about abuse and its impact on health • Referrals to culturally and linguistically appropriate services (when available) • A review of discharge instructions and a scheduled follow-up appointment or care plan with a mental health, social worker or community based service provider.	Futures Without Violence
Domestic Violence: Provider Compliance[a]	No	No	Process	Percentage of providers of health care services to adult and adolescent patients in the clinical setting who documented that they complied with assessment protocols.* *See FWV guideline for IPV victimization assessment questions.	Futures Without Violence

[a]AHRQ, 2013.

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Developmental Screening (Child and Adolescent Populations)

NQF has endorsed a number of process measures related to developmental screening (see Table 5-6). Developmental screening is defined as a standardized tool that assesses a child's risk for developmental, behavioral, and social delays. The American Academy of Pediatrics recommends standardized screening using an approved screening tool as the best method of identifying children at risk for developmental, behavioral, or social delays (NQF, 2013).

TABLE 5-6 Measures for Developmental Screening

Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
Developmental screening using a parent-completed screening tool (parent report, children 0–5)[a]	Yes (#1385)	No	Process	The measure assesses whether the parent or caregiver completed a developmental screening tool meant to identify children at risk for developmental, behavioral, and social delays. The items are age-specific and anchored to parent-completed tools. (A majority of health care providers implementing the Bright Futures recommendations for standardized screening for all children utilize parent-completed tools due to their validity and feasibility.) The age-specific items assess whether children 10 to 71 months are screened.	Maternal and Child Health Bureau, Health Resources and Services Administration
Developmental Screening in the First 3 Years of Life[a]	Yes (#1399)	No	Process	The percentage of children ages 1, 2, and 3 years who had a developmental screening performed. Three rates are reported: Rate 1: developmental screening by the child's first birthday; Rate 2: developmental screening by the child's second birthday; Rate 3: developmental screening by the child's third birthday.	National Committee for Quality Assurance
Developmental Screening in the First 3 Years of Life[a]	Yes (#1448)	No	Process	The percentage of children screened for risk of developmental, behavioral, and social delays using a standardized screening tool in the first 3 years of life. This is a measure of screening in the first 3 years of life that includes 3 age-specific indicators assessing whether children are screened by 12 months of age, by 24 months of age, and by 36 months of age.	National Committee for Quality Assurance; Child and Adolescent Health Measurement Initiative
Promoting Healthy Development Survey (PHDS)[a]	Yes (#0011)	No	Process	PHDS assesses national recommendations for preventive and developmental services for young children. The PHDS is a survey of parents or guardians of children 3 to 48 months of age. Information is gathered on the following issues:	

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Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
				• Anticipatory guidance and parental education by a doctor or other health provider. • Health information. • Developmental surveillance: Ask about and address parents´ concerns about their child´s learning, development, and behavior. • Standardized screening for developmental, behavioral, and social problems. • Follow-up for children at risk for developmental, behavioral, or social problems. • Assessment of psychosocial well-being and safety in the family. • Assessment of smoking, drug, and alcohol use in the family. • Family-centered care (experience of care). • Helpfulness and effect of care provided.	

[a] NQF, 2013.

Risky Behavior (Child and Adolescent Populations)

NQF has endorsed three process measures that assess whether children and adolescents receive preventive counseling and screening (see Table 5-7). Studies demonstrate that adolescents trust health care providers and are willing to talk with providers about recommended preventive counseling and screening topics, especially during private, confidential health care visits (National Quality Measures Clearinghouse, 2013b). Yet, few adolescents receive recommended comprehensive preventive counseling and screening services on key topics such as alcohol use, depression, sexual activity, smoking, injury prevention, physical activity, and diet (National Quality Measures Clearinghouse, 2013b).

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TABLE 5-7 Risky Behavior Measures for Children and Adolescents

Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
Risky Behavior Assessment or Counseling by Age 13 Years[a]	Yes (#1406)	Yes/Healthy Living	Process	Percentage of children with documentation of a risk assessment or counseling for risky behaviors by 13 years of age. Four rates are reported: risk assessment or counseling for alcohol use, risk assessment or counseling for tobacco use, risk assessment or counseling for other substance abuse, and risk assessment or counseling for sexual activity.	National Committee for Quality Assurance
Risky Behavior Assessment or Counseling by Age 18 Years[a]	Yes (#1507)	Yes/Healthy Living	Process	Percentage of children with documentation of assessment or counseling for risky behaviors by 18 years of age. Four rates are reported: risk assessment or counseling for alcohol use, risk assessment or counseling for tobacco use, risk assessment or counseling for other substance abuse, and risk assessment or counseling for sexual activity.	National Committee for Quality Assurance
Young Adult Health Care Survey (YAHCS)[a]	Yes (#0010)	No	Process	YAHCS is a survey of adolescents 14 to 18 years of age that assesses how well the health care system provides adolescents with recommended preventive care. YAHCS assesses the provision of private and confidential care, experience of care, helpfulness of care provided, and the following aspects of preventive care: • Preventive screening and counseling on risky behaviors, sexual activity and sexually transmitted diseases, weight, healthy diet, and exercise, emotional health, and relationship issues. • Private and confidential care. • Helpfulness of counseling. • Communication and experience of care. • Health information.	Oregon Health & Science University

[a] NQF, 2013.

Suicide (Child and Adolescent Populations)

In the measure sets reviewed, the committee identified one NQF-endorsed process measure for suicide screening in child and adolescent populations that, similar to adult measures, is for indicated prevention and applies to children and adolescents diagnosed with depression

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(see Table 5-8). As mentioned in the section on adult populations, there is no widely accepted and scientifically validated tool for screening for suicide risk.

TABLE 5-8 Measures for Suicide Risk for Children and Adolescents

Title	NQF Endorsed (measure #)	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
Child and Adolescent Major Depressive Disorder: Suicide Risk Assessment[a]	Yes (#1365)	Yes/Safe	Process	Percentage of patient visits for those patients aged 6 through 17 years with a diagnosis of major depressive disorder with an assessment for suicide risk.	American Medical Association

[a] NQF, 2013.

Depression (Child and Adolescent Populations)

NQF has endorsed three process measures relating to depression screening in child and adolescents (see Table 5-9). The USPSTF recommends screening for major depressive disorder (MDD) in adolescents (ages 12 to 18 years) when systems are in place to ensure accurate diagnosis, psychotherapy (cognitive-behavioral or interpersonal), and follow-up (USPSTF, 2013a).

Another area judged important to reduce child developmental and social emotional risk is maternal depression screening, either in prenatal or postpartum health care settings. Untreated maternal depression has been associated with negative pregnancy outcomes such as low birth weight and preterm labor as well as with negative effects on infants and toddlers such as developmental delay and cognitive impairment. Research has highlighted the negative impacts on fetal and infant development of both untreated maternal depression and antidepressant exposure. Between 14 and 23 percent of pregnant women and 10 to 15 percent of postpartum women will experience a depressive disorder (National Quality Measures Clearinghouse, 2013a).

In summary, the committee's review of process measures related to prevention activities compiled by the NBHQF, NQF, and AHRQ found that the majority of measures relate to universal or indicated screening activities to support a limited range of prevention programming, specifically, identification of cases requiring treatment in primary care. A broader set of measurement domains are needed in order to assess the structure, process, and outcomes related to the full range of prevention programs and policies for service members and their families. The model for program development and measurement recommended by the committee and described in this chapter may be applied to develop a systematic assessment of the full range of prevention efforts.

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TABLE 5-9 Measures for Depression in Children and Adolescents and Maternal Depression

Title	NQF Endorsed	NBHQF Recommended/ Category	Type	Description	Owner/ Developer
Depression Screening by 13 years of age[a]	Yes (#1394)	Coordinated—for consideration[b]	Process	The percentage of adolescents 13 years of age who had a screening for depression using a standardized tool.	National Committee for Quality Assurance
Depression Screening by 18 years of age[a]	Yes (#1515)	Coordinated—for consideration[b]	Process	The percentage of adolescents 18 years of age who had a screening for depression using a standardized tool.	National Committee for Quality Assurance
Maternal Depression Screening[a]	Yes (#1401)	Yes/Effective	Process	The percentage of children 6 months of age during the measurement year who had documentation of a maternal depression screening for the mother.	National Committee for Quality Assurance

[a]NQF, 2013.
[b] Includes measures that are either critical to broad measurement but not rising to the level of a core measure; promising but have not been tested or otherwise subjected to a consensus discussion and selection process; represent a specific level of granularity; or have emerged from the stakeholder review process.

CONCLUSION

As DOD advances its efforts to evaluate and improve psychological health programming for service members and their families, it faces a number of challenges, such as insufficient empirical evidence for many of the prevention programs it has implemented, no systematic use of national performance measures to assess current DOD screening programs, and the lack of a systematic process for selecting validated measures for use in judging performance of the structure, process, and outcomes of all prevention initiatives for enhancing psychological health. The measurement of performance is not as advanced in psychological health as it is in other types of care (Pincus et al., 2011; Watkins et al., 2010). Nonetheless, the DOD can focus its resources on creating a systematic approach to the measurement of structure, process and outcomes with reporting to an appropriately empowered oversight structure aimed at monitoring, selecting, and improving the quality of prevention initiatives for service members and their families.

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6

FINDINGS AND RECOMMENDATIONS

The committee was asked by the Department of Defense (DOD) to conduct a systematic review and critique of DOD programs addressing resilience and reintegration and prevention strategies for psychological health problems including posttraumatic stress disorder, depression, substance abuse and recovery, suicide, and interpersonal violence—the committee specifically addressed violence in families and military sexual assault. Additionally, DOD tasked the committee with identifying various models for measuring performance of prevention programs and convening an information-sharing meeting of stakeholders and subject-matter experts associated with program evaluation and prevention efforts.

This chapter builds on the foundation laid in Chapters 1–5. The committee findings led to recommendations that could improve programs aimed at strengthening resilience and reintegration, the assessment of psychological health risk, the use of evidence-based interventions, and the implementation of measurement and evaluation strategies. Together, these recommendations are intended to improve programming to prevent the development of psychological health problems, including efforts to optimize resiliency, and to enhance the psychological health of service members and their families.

EFFECTIVENESS AND COST-EFFECTIVENESS

Resilience, prevention, and reintegration interventions should be based on well-established theoretical frameworks. Assessments of DOD programs conducted by this committee and others show that a majority of DOD resilience, prevention, and reintegration programs are not consistently based on evidence and that programs are evaluated infrequently or inadequately. For example, on the basis of internal research data that show only very small effect sizes, DOD concluded that Comprehensive Soldier Fitness, a broadly implemented program intended to foster resilience, is effective—despite external evaluations that dispute that conclusion. Among the small number of DOD-sponsored reintegration programs that exist, none appears to be based on scientific evidence. The committee was unable to identify any DOD evidence-based programs addressing the prevention of domestic abuse. More recently, the services have implemented a number of prevention interventions to address military sexual assault, yet a DOD review found that critical evaluation components needed to measure their effectiveness are missing.

In addition, there are many DOD prevention interventions that rely on adaptations from civilian prevention programs but that have not been tested with military populations, particularly

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in the case of programs that are family-focused or that target substance misuse. The committee also found that environmental strategies with strong evidence of effectiveness are underutilized, such as restricting access to lethal means such as personal firearms to prevent suicide or homicide in domestic violence cases or placing restrictions on the sale of alcohol to reduce substance misuse. In place of these proven approaches, the committee typically found interventions such as campaigns, Internet tools, or in-person events with no evidence for their effectiveness at preventing the targeted problem. Finally, the committee found limited ongoing evaluation to inform program areas lacking evidence, and a clear need for longitudinal follow-up assessment to determine the impact of resilience, prevention, and early intervention efforts.

To the degree that these shortcomings exist in DOD's use of evidence-based practices, they can degrade the department's ability to maintain or improve the psychological health and well-being of service members and their families and can lead to the inefficient use or waste of scarce resources that could otherwise be used to address the enormous task of preventing psychological health problems. The committee concludes that by targeting resources to develop the evidence base and facilitate the process of evidence dissemination and implementation, DOD can optimize the effectiveness and cost-effectiveness of interventions to prevent psychological health problems.

Recommendation 1: The committee recommends that the Department of Defense (DOD) employ only evidence-based resilience, prevention, and reintegration programs and policies and that it eliminate non-evidence-based programming. Where programming needs exist and the evidence base is insufficient, DOD should use rigorous methods to develop, test, monitor, and evaluate new programming.

RISK IDENTIFICATION AND INTERVENTION

DOD implements systematic screening processes to identify service members at risk for a specific psychological health problem annually and at various points in the military life cycle—at accession (entrance into the military), pre-deployment, post-deployment. The committee found that DOD is administering some screening instruments that are not evidence-based and have not been validated. Examples include instruments used during accession to determine the acceptability of applicants for military service, specifically, questions about recent depression and the "Omaha 5" instrument that examines a range of psychological health issues. In addition, the committee found that unnecessary variability exists among the types of screening instruments that are administered at different points in the military life cycle. For example, the questions about depression and suicidal ideation administered during the accession process are not the same as those included in the post-deployment health assessments. The use of non-validated screening instruments at accession is a concern as studies show that enlistees may enter the military with elevated rates of psychological health disorders.

In addition, the committee found that although DOD conducts systematic psychological health screening of service members at various phases in the military life cycle as well as in primary care clinics, it does not have a routine health screening program targeting service members who are about to separate from the military. With appropriate processes for referral and for the coordination of care between the military health system and non-military health providers, including the Veterans Health Administration, screening at separation may help to

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improve reintegration back into civilian life. This would benefit former members of the military, their families, and the communities in which they reside.

The committee found no systematic psychological health screening for military spouses and children. The committee acknowledges DOD's recent policy to expand screening requirements in primary care settings located within military treatment facilities; however, the policy will have a limited effect on military spouses and children as they predominately receive care from the network of civilian providers and facilities in the purchased care system.

Furthermore, there is a lack of information on the extent to which there is appropriate and timely follow-up with targeted interventions to individuals and families with at-risk psychological profiles. In order to improve readiness and transitions to civilian life it will be imperative to use findings from screenings and risk assessments throughout the military life cycle to target interventions. Overall, the committee concludes there is a need for DOD to improve approaches for identifying and intervening with those service members and those members of service members' families who are at risk of developing psychological health problems or who have a diagnosable condition.

Recommendation 2: The committee recommends that the Department of Defense consistently use validated psychological screening instruments appropriate to the type of screening and conduct systematic targeted prevention annually and across the military life cycle (from accession to pre-deployment, deployment, post-deployment, reintegration, and separation) for service members and their families.

MEASUREMENT AND EVALUATION

Preventive intervention programs should be rigorously designed, and the programs and their components should be evaluated extensively. This should occur as the program is being developed, while it is being conducted, and after it has been completed. Dedicated resources (e.g., funding, staffing, and logistical support) for data analysis and evaluation are essential to ongoing performance monitoring for quality improvement and accountability. The committee concluded that there is no generally accepted comprehensive set of measures to assess the structure, process, and outcomes in resilience, prevention, and reintegration programming. The committee's review of existing measures in national quality measure sets found few measures relevant to psychological health, and those that do exist are primarily clinically focused screening measures that do not sufficiently address all of the domains relevant to resilience, prevention, and reintegration. Moreover, the committee found that DOD lacks a strategy, a framework, and a range of measures for monitoring performance that ultimately can be used to assess resilience, reintegration, and good psychological health, to determine program effectiveness.

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Recommendation 3: The committee recommends that, when appropriate, the Department of Defense (DOD) employ existing evidence-based measures using the systematic approach identified in this report. When appropriate measures are not available, DOD should develop and test measures to assess the structure, process, and outcomes of prevention interventions across the phases of the military life cycle.

MILITARY FAMILIES

The demands placed on military families call for support in the areas of relationship building, family and individual function, and reduction of risk of psychological and physical health problems. Policy and management responsibilities for family-focused programs span across the DOD enterprise. Each military service and the Office of the Secretary of Defense administer dozens of family-focused prevention programs. The committee's review of the literature revealed that, despite existing programming, many of the risks and vulnerabilities military families face are associated with family violence, substance abuse, stress reaction, stigma, and depression. The committee's review of programs in this study and its review of recent comprehensive assessments of military family programs share the common finding that there are gaps in the evidence supporting the effectiveness of interventions for military families. The committee recognizes there are initiatives in place to build the research base in family-focused interventions, but believes a more coordinated, comprehensive and systematic approach is needed to support the development and implementation of evidence-based prevention programming for military spouses, partners, and children that address risk and vulnerabilities specific to particular points in the military life cycle.

Recommendation 4: The committee recommends that the Department of Defense implement comprehensive universal, selective, and indicated evidence-based prevention programming targeting psychological health in military families, spouses, partners, and children. The targeted risks and vulnerabilities should include family violence, substance abuse, stress reaction, stigma, and depression.

COMMUNITY CHARACTERISTICS AND INTERVENTIONS

The communities in which service members and their families live or to which they return can shape the risk and protective factors that affect individual behaviors and psychological health outcomes. For example, in the civilian literature, there is ample evidence that both price and availability of alcohol in communities impacts the rates of the negative consequences of its use. In its review of the literature the committee found a dearth of studies examining how community factors impact readiness and reintegration among military service members and their families. The committee believes research is this area would help to inform the development of effective community-level prevention interventions for service members and their families.

Recommendation 5: The committee recommends that the Department of Defense (DOD) use existing evidence-based community-level prevention interventions and policies to address the psychological health of military members and their families. Where sufficient evidence does not exist, DOD should support research on the

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effects of communities and social environments on service members and their families.

The committee believes that, together, the above five recommendations will improve DOD's ability to manage a complex set of issues in military psychological health programming. In addition, the committee believes that the recommendations would best serve DOD if they are considered in the context of changes to the current organizational infrastructure for program development, implementation, evaluation, and tracking. Although an array of programs exist for resilience, reintegration, and psychological health for service members and their families, the committee's literature and program review revealed that DOD's current infrastructure does not support optimal programming.

Recommendations about specific changes to the current organization or infrastructure are beyond the scope of this committee's charge; however, the committee believes that the execution of its recommendations relies on DOD's consideration of appropriate organizational restructuring to achieve these goals. Areas important to examine include those associated with centralizing DOD-wide and service-specific programming, accountability and oversight, budget, and setting overall policies and guidelines for the development, implementation, evaluation, and tracking of resilience, reintegration, prevention, and treatment programs for service members and their families. Processes that require attention include (1) continuing efforts to systematically identify and track program gaps by building on the comprehensive reviews conducted by this committee and others; (2) coordinating programming across the military services; (3) defining what constitutes a program and the type and level of evidence required before full rollout; (4) establishing evaluation requirements for new and existing programs that are aligned with their stated aims; (5) implementing a mechanism for sharing evidence and best practices across program areas and services; and (6) creating procedures for discontinuing ineffective or duplicative programs and for implementing programs demonstrated to be highly effective, cost-effective, and culturally diverse. The reporting of these functions for transparency and accountability purposes is a critical component to ongoing program quality improvement.

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A

SUMMARY FROM *RETURNING HOME FROM IRAQ AND AFGHANISTAN: ASSESSMENT OF READJUSTMENT NEEDS OF SERVICE MEMBERS AND THEIR FAMILIES*[1]

As of December 2012, Operation Enduring Freedom (OEF) in Afghanistan and Operation Iraqi Freedom (OIF) in Iraq have resulted in the deployment of about 2.2 million troops; there have been 2,222 US fatalities in OEF and Operation New Dawn (OND)[2] and 4,422 in OIF. The numbers of wounded US troops exceed 16,000 in Afghanistan and 32,000 in Iraq. In addition to deaths and morbidity, the operations have unforeseen consequences that are yet to be fully understood.

In contrast with previous conflicts, the all-volunteer military has experienced numerous deployments of individual service members; has seen increased deployments of women, parents of young children, and reserve and National Guard troops; and in some cases has been subject to longer deployments and shorter times at home between deployments. Numerous reports in the popular press have made the public aware of issues that have pointed to the difficulty of military personnel in readjusting after returning from Iraq and Afghanistan. Many of those who have served in OEF and OIF readjust with few difficulties, but others have problems in readjusting to home, reconnecting with family members, finding employment, and returning to school.

BACKGROUND

In response to the return of large numbers of veterans from Iraq and Afghanistan with physical-health and mental-health problems and to the growing readjustment needs of active-duty service members, veterans, and their family members, Congress included Section 1661 of the National Defense Authorization Act for fiscal year 2008. That section required the secretary of defense, in consultation with the secretary of veterans affairs, to enter into an agreement with the National Academies for a study of the physical-health, mental-health, and other readjustment needs of members and former members of the armed forces who were deployed in OIF or OEF, their

[1] The text in this appendix is drawn from the Summary of the Institute of Medicine report *Returning Home from Iraq and Afghanistan: Assessment of Readjustment Needs of Service Members and Their Families* (Washington, DC: The National Academies Press, 2013).

[2] Operation Enduring Freedom (OEF) is the name for the war in Afghanistan. Operation Iraqi Freedom (OIF) is the name of the conflict in Iraq that began on March 20, 2003, and ended on December 15, 2011. On September 1, 2010, Operation New Dawn (OND) became the new name of OIF. The committee's focus has been on OEF and OIF, inasmuch as no or few data on the OND deployed were available.

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families, and their communities as a result of such deployment. The study was assigned to the Institute of Medicine (IOM).

The study consisted of two phases. The Phase 1 task was to conduct a *preliminary* assessment. The Phase 2 task was to provide a *comprehensive* assessment of the physical, psychologic, social, and economic effects of deployment on and identification of gaps in care for members and former members, their families, and their communities. The Phase 1 report was completed in March 2010 and delivered to the Department of Defense (DOD), the Department of Veterans Affairs (VA), and the relevant committees of the House of Representatives and the Senate. The secretaries of DOD and VA responded to the Phase 1 report in September 2010. The present report fulfills the requirement for Phase 2.

COMMITTEE'S APPROACH TO ITS TASK

IOM appointed a committee of 29 experts to carry out the Phase 2 study. The committee approached its task by identifying and reviewing data in the peer-reviewed literature; reviewing government reports and testimony before Congress; reviewing recent IOM reports on posttraumatic stress disorder (PTSD), traumatic brain injury (TBI), and physiologic, psychologic, and psychosocial effects of deployment-related stress; obtaining information directly from DOD and VA; and inviting DOD and VA researchers and officials to present data. The committee also sought input from community leaders to determine effects at the community level; it conducted data analyses and examined data in administrative datasets. Those data-gathering efforts provided the committee with a broad overview of possible readjustment needs and possible solutions related to the effects of deployment in OEF and OIF. Chapter 2 describes in detail the committee's approach to its task.

KEY FINDINGS

The readjustment needs of service members, veterans, and families that have experienced deployment to OEF or OIF encompass a complex set of health, economic, and social issues. Below are the committee's key findings, which to a large extent are the focus of its recommendations.

- Many veterans return from deployment relatively unscathed by their experience, but others return from deployment with a multitude of complex health outcomes that present life-long challenges and hinder readjustment.
- Not all veterans who need treatment receive it despite the offering of evidence-based treatments by the VA and DOD health systems, because systemwide challenges exist.
- Military families often endure the adverse consequences of deployments, for example, health effects, family violence, and economic burdens.
- Numerous programs exist to respond to the needs of returning OEF and OIF active-duty personnel, veterans, and family members, but there is little evidence regarding their effectiveness.
- Unemployment and underemployment are acute problems for military veterans.
- Published data on the effects of deployment on military communities are sparse.
- DOD, VA, and other federal agencies have data that can answer many of the questions posed in the legislation; however, numerous barriers must be overcome to facilitate sharing and linking of data.

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The federal government, in particular DOD and VA, is actively seeking to understand the scope of readjustment challenges, implement appropriate policies, and provide programs and services. In many cases, however, the response does not match the magnitude of the problems, and many readjustment needs are unmet or unknown. The urgency of addressing those issues is heightened by the sheer number of people affected, the rapid drawdown of personnel from Afghanistan and Iraq, and the long-term effects that many of the issues might have not only on military personnel and veterans and their families but on the country as a whole. Previous wars have demonstrated that veterans' needs peak several decades after the war in which they served, and that highlights the need for managing current problems and planning future resources.

RECOMMENDATIONS

To inform its work during the second phase of its study, the committee read the literature, collected data and attempted data analyses, oversaw ethnographic research, and tabulated current research in the OEF and OIF populations. The committee's recommendations are presented below.

OUTCOMES

The literature on the outcomes of military deployment has grown dramatically over the last two decades. Although discrepant findings do emerge, there is a clear consensus in the literature that the stressors of deployment, from exposure to combat to multiple deployments away from home and family, can lead to a number of adverse conditions. The committee concentrated on deployment-related outcomes—such as TBI, PTSD, depression, substance use, and suicidal ideation—but the list could be expanded to many additional psychiatric conditions and a host of physical conditions. The data on short-term outcomes (outcomes in 6 months or less) is extensive, but data on long-term outcomes (over years) is less extensive and both can be challenged on methodologic grounds. To capture the true long-term outcomes of deployment to war zones and plan services to address them, more data will be essential.

The committee recommends that the Department of Defense and the Department of Veterans Affairs sponsor longitudinal studies to answer many of the questions regarding long-term effects of traumatic brain injury, posttraumatic stress disorder, and other mental-health disorders. Such studies should strive to improve the validity of exposure measurements, identification and use of biomarkers, and recruitment and retention of subjects. Attention should be paid to whether the outcomes of traumatic brain injuries depend on the severity and number of such injuries, on the presence of comorbid conditions, and on sex and ethnicity.

Current studies might be the most appropriate platform for developing a strategy for long-term followup, such as the Millennium Cohort Study and the Longitudinal Health Study of Gulf War Era Veterans. Those studies can be augmented with supplementary samples of OEF, OIF, and OND veterans. Other factors that should define such studies include the ability to collect biologic specimens, oversampling of OEF, OIF, and OND female and minority-group populations, and planning for add-on studies to address new needs as they are identified.

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Many health consequences of service in OEF, OIF, and OND are related to the inherently dangerous nature of the wartime environment or resulting trauma. However, one major exposure, military sexual trauma (MST), is unrelated to war but rather is due to noncombat violent assault. Studies show that MST has been occurring at high rates in the US military, including during OEF, OIF, and OND. Research demonstrates that MST is associated with poor readjustment and adverse mental-health and physical outcomes. The burden of physical- and mental-health consequences for the victims and their family members is high. Increased efforts by DOD are necessary, and a zero-tolerance approach should be implemented.

The committee recommends that the Department of Defense develop policies to eliminate military sexual trauma as research demonstrates that it is associated with poor readjustment and mental-health and physical-health outcomes. The committee further recommends that the department reinforce existing policies on military sexual trauma by adding specific mandatory evaluation criteria regarding how well military leaders address the issue, for example, in the formal performance-appraisal and promotion systems.

The breadth and depth of the challenges faced by military service members and veterans who served in Iraq and Afghanistan result from the complex interaction of issues that must be addressed by primary prevention, diagnostics, treatment, rehabilitation, education and outreach, and community support programs if readjustment after combat service is to be successful.

TREATMENT

Screening, assessment, and treatment approaches for brain injuries and psychologic health problems are not always implemented between and within DOD and VA in a consistent manner or aligned with the evidence base. DOD and VA use different thresholds for some of the same mental-health screening and assessment instruments, such as the Primary-Care PTSD screen and the PTSD Checklist for PTSD and the Patient Health Questionnaire for depression. Parts of VA and DOD clinical guidance lack recommendations for a specific assessment instrument and leave the selection of instrument to the clinician, for example, for suicide-risk assessments and TBI neurocognitive assessments.

The committee identified topics on which VA and DOD policies are out of step with the evidence base. There is a lack of clear scientific evidence supporting the effectiveness of the neurocognitive assessment tool (Automated Neuropsychological Assessment Metrics) used by DOD to assess cognitive function after a head injury. With respect to suicide prevention, DOD policy prohibits restricting access to privately owned weapons for those who might be at risk for suicide, but research shows that restricting access to lethal means prevents suicides. VA has included Acceptance and Commitment Therapy for depression in its national rollout of evidenced-based treatments; however, there is not sufficient evidence to support its use as a first-line intervention. Moreover, the limited data that are available suggest that patients in need of evidence-based care might not be receiving it. The committee has serious concerns about inadequate and untimely clinical followup and low rates of delivery of evidence-based treatments, particularly psychotherapies to treat PTSD and depression and approved pharmacotherapies for substance use disorder.

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The committee recommends that the Department of Defense and the Department of Veterans Affairs select instruments and their thresholds for mental health screening and assessment in a standardized way on the basis of the best available evidence. The committee also recommends that the two departments ensure that treatment offerings are aligned with the evidence base, particularly before national rollouts, and that all patients consistently receive first-line treatments as indicated.

Unwarranted variability in clinical practices and deviations from the evidence base present threats to high-quality patient care. Such variability also hampers opportunities to make research comparisons that can inform and improve the effectiveness of screening, assessment, and treatment practices. The committee notes that the emphasis on promoting evidence-based practices should not discourage the use of new or experimental interventions where there is reason to believe that they might lead to better outcomes than standard interventions.

In many ways, DOD and VA clinicians are at the forefront of providing evidence-based care for service members and veterans who have brain injuries and psychologic-health problems. But there are opportunities to improve processes of training and evaluating clinicians. DOD does not have a standardized process for assessing clinicians' competence to administer the Military Acute Concussion Evaluation for TBI. VA is implementing a robust clinician-training program to disseminate evidence-based psychotherapies, but the program appears to lack periodic clinician assessments beyond the 6-month training period to ensure that continued treatment fidelity is maintained. Current approaches for training clinicians on the management of comorbid conditions (by disseminating clinician resources, for example) are not adequate.

The committee recommends that the Department of Defense and the Department of Veterans Affairs incorporate continuing supervision and education into programs that train clinicians in the use of selected assessment instruments and evidence-based treatments. Once clinicians are trained, the two departments should systematically and periodically evaluate them to assess the degree to which therapeutic interventions are accurately implemented according to a manual, protocol, or model as supported by evidence. The committee also recommends that the two departments place greater focus on coordinated, interdisciplinary care to ensure optimal treatment for service members and veterans.

The committee determined that there are few data on whether screening, assessment, and treatment interventions in DOD and VA are being implemented according to clinical guidelines and VA and DOD policy. Minimal data are readily available on the numbers of people who have been screened and the extent to which followup is appropriate and timely for those who screen positive. There is a dearth of data on which treatments patients receive and whether the treatments were appropriate, timely, and delivered at the recommended intensity level (for example, individual vs group format and frequency and duration of sessions).

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The committee recommends that the Department of Defense and the Department of Veterans Affairs conduct systematic assessments to determine whether screening and treatment interventions are being implemented according to clinical guidelines and department policy. Data systems should be developed to assess treatment outcomes, variations among treatment facilities, and barriers to the use of evidence-based treatment.

MILITARY FAMILIES

The committee found that DOD has many programs and policies to support families. However, DOD policies, programs, and practices typically do not take into consideration the full spectrum of military families. By focusing almost exclusively on traditional families (married heterosexual spouses and their children), DOD is missing critical opportunities to support the readjustment needs of many service members' nontraditional families. To be able to support all families, DOD will need data on the full constellation of service members' family.

The committee recommends that the Department of Defense ensure that policies, programs, and practices aim to support and strengthen all military families, including nontraditional ones.

Healthy families help service members to do their jobs effectively and readjust after deployment. The demands placed on military family members call for support in the areas of relationship building, family and individual function, and reduction of risk of psychologic and physical-health problems. The committee found that little information is available on the potential effectiveness of broad-based, universal prevention efforts aimed at military children and their families. In addition, most treatment interventions for family members have been developed and tested in civilian communities and lack evidence of their effectiveness for military families. The committee concludes that military families would benefit from increased efforts to identify, develop, and test new prevention and treatment interventions targeted toward military families, including interventions directed at children and adolescents.

The committee recommends that the Department of Defense use evidence-based primary prevention programs and treatments that have been specifically evaluated in service members and their families and that are focused on preventing and treating mental-health and relationship problems.

The committee concludes that there are substantial gaps in knowledge about the effects of deployment on military families that hinder DOD's ability to meet the needs of military service members and their families effectively. The committee found that—although some important large-scale, well-designed studies are under way—much of the research heretofore has been methodologically flawed, suffering, for example, from the use of small convenience samples, use of cross-sectional designs, and the like. The committee concludes that well-designed studies that use rigorous and diverse methods (both qualitative and quantitative) are needed to increase understanding of the challenges faced by military service members and their families.

The committee recommends that the Department of Defense and other relevant federal agencies fund methodologically rigorous research on the social,

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psychologic, and economic effects of deployments on families, including nontraditional families.

Studies of families of service members deployed to OEF and OIF have documented a rise in domestic violence (typically including abuse of spouses or neglect of children). In the FY 2000 National Defense Authorization Act (PL 106-65, Section 591), Congress directed the secretary of defense to establish a Defense Task Force on Domestic Violence to make recommendations for reducing the prevalence of domestic violence in military families. The task force submitted a report in 2003 that identified multiple shortcomings in the current systems and recommended many improvements. The Government Accountability Office, in 2006 and 2010, issued reports concerning progress in implementing the nearly 200 recommendations made by the task force. Both reports described progress on some recommendations but little on others, including a recommendation for reliable documentation of violent events.

The committee recommends that the Department of Defense place high priority on reducing domestic violence because it degrades force readiness and the well-being of military family members.

COMMUNITY

There has been too little research on community effects of deployments to OEF and OIF. To supplement the published research, the committee completed ethnographic assessments in six communities that are near large military installations or that have recently deployed National Guard populations. Those efforts provided some insight, but the lack of communitywide assessments of the effects of OEF and OIF deployments on communities made it difficult to respond to this aspect of the committee's charge.

The committee recommends that the Department of Defense, the Department of Veterans Affairs, and other relevant federal agencies fund research on the effects of Operation Enduring Freedom and Operation Iraqi Freedom deployments on communities. Such research should include current indicators of community well-being, such as measures of economic performance, availability of social and support services, law-enforcement activity, and school and educational functioning.

Relevant data are available, but data linkages are needed to allow specific analyses that can more clearly illuminate opportunities to mitigate potential adverse community consequences after service members deploy, return, and separate.

SOCIOECONOMIC IMPACTS

Problems of unemployment and underemployment, which are broadly felt by the US civilian population today, appear to be more acute for veterans of the post-9/11 era, particularly young veterans. In 2011, the unemployment rate among all post-9/11 veterans 18 years old and older was more than one-third higher than that among equivalent nonveterans—12.1% compared with 8.7%. Among veterans 18–24 years old, the rate was almost twice as high—30.2% compared with 16.1%. The sources of those disparities remain unclear and could include skills mismatch, impeded ability to maintain or obtain employment because of physical- or mental-

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health trauma, stigma or discrimination, or some combination of those factors or other elements. Successful readjustment depends on reentry into the civilian workforce, and the available evidence suggests that this is an important gap for policy to address. The committee found that the literature assessing the effectiveness of DOD's and VA's transition-assistance programs is relatively thin, even though reentry into the labor force is one of the most important readjustment challenges. One study suggests that recent expansions of hiring tax credits might have been effective in raising rates of employment of older veterans who have disabilities. But OEF, OIF, and OND veterans did not appear to benefit from the expansions.

The committee recommends that the Department of Defense and the Department of Veterans Affairs evaluate the effectiveness of transition-assistance programs to ensure that they are effective in reducing unemployment among returning veterans of Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn.

Evaluation of the effectiveness of transition-assistance programs, with research that examines employment patterns after separation from the military over time, will provide data to ensure that scarce resources can be allocated to effective programs. Further study might focus on whether employment tax credits are a cost-effective means of expanding employment for Operation Enduring Freedom and Operation Iraqi Freedom veterans and whether programs to counsel and prepare service members for long-term postservice careers are effectively implemented.

The Post-9/11 GI Bill is one of the largest expansions of educational subsidies to veterans and their families on record, but its effectiveness is difficult to gauge. The committee is aware of no studies that have explicitly evaluated the effects of deployment to OEF and OIF on the use of the Post-9/11 GI Bill or the effects of the Post-9/11 GI Bill.

The committee recommends a comprehensive evaluation of the effects of the Post-9/11 GI Bill on the educational attainment of veterans and eligible family members.

The committee views the current evidence on the costs of caring for injured veterans as an overwhelming challenge. There is a need to assess the costs of caring for injured veterans systematically and publicly. The Congressional Budget Office publicly assesses short-term and medium-term costs, and, as the VA stated in response to the committee's Phase 1 report, it already produces some forecasts of health and disability spending. But the committee continues to believe that long-term planning for veterans' care requires public long-term cost forecasts in the same way that Social Security and Medicare require them, and these forecasts should take a similar form to be internally and externally useful.

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The committee reiterates its call for comprehensive long-term forecasts of the costs of the Veterans Health Administration's medical care and the Veterans Benefits Administration's disability benefits associated with combat deployments; these forecasts should be conducted annually and should be released publicly by the Department of Veterans Affairs and confirmed by an independent external authority.

ACCESS AND BARRIERS TO CARE

Transitioning from the DOD health care system to the VA health care system presents challenges for OEF and OIF service men and women. There are numerous difficulties in navigating services because of the complexities of both systems. Although DOD and VA are making administrative changes to alleviate some of the problems, information sharing between the two agencies remains a problem.

The committee recommends improved coordination of care and services between the Department of Defense and the Department of Veterans Affairs medical treatment facilities, including the completion of an interoperable or single combined electronic health record for all care that begins with entry into military service and continues throughout care in the Department of Veterans Affairs system after transition.

Stigma is still a problem for military personnel in care or seeking care for mental-health or substance-abuse problems. Active-duty military fear that visits to a mental-health provider will jeopardize their careers because of the military's long-standing policy of reporting mental-health and substance-abuse problems to the chain of command. Mixed messages about seeking treatment and concerns about health-information privacy remain disincentives to seeking care.

The committee recommends that the Department of Defense continue to promote an environment that reduces stigma and encourages treatment for mental-health and substance-use disorders. The committee recommends that the department undertake a systematic review of its policies regarding mental-health and substance-abuse treatment with regard to issues of confidentiality and the relation between treatment-seeking and military advancement. The committee recommends that the department regularly issue reports describing actions taken with regard to its policies and procedures to determine progress in this area.

Excessive wait time is a complaint often expressed by both active-duty and veteran service members. Long wait times can compromise health because of delayed use and decreased patient satisfaction. In addition, adverse long-term outcomes, such as death and preventable hospitalizations, are more common for veterans who seek care at facilities that have longer wait times than for veterans at facilities that have shorter wait times.

Poor availability and misdistribution of mental-health specialists in many parts of the United States, especially in rural areas, present substantial barriers to OEF and OIF veterans' access to mental-health care. For active-duty service members, inadequate participating provider networks present a challenge for accessing mental-health care.

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The committee recommends that the Department of Defense and the Department of Veterans Affairs conduct a needs assessment to determine the numbers and types of providers needed to address the long-term health needs of Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn active-duty service members and veterans. The Department of Defense and the Department of Veterans Affairs should determine the optimal team composition—for example, MDs, PhDs, RNs, master's-trained professionals, and peer counselors—needed to ensure that providers function efficiently and perform at the upper level of their credentials and privileges.

There is evidence of cultural insensitivity to nonwhite service members, who might have different or more severe physical-health and mental-health problems from their white counterparts. For example, black personnel are less likely than white personnel to use mental-health services and quicker to drop out of treatment. Issues related to types of diagnoses and potential misdiagnoses have also been raised. Whether clinicians who have ethnic characteristics similar to those of their patients would alleviate those problems is unknown.

The committee recommends that the Department of Defense, the Department of Veterans Affairs, and other federal agencies fund research to determine whether culturally sensitive clinicians and treatment approaches improve retention in care and improve clinical outcomes.

Women now constitute 14% of deployed forces in the US military, and an unprecedented number of female soldiers are deployed to combat areas. Although all service members are exposed to high levels of workplace stress, women in the military face some unique stressors, such as MST, which may affect their mental health and emotional well-being. Female veterans report a higher burden of medical illness and worse quality-of-life outcomes than do men who are exposed to the same levels of trauma. MST appears to be an important risk factor for the development of PTSD.

The committee recommends that the Department of Defense and the Department of Veterans Affairs consider ways to remove barriers and improve women's access to and use of health care in their systems. The two departments should examine issues related to women's circumstances and stressors—such as military workplace stress, sexual harassment and assault, posttraumatic stress disorder, and premilitary trauma—in an effort to reduce disparities and to provide health care that is sensitive to their needs and preferences.

PROPOSED DATA ANALYSES

There has been little quantitative characterization of the issues described in the legislation, but the committee identified a wide array of data and databases available in DOD, VA, and other federal agencies that could be used to address many of the questions posed by the legislation that motivated its work. On the basis of available data, the committee developed a comprehensive data-analysis plan. The committee notes that in addition to its recommendation for comprehensive data analyses, privacy experts will need to be involved with data owners before data are linked and made accessible to researchers. The committee believes that privacy

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and confidentiality are essential alongside issues of coordination and synchronization of data sources.

The committee recommends that the Department of Defense and the Department of Veterans Affairs support comprehensive analyses of relevant data that reside in the two departments and other agencies of the federal government. Their databases should be linked and integrated so that they can be used effectively to address questions regarding readjustment that are not answered in the peer-reviewed literature.

The committee's preliminary work in this area has provided a clear rationale, justification, and roadmap for comprehensive data analyses. Comprehensive data analyses will require establishment of systematic, timely processes for using available government data and linking them in such a way as to improve the characterization of issues of interest. No databases or files fully integrate basic deployment and demographic data with data on health outcomes, treatment or transition-of-care files, data on access to care, records of employment before and after deployment, and data on other processes and outcomes. A comprehensive analytic database will have to be created and maintained.

The committee recommends that the secretary of defense and the secretary of veterans affairs establish an interagency work group to identify and examine the feasibility of linking data that exist in Executive Branch departments and agencies throughout the federal government. The work group should be tasked to explore issues related to coordination among agencies, for example, defining common goals, establishing common policies and procedures, creating mechanisms for data sharing, establishing records systems, and overcoming legal impediments and meeting legal requirements. The work group should provide the secretaries with options and recommendations for establishment of a sustainable program for long-term cooperation and data sharing to improve understanding of the outcomes of military service and readjustment after combat deployment.

The committee believes that many of the issues examined in this study can be addressed through analyses of data already maintained by numerous federal agencies. The committee tried to gain access to the data files so that it could begin such analyses, but it faced numerous obstacles in its attempts to access them. In light of those difficulties, the committee recommends the following actions to address many of the problems that it faced.

The committee recommends that clear procedures be developed for accessing data held by the Department of Defense, the Department of Veterans Affairs, and other federal agencies. The procedures should appear on each agency's website with access to its data dictionaries. That would enable researchers and others wishing to access data to understand all the requirements before they begin their data-gathering efforts and would provide information about the types of data that are available and how to access them.

The questions posed to the committee are complex and critical to the well-being of US veterans, their families, and the communities in which they live. A major finding of the

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committee is that there is no way to provide data-based answers to those questions. All agencies that collect, store, and manage information relevant to veterans and their families should give high priority to coordination of those efforts throughout the federal statistical system so that informed decisions about veterans' readjustment needs can be made in the near future.

The committee believes that such coordination will greatly enhance the ability of researchers and the government to link data held by multiple agencies to allow the types of analyses recommended above.

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B

INFORMATION-GATHERING MEETING AGENDA

COMMITTEE ON THE ASSESSMENT OF RESILIENCY AND PREVENTION PROGRAMS FOR MENTAL AND BEHAVIORAL HEALTH IN SERVICE MEMBERS AND THEIR FAMILIES

Second Meeting, August 5-6, 2013
Members' Room
NAS Building
Washington, DC 20001

AGENDA

Monday, August 5

OPEN SESSION		
	Topic	**Speaker**
9:30–10:15	Resilience	William P. Nash, M.D. Captain, Medical Corps, United States Navy (Retired) Former Director of Marine Corps Combat and Operational Stress Control Programs
10:15–11:00	Military Families	Theresa T. Buchanan, BSN, JD Youth Initiatives Director, National Military Family Association
11:00–11:15	Break	
11:15–12:00	Suicide	Richard McKeon, Ph.D Chief, Suicide Prevention Branch, Substance Abuse and Mental Health Services Administration

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12:00–1:00	Lunch	
1:00–1:45	Suicide Prevention: Advances, Opportunities, and Needed Directions	Matthew K. Nock, Ph.D. Professor of Psychology, Harvard University
1:45–2:30	PTSD	LTC Dennis McGurk, Ph.D. Deputy Director, Military Operational Medicine Research Program, Medical Research & Materiel Command, US Army
2:30–3:15	Families/Children	William R. Beardslee, M.D. Director, Baer Prevention Initiatives, Boston Children's Hospital, Gardner/Monks Professor of Child Psychiatry, Harvard Medical School
3:15–3:30	Break	
3:30–4:15	Substance Use Disorders	Eve E. Reider, Ph.D. Health Scientist Administrator, Prevention Research Branch Division of Epidemiology, Services and Prevention Research, National Institute on Drug Abuse, National Institutes of Health
4:15–5:00	Families/Tragedy Assistance	Lynda C. Davis, Ph.D. Advisory Board Member, Tragedy Assistance Program for Survivors (TAPS)

Tuesday, August 6

	OPEN SESSION	
	Topic	**Speaker**
9:00–9:45	Impact of Military Culture Discouraging Substance Use and Abuse Among Combat-Deployed Active-Duty Service Members	Diana Jeffery, Ph.D. Senior Health Care Analyst, Defense Health Cost Assessment and Program Evaluation (DHCAPE), Office of the Chief Financial Officer,

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		TRICARE Management Activity, Assistant Secretary of Defense - Health Affairs, Department of Defense
9:45–10:30	Interpersonal Violence	Glenna Tinney, M.S.W., ACSW, DCSW, Captain, U.S. Navy (Ret.) Military Advocacy Program Coordinator, Battered Women's Justice Project
10:30–11:15	Substance Use Disorders	Peter J. Delany, Ph.D., LCSW-C, RADM U.S. Public Health Service, Director, Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration
11:15–12:00	Comprehensive Soldier Fitness	LTC Sharon McBride, Ph.D. Executive Officer, Comprehensive Soldier and Family Fitness Coreen M. Harada, Ed.D Warrior Transition Unit and Research/Evaluation Lead, Comprehensive Soldier and Family Fitness Training Centers Major Paul B. Lester, Ph.D. Director, Research Facilitation Team, Office of the Deputy Under Secretary of the Army

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C

SUPPLEMENTAL HEALTH SCREENING QUESTIONNAIRE

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SUPPLEMENTAL HEALTH SCREENING QUESTIONNAIRE

Page 1 of 2

PRIVACY ACT STATEMENT

Authority: Title 10, United States Code (USC), Sections 504, 505, 507, 532, 978, 1201, 1202, and 4346; Executive Orders 9397 and 13478 (SSN)

Principal purpose: To obtain medical data for determination of medical fitness for enlistment, induction, appointment and retention for applicants and members of the Armed Forces. The information will also be used for medical boards and separation of Service members from the Armed Forces.

Routine uses: None. The Department of Defense "Blanket Routine Uses" set forth at the beginning of the Army's compilations of system of records notices applies to this system.

Disclosure: Voluntary; however, failure by an applicant to provide the information may result in delay or possible rejection of the individual's application to enter the Armed Forces. For an Armed Forces member, failure to provide the information may result in the individual being placed in a non-deployable status.

1. Last Name - First Name - Middle Name (Suffix)	**2. Social Security Number**
3. Date of Birth *(YYYYMMDD)*	**4. Date of Exam** *(YYYYMMDD)*

8. Mark each item "Yes" or "No". **EVERY QUESTION MUST BE ANSWERED, OR PROCESSING DELAYS WILL OCCUR.** Every "Yes" must be explained in *Block 14. Applicant Comments,* on the back of this form. Explain each item to the best of your ability. Be perfectly honest! Your medical records may be requested to clarify your medical history."

YES	NO	
		a. Were you **ever** depressed or down, most of the day, nearly every day for 2 weeks?
		b. For the **past 2 weeks,** were you depressed or down, most of the day, nearly every day?
		c. Were you **ever** much less interested in most things or much less able to enjoy the things you used to enjoy most of the time, for 2 weeks?
		d. In the **past 2 weeks,** were you much less interested in most things or much less able to enjoy the things you used to enjoy, most of the the time?
		e. Have you ever deliberatly cut, burned, or injured yourself?
		f. Have you ever considered or attempted suicide?
		g. Have you ever been arrested?
		h. Have you ever been suspended from school?
		i. Have you ever been fired from your job?
		j. Have you ever been kicked out of your home?
		k. Have you had three or more traffic violations?
		l. Have you ever had trouble sleeping nearly every night (difficulty falling asleep, waking up in the middle of the night, early morning waking or sleeping excessively) for a period of 2 weeks or longer?

9. Place a mark (X) in the box that corresponds to your answer to each of the following questions. Write the score that corresponds to your answer in the score column.

						Score
a. How often do you have a drink containing alcohol?	Never (0)	Monthly or less (1)	Two to four times a month (2)	Two or three times per week (3)	Four or more times a week (4)	If zero, skip to Total Score
b. How many drinks containing alcohol do you have on a typical day?	1 or 2 (0)	3 or 4 (1)	5 or 6 (2)	7 to 9 (3)	10 or more (4)	
c. How often do you have six or more drinks on one occasion?	Never (0)	Less than monthly (1)	Monthly (2)	Two or three times per week (3)	Four or more times a week (4)	
d. Total Score *(Add up the score for each question to get your total score)*						

10. Signature of Applicant	11. Date Signed *(YYYYMMDD)*

DoDMERB Supplemental Health Screening Form

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12. Last Name - First Name - Middle Name (Suffix)	13. Social Security Number

14. Applicant Comments. Note item by number (8a-8l) and provide an explanation of any "YES" answer.

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D

PRE-DEPLOYMENT HEALTH ASSESSMENT QUESTIONNAIRE

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PRE-DEPLOYMENT HEALTH ASSESSMENT

PRIVACY ACT STATEMENT

This statement serves to inform you of the purpose for collecting personally identifiable information through the DD Form 2795 (Pre-Deployment Health Assessment).

AUTHORITY: 10 U.S.C. 136, Under Secretary of Defense for Personnel and Readiness; 10 U.S.C. 1074f, Medical Tracking System for Members Deployed Overseas; DoDI 1404.10, DoD Civilian Expeditionary Workforce; DoDI 6490.02E, Comprehensive Health Surveillance, and E.O. 9397 (SSN), as amended.

PURPOSE: To obtain information from an individual in order to assess the state of the individual's health before possible deployment outside the United States, its territories and possessions as part of a contingency, combat, or other operation and to assist health care providers in identifying and providing present and future medical care to the individual. The information provided may result in a referral for additional health care that may include medical, dental, or behavioral health care or diverse community support services.

ROUTINE USES: Your records may be disclosed to other Federal and State agencies and civilian health care providers, as necessary, in order to provide medical care and treatment. Use and disclosure of you records outside of DoD may also occur in accordance with 5 U.S.C. 552a(b) of the Privacy Act of 1974, as amended, which incorporates the DoD "Blanket Routine Uses" published at: http://dpclo.defense.gov/privacy/SORNs/blanket_routine_uses.html. Any protected health information (PHI) in your records may be used and disclosed generally as permitted by the HIPAA Privacy Rule (45 CFR Parts 160 and 164), as implemented within DoD by DoD 6025.18-R. Permitted uses and discloses of PHI include, but are not limited to, treatment, payment, and healthcare operations.

DISCLOSURE: Voluntary. If you chose not to provide information, comprehensive healthcare services may not be possible or administrative delays may occur. HOWEVER, CARE WILL NOT BE DENIED.

INSTRUCTIONS: You are encouraged to answer all questions. You must at least complete the first portion on who you are and when you will deploy. If you do not understand a question, please discuss the question with a health care provider.

DEMOGRAPHICS

Last Name _____ **First Name** _____ **Middle Initial** ____

Social Security Number _____ **Today's Date** (*dd/mmm/yyyy*) _____

Date of Birth (*dd/mmm/yyyy*) _____ **Gender** O Male O Female

SAMPLE

Service Branch
- O Air Force
- O Army
- O Navy
- O Marine Corps
- O Coast Guard
- O Civilian Expeditionary Workforce (CEW)
- O USPHS
- O Other Defense Agency List: _____

Component
- O Active Duty
- O National Guard
- O Reserves
- O Civilian Government Employee

Pay Grade
- O E1
- O E2
- O E3
- O E4
- O E5
- O E6
- O E7
- O E8
- O E9
- O O1
- O O2
- O O3
- O O4
- O O5
- O O6
- O O7
- O O8
- O O9
- O O10
- O W1
- O W2
- O W3
- O W4
- O W5
- O Other

Current contact information:

Phone: _____
Cell: _____
DSN: _____
Email: _____
Address: _____
_____
_____

Point of contact who can always reach you:

Name: _____
Phone: _____
Email: _____
Address: _____
_____
_____

Estimated date of upcoming deployment (*dd/mmm/yyyy*) _____

List country you are deploying to (if known): _____

Name of operation (if known): _____

How many deployments have you done before? O None O 1 O 2 O 3 O 4 O 5 O 6 or more

(if previous question was answered as one or more)
When did you return from your last deployment? (*Mmm yyyy*) _____

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This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's SSN (Last 4 digits): _____

1. **Overall, how would you rate your health during the PAST MONTH?**
   O Excellent O Very Good O Good O Fair O Poor

2. **Are you CURRENTLY on a profile, limited duty, waiting on a MOS/Medical Retention Board (MMRB) decision, or being referred to a medical evaluation board (MEB) or physical evaluation board (PEB)?**
   O Yes For what reason? _____
   O No
   O Don't know

3. **How often do you smoke tobacco (for example cigarettes, cigars, pipe or hookah)?**
   O Just about every day
   O Some days
   O Not at all

4. **What problems, questions or concerns do you have about your medical, dental, or mental health?**
   O Please explain: _____
   O None

5. **FEMALES ONLY – Are you pregnant or is there a chance you could be pregnant?**
   O Don't know
   O Yes
   O No

6. **In the PAST YEAR did you receive care for a head injury?**
   O Yes Please explain: _____
   O No

7. **What prescription or over-the- counter medications (including herbals/supplements) for sleep, pain, combat stress, or mental health conditions or concerns are you CURRENTLY taking?**
   O Please list: _____
   _____
   O None

8. **In the PAST YEAR did you receive care for any mental health condition or concern such as, but not limited to post traumatic stress disorder (PTSD), depression, anxiety disorder, alcohol abuse or substance abuse?**
   O Yes Please explain: _____
   O No

SAMPLE

9. **During the PAST MONTH, how much have you been bothered by any of the following problems?**

Symptom	Not bothered at all	Bothered a little	Bothered a lot
a. Noises in your head or ears (such as ringing, buzzing, crickets, humming, tone, etc.)	O	O	O
b. Trouble hearing	O	O	O

10. a. **How often do you have a drink containing alcohol?**
    O Never O Monthly or less O 2-4 times a month O 2-3 times per week O 4 or more times a week
    b. **How many drinks containing alcohol do you have on a typical day when you are drinking?**
    O 1 or 2 O 3 or 4 O 5 or 6 O 7 to 9 O 10 or more
    c. **How often do you have six or more drinks on one occasion?**
    O Never O Less than monthly O Monthly O Weekly O Daily or almost daily

11. **Have you ever had any experience that was so frightening, horrible, or upsetting that, in the PAST MONTH, you:**
    a. Have had nightmares about it or thought about it when you did not want to? O Yes O No
    b. Tried hard not to think about it or went out of your way to avoid situations that remind you of it? O Yes O No
    c. Were constantly on guard, watchful or easily startled? O Yes O No
    d. Felt numb or detached from others, activities, or your surroundings? O Yes O No

NOTE: If 2 or more items on 11a. through 11d. are marked yes, continue to answer items 11e. through 11v.

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This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's SSN (Last 4 digits): _____

Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each question carefully and check the box for how much you have been bothered by that problem in the PAST MONTH. Please answer all items.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
11e. Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	O	O	O	O	O
11f. Repeated, disturbing dreams of a stressful experience from the past?	O	O	O	O	O
11g. Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	O	O	O	O	O
11h. Feeling very upset when something reminded you of a stressful experience from the past?	O	O	O	O	O
11i. Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?	O	O	O	O	O
11j. Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?	O	O	O	O	O
11k. Avoid activities or situations because they remind you of a stressful experience from the past?	O	O	O	O	O
11l. Trouble remembering important parts of a stressful experience from the past?	O	O	O	O	O
11m. Loss of interest in things that you used to enjoy?	O	O	O	O	O
11n. Feeling distant or cut off from other people?	O	O	O	O	O
11o. Feeling emotionally numb or being unable to have loving feelings for those close to you?	O	O	O	O	O
11p. Feeling as if your future will somehow be cut short?	O	O	O	O	O
11q. Trouble falling or staying asleep?	O	O	O	O	O
11r. Feeling irritable or having angry outbursts?	O	O	O	O	O
11s. Having difficulty concentrating?	O	O	O	O	O
11t. Being "super alert" or watchful, on guard?	O	O	O	O	O
11u. Feeling jumpy or easily startled?	O	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
11v. How difficult have these problems (11e. through 11u) made it for you to do your work, take care of things at home, or get along with other people?	O	O	O	O

SAMPLE

12. **Over the LAST 2 WEEKS, how often have you been bothered by the following problems?**

	Not at all	Few or several days	More than half the days	Nearly every day
a. Little interest or pleasure in doing things	O	O	O	O
b. Feeling down, depressed, or hopeless	O	O	O	O

NOTE: If 12a. or 12b. are marked "More than half the days" or "Nearly every day," continue to answer items 12c. through 12i.

Over the LAST 2 WEEKS, how often have you been bothered by any of the following problems?	Not at all	Few or several days	More than half the days	Nearly every day
12c. Trouble falling/staying asleep, sleep too much.	O	O	O	O
12d. Feeling tired or having little energy.	O	O	O	O
12e. Poor appetite or overeating.	O	O	O	O
12f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	O	O	O	O
12g. Trouble concentrating on things, such as reading the newspaper or watching television.	O	O	O	O
12h. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety that you have been moving around a lot more than usual.	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
12i. How difficult have these problems (12a.through12h.) made it for you to do your work, take care of things at home, or get along with other people?	O	O	O	O

13. a. **Over the PAST MONTH, what major life stressors have you experienced that are a cause of significant concern or make it difficult for you to do your work, take care of things at home, or get along with other people (for example, serious conflicts with others, relationship problems, or a legal, disciplinary or financial problem)?**

O None or
O Please list and explain: _____

_____

_____

b. **Are you currently in treatment or getting professional help for this concern?** O Yes O No

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Deployer's SSN (Last 4 digits): _____

Health Care Provider Only – Provider Review, Interview, Assessment, and Recommendations:

Deployer is deploying to _____. Has deployed _____ times before. Last returned _____

1. Address concerns identified on deployer questions 1 through 8.

Deployer question	Not answered	Deployer indicated concern or yes	Deployer's response	Provider comments (if indicated)
Self health rating	O	O		
MEB or PEB	O	O		
Medical, dental, or mental health concern	O	O		
Pregnancy	O	O		
Head injury	O	O		
Medications	O	O		
History of mental health care	O	O		

2. Hearing and tinnitus as reported in deployer question 9.

a. Did deployer mark he/she bothered a little or a lot in the past month by "noises in head or ears" or "trouble hearing"?
O Yes
O No (*go to block 3)*

b. If yes, referral indicated?
O Yes (complete blocks 11 and 12)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

3. Alcohol use as reported in deployer question 10.

a. Deployer's AUDIT-C screening score was _____. *(If score between 0-4 (men) or 0-3 (women) nothing required, go to block 4).* O Not answered

Number of drinks per week: _____ Maximum number of drinks per occasion: _____

Based on the AUDIT-C score and assessment of alcohol use, follow the guidance below:

SAMPLE

Alcohol Use Intervention Matrix		
Assess Alcohol Use	**AUDIT-C Score Men 5-7 Women 4-7**	**AUDIT-C Score Men and Women ≥ 8**
Alcohol use WITHIN recommended limits: Men: ≤ 14 drinks per week **OR** ≤ 4 drinks on any occasion Women: ≤ 7 drinks per week **OR** ≤ 3 drinks on any occasion	Advise patient to stay below recommended limits	Refer if indicated for further evaluation AND conduct BRIEF counseling*
Alcohol use EXCEEDS recommended limits: Men: > 14 drinks per week or > 4 drinks on any occasion Women: > 7 drinks per week or > 3 drinks on any occasion	Conduct BRIEF counseling* AND consider referral for further evaluation	

* **BRIEF** counseling: **B**ring attention to elevated level of drinking; **R**ecommend limiting use or abstaining; **I**nform about the effects of alcohol on health; **E**xplore and help/support in choosing a drinking goal; **F**ollow-up referral for specialty treatment, if indicated.

b. Referral indicated for evaluation?
O Yes (complete blocks 11 and 12)
O No Provide education/awareness as needed.
State reason if AUDIT-C score was 8+:
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

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Deployer's SSN (Last 4 digits): _____

4. PTSD screening as reported in deployer question 11.

a. Did deployer mark yes on two or more of questions 11a. through 11d.?

O Yes
O No (go to block 5)
O Not answered by deployer

b. If yes, deployer's responses to questions 11e. through 11u. resulted in a PCL-C score of _____ and the deployer's response to level of impairment with life events (11v.) is indicated in the table below.

O 11e. through 11v. were not answered or are incomplete.

Based on the PCL-C score, the deployer's level of functioning, and your exploration of responses, follow the guidance below:

Post-Traumatic Stress Disorder Intervention Matrix				
Self-Reported Level of Functioning	**PCL-C Score <30** (Sub-threshold or no Symptoms)	**PCL-C Score 30-39** (Mild Symptoms)	**PCL-C Score 40-49** (Moderate Symptoms)	**PCL-C Score ≥ 50** (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Provide PTSD education*		Consider referral for further evaluation AND provide PTSD education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide PTSD education*	Consider referral for further evaluation AND provide PTSD education*		Refer for further evaluation AND provide PTSD education*

* PTSD Education = Reassurance/supportive counseling, provide literature on PTSD, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?

O Yes (complete blocks 11 and 12)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

SAMPLE

5. Depression screening as reported in deployer question 12.

a. Did deployer mark "More than half the days" or "Nearly every day" on question 12a. or 12b.?

O Yes
O No (go to block 6)
O Not answered by deployer

b. If yes, deployer's responses to questions 12a. through 12h. resulted in a total PHQ-8 score of _____ and the deployer's response to level of impairment with life events (12i.) is indicated in the table below.

O 12c. through 12i. were not answered or incomplete.

Based on the PHQ-8 score, deployer's level of functioning, and exploration of responses, follow the guidance below:

Depression Intervention Matrix					
Self-Reported Level of Functioning	**PHQ-8 Score 1-4** (No Symptoms)	**PHQ-8 Score 5-9** (Sub-Threshold Symptoms)	**PHQ-8 Score 10-14** (Mild Symptoms)	**PHQ-8 Score 15-18** (Moderate Symptoms)	**PHQ-8 Score 19-24** (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*	Refer for further evaluation AND provide depression education*

* Depression Education = Reassurance/supportive counseling, provide literature on depression, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?

O Yes (complete blocks 11 and 12)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

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Deployer's SSN (Last 4 digits): _____

6. Major life stressor as reported on deployer question 13.

a. Did deployer mark they have a concern or a difficulty with a major life stressor?
- O Yes Deployer's concern: _____
- O No (*go to block 7)*
- O Not answered by deployer

b. If yes, **ask** additional questions to determine level of problem: _____

c. Consider need for referral. Referral indicated?
- O Yes (complete blocks 11 and 12)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O Other *reason (explain):* _____

7. Suicide risk evaluation.

a. **Ask** "Over the **PAST MONTH**, have you been bothered by thoughts that you would be better off dead or of hurting yourself in some way?"
- O Yes
- O No (go to block 8)

b. If 7.a. was yes, **ask:** "How often have you been bothered by these thoughts?"
- O Few or several days
- O More than half of the time
- O Nearly every day

c. If 7.a. was yes, **ask:** "Have you had thoughts of actually hurting yourself?"
- O Yes **(If yes ask questions 7d. through 7g.)**
- O No (If no thoughts of self-harm, go to block 8)

d. **Ask** "Have you thought about how you might actually hurt yourself?"
- O Yes How? _____
- O No

e. **Ask** "There's a big difference between having a thought and acting on a thought. How likely do you think it is that you will act on these thoughts about hurting yourself or ending your life over the next month?"
- O Not at all likely
- O Somewhat likely
- O Very likely

f. **Ask** "Is there anything that would prevent or keep you from harming yourself?"
- O Yes What? _____
- O No

g. **Ask** "Have you ever attempted to harm yourself in the past?"
- O Yes How? _____
- O No

h. Conduct further risk assessment (e.g., interpersonal conflicts, social isolation, alcohol/substance abuse, hopelessness, severe agitation/anxiety, diagnosis of depression or other psychiatric disorder, recent loss, financial stress, legal disciplinary problems, or serious physical illness).

Comments: _____

_____

I. Does deployer pose a current risk for harm to self?
- O Yes (complete blocks 11 and 12)
- O No

8. Violence/harm risk evaluation.

a. **Ask,** "Over the past month have you had thoughts or concerns that you might hurt or lose control with someone?"
- O Yes
- O No *(go to block 9)*

If yes, **ask** additional questions to determine extent of problem (target, plan, intent, past history) Comments: _____

b. Does member pose a current risk to others?
- O Yes (complete blocks 11 and 12)
- O No (briefly state reason): _____

9. Medical History Review – if available, hard copy and/or electronic health records (including DD2766 and SF-600 entries, and most recent past deployment health assessments).
- O Completed
- O No health records available

a. Significant findings related to ability to deploy: _____

_____

_____

b. Evidence of deployment limiting conditions or medications?
- O Yes
- O No

SAMPLE

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Deployer's SSN (Last 4 digits): _____

10. Deployer issues with this assessment (mark as appropriate):
O Deployer declined to complete form
O Deployer declined to complete interview/assessment

Assessment and Referral: After review of deployer's responses and interview with the deployer, the assessment and need for further evaluation is indicated in blocks 11 through 14.

11. Summary of provider's identified concerns needing referral < Mark all that apply>	Yes	No
a. None Identified O		
b. Physical health	O	O
c. Dental health	O	O
d. Alcohol use	O	O
e. PTSD symptoms	O	O
f. Depression symptoms	O	O
g. Mental health symptoms	O	O
h. Risk of self-harm	O	O
i. Risk of violence	O	O
j. Other, list:	O	O

12. Recommended referral(s) < Mark all that apply even if deployer does not desire>	Within 24 hours	Within 7 days	Within 30 days
a. Primary Care, Family Practice, Internal Medicine	O	O	O
b. Behavioral Health in Primary Care	O	O	O
c. Mental Health Specialty Care	O	O	O
d. Dental	O	O	O
e. Other specialty care:	O	O	O
Audiology	O	O	O
Dermatology	O	O	O
OB/GYN	O	O	O
Physical Therapy	O	O	O
TBI/Rehab Med	O	O	O
Podiatry	O	O	O
Other, list	O	O	O
f. Case Manager / Care Manager	O	O	O
g. Substance Abuse Program	O	O	O
h. Immunization Clinic	O	O	O
i. Laboratory	O	O	O
j. Other, list:	O	O	O

SAMPLE

13. Comments: _____

14. Medical assessment/disposition:
O Deployable
O Deployable at present, but requires medical readiness updates. May delay or make undeployable, e.g., pregnancy test, immunizations, overdue Pap test, dental exam, PHA, outdated eyeglass prescription, (add comments – block 15).
O Not Deployable – potentially disqualifying condition requiring additional evaluation (add comments – block 15).
O Not Deployable – other (add comments – block 15).

15. Comments (Mandatory for any type of Not Deployable disposition).

_____

16. Supplemental services recommended / information provided	
O Appointment Assistance	O Family Support
O Contract Support: _____	O Military One Source
O Community Service: _____	O TRICARE Provider
O Chaplain	O VA Medical Center or Community Clinic
O Health Education and Information	O Vet Center
O Health Care Benefits and Resources Information	O Other, list:
O In Transition	

Provider's Name: _____ Date (*dd/mmm/yyyy*) _____

Title: O MD or DO O PA O Nurse Practitioner O Adv Practice Nurse O IDMT O IDC O IDHS

I certify that this review process has been completed. **This visit is coded by V70.5 _ D**

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E

POST-DEPLOYMENT HEALTH ASSESSMENT QUESTIONNAIRE

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POST DEPLOYMENT HEALTH ASSESSMENT (PDHA)

PRIVACY ACT STATEMENT

This statement serves to inform you of the purpose for collecting personally identifiable information through the DD Form 2796, Post-Deployment Health Assessment (PDHA).

AUTHORITY: 10 U.S.C. 136, Under Secretary of Defense for Personnel and Readiness; 10 U.S.C. 1074f, Medical Tracking System for Members Deployed Overseas; DoDI 1404.10, DoD Civilian Expeditionary Workforce; DoDI 6490.02E, Comprehensive Health Surveillance, and E.O. 9397 (SSN), as amended.

PURPOSE: To obtain information from an individual in order to assess the state of the individual's health after deployment outside the United States, its territories and possessions as part of a contingency, combat, or other operation and to assist health care providers in identifying and providing present and future medical care to the individual. The information provided may result in a referral for additional health care that may include medical, dental, or behavioral health care or diverse community support services.

ROUTINE USES: Your records may be disclosed to other Federal and State agencies and civilian health care providers, as necessary, in order to provide medical care and treatment. Use and disclosure of you records outside of DoD may also occur in accordance with 5 U.S.C. 552a(b) of the Privacy Act of 1974, as amended, which incorporates the DoD "Blanket Routine Uses" published at: http://dpclo.defense.gov/privacy/SORNs/blanket_routine_uses.html. Any protected health information (PHI) in your records may be used and disclosed generally as permitted by the HIPAA Privacy Rule (45 CFR Parts 160 and 164), as implemented within DoD by DoD 6025.18-R. Permitted uses and discloses of PHI include, but are not limited to, treatment, payment, and healthcare operations.

DISCLOSURE: Voluntary. If you chose not to provide information, comprehensive healthcare services may not be possible or administrative delays may occur. HOWEVER, CARE WILL NOT BE DENIED.

INSTRUCTIONS: You are encouraged to answer all questions. You must at least complete the first portion on who you are and when and where you deployed. If you do not understand a question, please discuss the question with a health care provider.

DEMOGRAPHICS

Last Name _____ **First Name** _____ **Middle Initial** ____

Social Security Number _____ **Today's Date** (*dd/mmm/yyyy*) _____

Date of Birth (*dd/mmm/yyyy*) _____ **Gender** O Male O Female

Service Branch
- O Air Force
- O Army
- O Navy
- O Marine Corps
- O Coast Guard
- O Civilian Expeditionary Workforce (CEW)
- O USPHS
- O Other Defense Agency List: _____

Component
- O Active Duty
- O National Guard
- O Reserves
- O Civilian Government Employee

Pay Grade

O E1	O O1	O W1
O E2	O O2	O W2
O E3	O O3	O W3
O E4	O O4	O W4
O E5	O O5	O W5
O E6	O O6	
O E7	O O7	O Other
O E8	O O8	
O E9	O O9	
	O O10	

SAMPLE

Home station/unit: _____

Current contact information:

Phone: _____
Cell: _____
DSN: _____
Email: _____
Address: _____
_____
_____

Point of contact who can always reach you:

Name: _____
Phone: _____
Email: _____
Address: _____
_____
_____

PLEASE ANSWER ALL QUESTIONS BASED ON YOUR MOST RECENT DEPLOYMENT

Date arrived theater (*dd/mmm/yyyy*) _____ **Date departed theater** (*dd/mmm/yyyy*) _____

Location of operation
To what areas were you mainly deployed?
(Please list all that apply, including the number of months spent at each location.)

- O Country 1 _____ Time at location (*months*) _____
- O Country 2 _____ Time at location (*months*) _____
- O Country 3 _____ Time at location (*months*) _____
- O Country 4 _____ Time at location (months) _____
- O Country 5 _____ Time at location (months) _____

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Deployer's SSN (Last 4 digits): _____

1. **Overall, how would you rate your health during the PAST MONTH?**
   O Excellent O Very Good O Good O Fair O Poor

2. **Compared to before this deployment, how would you rate your health in general now?**
   O Much better now than before I deployed
   O Somewhat better now than before I deployed
   O About the same as before I deployed
   O Somewhat worse now than before I deployed Please explain: _____
   O Much worse now than before I deployed Please explain: _____

3. **How often did you smoke tobacco (for example cigarettes, cigars, pipe, or hookah) during your deployment?**
   O Just about every day O Some days O Not at all

4. **Were you wounded, injured, assaulted or otherwise hurt during your deployment?** O Yes O No

   If yes, are you still having any problems or concerns related to this event? O Yes O No

   If yes, please explain: _____

5. **During your deployment:**
   a. Did you ever feel like you were in great danger of being killed? O Yes O No
   b. Did you encounter dead bodies or see people killed or wounded during this deployment? O Yes O No
   c. Did you engage in direct combat where you discharged a weapon? O Yes O No

6. **How many times during your deployment did you visit a health care provider for a medical or dental health problem/concern?**
   O No visits O 1 visit O 2-3 visits O 4-5 visits O 6 or more

7. **During this deployment did you receive care for combat stress or a mental health problem/concern?** O Yes O No

   If yes, please explain: _____

8. **During this deployment, did you have to spend one or more nights in a hospital as a patient?** O Yes O No

   Reason/dates: _____

9. **During the PAST MONTH, how difficult have physical health problems *(illness or injury)* made it for you to do your work or other regular daily activities?**
   O Not difficult at all O Somewhat difficult O Very difficult O Extremely difficult

SAMPLE

10.a. **During this deployment, did any of the following events happen to you?** (Mark all that apply)
   (1) Blast or explosion (e.g., IED, RPG, EFP, land mine, grenade, etc.)? O Yes O No
   If yes, please estimate your distance from the closest blast or explosion:
   O Less than 25 meters (82 feet)
   O 25-50 meters (82-164 feet)
   O 50-100 meters (164-328 feet)
   O More than 100 meters (328 feet)
   (2) Vehicular accident/crash (any vehicle including aircraft)? O Yes O No
   (3) Fragment wound or bullet wound?
   a. Head or neck O Yes O No
   b. Rest of body O Yes O No
   (4) Other injury (e.g., sports injury, accidental fall, etc.)? O Yes O No

   If yes to any of the above, please explain: _____

10.b. **As a result of any of the events in 10.a., did you receive a jolt or blow to your head that IMMEDIATELY resulted in:**
   (1) Losing consciousness ("knocked out")? O Yes O No
   If yes, for about how long were you knocked out?
   O Less than 5 min O 5-30 min O more than 30 min
   (2) Losing memory of events before or after the injury? O Yes O No
   (3) Seeing stars, becoming disoriented, functioning differently, or nearly blacking out? O Yes O No

10.c. **How many total times during this deployment did you receive a blow or jolt to your head?**
   (only answer if you had a yes to any of the questions on 10a.)
   O 0 O 1 O 2 O 3 O more than 3 (list number of times) _____

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Deployer's SSN (Last 4 digits): _____

11. During the PAST MONTH, how much have you been bothered by any of the following problems?

Symptom	Not bothered at all	Bothered a little	Bothered a lot
a. Stomach pain	O	O	O
b. Back pain	O	O	O
c. Pain in the arms, legs, or joints (knees, hips, etc.)	O	O	O
d. Menstrual cramps or other problems with your periods (Women only)	O	O	O
e. Headaches	O	O	O
f. Chest pain	O	O	O
g. Dizziness	O	O	O
h. Fainting spells	O	O	O
i. Feeling your heart pound or race	O	O	O
j. Shortness of breath	O	O	O
k. Pain or problems during sexual intercourse	O	O	O
l. Constipation, loose bowels, or diarrhea	O	O	O
m. Nausea, gas, or indigestion	O	O	O
n. Feeling tired or having low energy	O	O	O
o. Trouble sleeping	O	O	O
p. Trouble concentrating on things (such as reading a newspaper or watching television)	O	O	O
q. Memory problems	O	O	O
r. Balance problems	O	O	O
s. Noises in your head or ears (such as ringing, buzzing, crickets, humming, tone, etc.)	O	O	O
t. Trouble hearing	O	O	O
u. Sensitivity to bright light	O	O	O
v. Becoming easily annoyed or irritable	O	O	O
w. Fever	O	O	O
x. Cough lasting more than 3 weeks	O	O	O
y. Numbness or tingling in the hands or feet	O	O	O
z. Hard to make up your mind or make decisions	O	O	O
aa. Watery, red eyes	O	O	O
bb. Dimming of vision, like the lights were going out	O	O	O
cc. Skin rash and/or lesion	O	O	O
dd. Pain with urination, frequency of urination, or strong urge to urinate	O	O	O
ee. Bleeding gums, tooth pain, or broken tooth	O	O	O

SAMPLE

12. a. Over the PAST MONTH, what major life stressors have you experienced that are a cause of significant concern or make it difficult for you to do your work, take care of things at home, or get along with other people (for example, serious conflicts with others, relationship problems, or a legal, disciplinary or financial problem)?

O None or
O Please list and explain: _____
_____
_____

b. Are you currently in treatment or getting professional help for this concern?

O Yes O No

13. What prescription or over-the-counter medications (including herbals/supplements) for sleep, pain, combat stress, or a mental health problem are you CURRENTLY taking?

O Please list: _____
_____
O None

14. a. How often do you have a drink containing alcohol?
O Never O Monthly or less O 2-4 times a month O 2-3 times per week O 4 or more times a week

b. How many drinks containing alcohol do you have on a typical day when you are drinking?
O 1 or 2 O 3 or 4 O 5 or 6 O 7 to 9 O 10 or more

c. How often do you have six or more drinks on one occasion?
O Never O Less than monthly O Monthly O Weekly O Daily or almost daily

15. Have you ever had any experience that was so frightening, horrible, or upsetting that, in the PAST MONTH, you:

a. Have had nightmares about it or thought about it when you did not want to? O Yes O No
b. Tried hard not to think about it or went out of your way to avoid situations that remind you of it? O Yes O No
c. Were constantly on guard, watchful or easily startled? O Yes O No
d. Felt numb or detached from others, activities, or your surroundings? O Yes O No

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Deployer's SSN (Last 4 digits): _____

16. Over the LAST 2 WEEKS, how often have you been bothered by the following problems?

	Not at all	Few or several days	More than half the days	Nearly every day
a. Little interest or pleasure in doing things	O	O	O	O
b. Feeling down, depressed, or hopeless	O	O	O	O

17. Are you worried about your health because you believe you were exposed to something in the environment while deployed? O Yes O No

If yes, please explain: _____

18. Do you think you were exposed to any chemical, biological, or radiological warfare agents during this deployment? O Yes O No

If yes, please explain: _____

19. Were you in a vehicle hit by a depleted uranium (DU) round; inside a destroyed vehicle that contained DU; or closely inspect such a vehicle? O Yes O No O Don't know

If yes, please explain: _____

20. Were you told to take medicines to prevent malaria? O Yes O No

If yes, please indicate which medicines you took and whether you took all pills as directed. (Mark all that apply)

Anti-malarial medications received	Took all pills?
O Chloroquine (Aralen®)	O Yes O No
O Doxycycline (Vibramycin®)	O Yes O No
O Malarone®	O Yes O No
O Mefloquine (Lariam®)	O Yes O No
O Primaquine	O Yes O No
O Other: _____	O Yes O No
O Given pills but do not know drug name	O Yes O No

21. Were you bitten or scratched by an animal during your deployment? O Yes O No

If yes, please explain what kind of animal was involved, your injury, and what happened:

_____

_____

22. Would you like to schedule an appointment with a health care provider to discuss any health concern(s)? O Yes O No

23. Are you interested in receiving information or assistance for a stress, emotional or alcohol concern? O Yes O No

24. Are you interested in receiving assistance for a family or relationship concern? O Yes O No

25. Would you like to schedule a visit with a chaplain or a community support counselor? O Yes O No

SAMPLE

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This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's SSN (Last 4 digits): _____

Health Care Provider Only – Provider Review, Interview, Assessment, and Recommendations:

Deployer reports arriving in theater on: _____ **Deployer reports departing theater on:** _____

1. Address concerns identified on deployer questions 1 and 2.

Deployer question	Not answered	Deployer indicated concern	Deployer's response or concern	Provider comments (if indicated)
Self health rating	O	O		
Change in health post-deployment	O	O		

2. Address wounds, injuries, assaults, etc., occurring during deployment as reported on deployer question 4.

a. Did deployer mark that he/she is still having a problem or concern related to a wound, injury, or assault that occurred during their deployment?
- O Yes
- O No (*go to block 3)*
- O Not answered by deployer

b. Refer for evaluation?
- O Yes (complete blocks 19 and 20)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

3. Deployment experiences as reported in deployer question 5. Consider in overall assessment; ask follow-up questions as indicated.

Deployer question	Not answered	Yes response	Provider comments (if indicated)
Danger of being killed	O	O	
Encountered bodies or saw people killed or wounded	O	O	
In direct combat and discharged weapon	O	O	

SAMPLE

4. Address concerns identified on deployer questions 6 through 9.

Deployer question	Not answered	Deployer indicated concern	Deployer's response or concern	Provider comments (if indicated)
Health care visits during deployment	O	O		
Care for combat stress/mental health	O	O		
Hospitalized during deployment	O	O		
Physical limitations/problems	O	O		

5. Deployment injury and concussion risk assessment.

a. Did deployer have an injury based on their responses to question 10.a.?
- O Yes
- O No (*go to block 6)*

b. Did deployer have a possible concussion based on their responses to questions 10.a. through 10.c.?
- O Yes
- O No (*go to block 6)*

c. Evaluate injury history and concussion-related experiences and symptoms.

Refer for evaluation?
- O Yes (complete blocks 19 and 20)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

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Deployer's SSN (Last 4 digits): _____

6. Post-deployment general symptoms/health concerns.

List of symptoms reported as "Bothered a Lot" on Deployer Questions 11a. through 11ee.
List of symptoms reported as "Bothered a Little" on Deployer Questions 11a. through 11ee.

Physical symptom (PHQ-15) severity score for Deployer Questions 11a. through 11o.				
	Minimal < 4	Low 5 - 9	Medium 10 - 14	High ≥ 15
Deployer's total	_____	_____	_____	_____

a. Does deployer have evidence of high generalized post-deployment physical symptoms (a score of ≥ 15 on the PHQ-15 physical symptoms scale - deployer questions 11a. - 11o.) or is "bothered a lot" by specific symptoms listed in 11a. – 11ee.?
- O Yes
- O No
- O Not answered by deployer

b. Based on deployer's responses to deployer questions 11a. through 11ee. is a referral indicated?
- O Yes (complete blocks 19 and 20)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

7. Major life stressor as reported on deployer question 12.

a. Did deployer mark they have a concern or a difficulty with a major life stressor?
- O Yes Deployer's concern: _____
- O No (*go to block 8)*
- O Not answered by deployer

b. If yes, ask additional questions to determine level of problem: _____

c. Consider need for referral. Referral indicated?
- O Yes (complete blocks 19 and 20)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O Other *reason (explain):* _____

SAMPLE

8. Self-reported history of prescription or over-the-counter medications as described on deployer question 13.

Deployer question	Not answered	Yes response	Deployer's response	Provider comments (if indicated)
Medications	O	O		

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Deployer's SSN (Last 4 digits): _____

9. Alcohol use as reported in deployer question 14.

a. Deployer's AUDIT-C screening score was _____. *(If score between 0-4 (men) or 0-3 (women) nothing required, go to block 10).* ○ Not answered

Number of drinks per week: _____ Maximum number of drinks per occasion: _____

Based on the AUDIT-C score and assessment of alcohol use, follow the guidance below:

Alcohol Use Intervention Matrix		
Assess Alcohol Use	**AUDIT-C Score Men 5 - 7 Women 4 - 7**	**AUDIT-C Score Men and Women ≥ 8**
Alcohol use WITHIN recommended limits: Men: ≤ 14 drinks per week **OR** ≤ 4 drinks on any occasion Women: ≤ 7 drinks per week **OR** ≤ 3 drinks on any occasion	Advise patient to stay below recommended limits	Refer if indicated for further evaluation AND conduct BRIEF counseling*
Alcohol use EXCEEDS recommended limits: Men: > 14 drinks per week or > 4 drinks on any occasion Women: > 7 drinks per week or > 3 drinks on any occasion	Conduct BRIEF counseling* AND consider referral for further evaluation	

* **BRIEF** counseling: **B**ring attention to elevated level of drinking; **R**ecommend limiting use or abstaining; **I**nform about the effects of alcohol on health; **E**xplore and help/support in choosing a drinking goal; **F**ollow-up referral for specialty treatment, if indicated.

b. Referral indicated for evaluation?
○ Yes (complete blocks 19 and 20)
○ No Provide education/awareness as needed.
State reason if AUDIT-C score was 8+:
○ *Already under care*
○ *Already has referral*
○ *No significant impairment*
○ *Other reason (explain):* _____

SAMPLE

10. PTSD screening as reported in deployer question 15.

a. Are two or more of the deployer's responses to questions 15a. through 15d. "yes?"
○ Yes
○ No *(go to block 11)*
○ Not answered by deployer

b. If yes, ask additional questions to determine extent of problem: _____

c. Consider need for referral. Referral indicated?
○ Yes (complete blocks 19 and 20)
○ No
○ *Already under care*
○ *Already has referral*
○ *No significant impairment*
○ **Other** *reason (explain):* _____

11. Depression screening as reported in deployer question 16.

a. Did deployer mark "more than half the days" or "nearly every day" on question 16a. or 16b.?
○ Yes
○ No *(go to block 12)*
○ Not answered by deployer

b. If yes, ask additional questions to determine extent of problem; briefly describe results: _____

c. Consider need for referral. Referral indicated?
○ Yes (complete blocks 19 and 20)
○ No
○ *Already under care*
○ *Already has referral*
○ *No significant impairment*
○ **Other** *reason (explain):* _____

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Deployer's SSN (Last 4 digits): _____

12. Environmental and exposure concern/assessment as reported in deployer questions 17 and 18.

a. Did deployer indicate a worry or possible exposure? O Yes O No (go to block 13)

If yes, mark deployer's exposure concern(s)	
O Animal bites	O Paints
O Animal bodies (dead)	O Pesticides
O Chlorine gas	O Radar/Microwaves
O Depleted uranium	O Sand/dust
O Excessive vibration	O Smoke from burning trash or feces
O Fog oils (smoke screen)	O Smoke from oil fire
O Garbage	O Solvents
O Human blood, body fluids, body parts, or dead bodies	O Tent heater smoke
O Industrial pollution	O Vehicle or truck exhaust fumes
O Insect bites	O Chemical, biological, radiological warfare agent
O Ionizing radiation	O Other exposures to toxic chemicals or materials, such as ammonia, nitric acid, etc. Please list:
O JP8 or other fuels	
O Lasers	
O Loud noises	

b. If yes, referral indicated?
O Yes (complete blocks 19 and 20)
O No (provide risk education)
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

13. Depleted uranium (DU) as reported in deployer question 19.

a. Did deployer mark either "yes" or "don't know to questions 19 O Yes O No *(go to block 14)*

b. If yes, based on details of event and extent of exposure is referral to PCM for completion of DD Form 2872 (DU Questionnaire) and possible 24-hour urinalysis indicated?
O Yes (complete blocks 19 and 20)
O No (provide risk education)
O *Already under care*
O *Already has referral*
O *No significant impairment*
O Other *reason (explain):* _____

SAMPLE

14. Malaria prophylaxis review as reported in deployer question 20.

Deployer reports having deployed to: _____

a. Deployment location required malaria prophylaxis? O Yes O No *(go to block 15)*

b. Did deployer receive anti-malarial prophylaxis AND report compliance? O Yes *(go to block 15)* O No

c. If no, determine need for prophylaxis. Prescription indicated?
O Yes (complete blocks 19 and 20)
O No (briefly state reason): _____

15. Animal bite (rabies risk) as reported on deployer question 21.

a. Did deployer mark "yes" on animal bite/scratch?
O Yes
O No *(go to block 16)*

b. If yes, based on details of event and care received is a referral and/or follow-up indicated?
Note: Rabies incubation period can be months to years. Rabies prophylaxis can begin at anytime.
O Yes (complete blocks 19 and 20)
O No (provide risk education)
O *Was appropriately treated*
O *Already under care*
O *Already has referral*
O *Situation was not a risk for rabies*
O Other *reason (explain):* _____

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Deployer's SSN (Last 4 digits): _____

16. Suicide risk evaluation.

a. **Ask** "Over the **PAST MONTH**, have you been bothered by thoughts that you would be better off dead or of hurting yourself in some way?"
- O Yes
- O No (go to block 17)

b. If 16.a. was yes, **ask:** "How often have you been bothered by these thoughts?"
- O Few or several days
- O More than half of the time
- O Nearly every day

c. If 16.a. was yes, **ask:** "Have you had thoughts of actually hurting yourself?"
- O Yes **(If yes, ask questions 16d. through 16g.)**
- O No (If no thoughts of self-harm, go to block 17)

d. **Ask** "Have you thought about how you might actually hurt yourself?"
- O Yes How? _____
- O No

e. **Ask** "There's a big difference between having a thought and acting on a thought. How likely do you think it is that you will act on these thoughts about hurting yourself or ending your life over the next month?"
- O Not at all likely
- O Somewhat likely
- O Very likely

f. **Ask** "Is there anything that would prevent or keep you from harming yourself?"
- O Yes What? _____
- O No

g. **Ask** "Have you ever attempted to harm yourself in the past?"
- O Yes How? _____
- O No

h. Conduct further risk assessment (e.g., interpersonal conflicts, social isolation, alcohol/substance abuse, hopelessness, severe agitation/anxiety, diagnosis of depression or other psychiatric disorder, recent loss, financial stress, legal disciplinary problems, or serious physical illness).

Comments: _____

SAMPLE

i. Does deployer pose a current risk for harm to self?
- O Yes (complete blocks 19 and 20)
- O No

17. Violence/harm risk evaluation.

a. **Ask,** "Over the past month have you had thoughts or concerns that you might hurt or lose control with someone?"
- O Yes
- O No *(go to block 18)*

If yes, **ask** additional questions to determine extent of problem (target, plan, intent, past history) Comments: _____

b. Does member pose a current risk to others?
- O Yes (complete blocks 19 and 20)
- O No (briefly state reason): _____

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Deployer's SSN (Last 4 digits): _____

18. Deployer issues with this assessment (mark as appropriate):
O Deployer declined to complete form
O Deployer declined to complete interview/assessment

Assessment and Referral: After review of deployer's responses and interview with the deployer, the assessment and need for further evaluation is indicated in blocks 19 through 22.

19. Summary of provider's identified concerns needing referral < Mark all that apply>	Yes	No
a. None Identified O		
b. Physical health	O	O
c. Dental health	O	O
d. Concussion	O	O
e. Mental health symptoms	O	O
f. Alcohol use	O	O
g. PTSD symptoms	O	O
h. Depression symptoms	O	O
i. Environment/work exposure	O	O
j. Depleted uranium	O	O
k. Malaria prophylaxis	O	O
l. Risk of self-harm	O	O
m. Risk of violence	O	O
n. Other, list:	O	O

20. Recommended referral(s) < Mark all that apply even if deployer does not desire>	Within 24 hours	Within 7 days	Within 30 days
a. Primary Care, Family Practice, Internal Medicine	O	O	O
b. Behavioral Health in Primary Care	O	O	O
c. Mental Health Specialty Care	O	O	O
d. Dental	O	O	O
e. Other specialty care:	O	O	O
Audiology	O	O	O
Dermatology	O	O	O
OB/GYN	O	O	O
Physical Therapy	O	O	O
TBI/Rehab Med	O	O	O
Podiatry	O	O	O
Other, list	O	O	O
f. Case Manager / Care Manager	O	O	O
g. Substance Abuse Program	O	O	O
h. Immunization clinic	O	O	O
i. Laboratory	O	O	O
j. Other, list:	O	O	O

SAMPLE

21. Comments: _____
_____
_____
_____

22. Address requests as reported on deployer questions 22 through 25.

Deployer question	Not answered	Yes response	Comments (if indicated)
Request medical appointment	O	O	
Request info on stress/emotional/alcohol	O	O	
Family/relationship concern assistance	O	O	
Chaplain/counselor visit request	O	O	

23. Supplemental services recommended / information provided	
O Appointment Assistance	O Family Support
O Information on post-deployment blood specimen requirement	O Military One Source
O Contract Support: _____	O TRICARE Provider
O Community Service: _____	O VA Medical Center or Community Clinic
O Chaplain	O Vet Center
O Health Education and Information	O Other, list:
O Health Care Benefits and Resources Information	
O In Transition	

Provider's Name: _____ Date (*dd/mmm/yyyy*) _____

Title: O MD or DO O PA O Nurse Practitioner O Adv Practice Nurse O IDMT O IDC O IDHS

I certify that this review process has been completed. **This visit is coded by V70.5 _ E**

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F

POST-DEPLOYMENT HEALTH RE-ASSESSMENT QUESTIONNAIRE

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POST DEPLOYMENT HEALTH RE-ASSESSMENT (PDHRA)

PRIVACY ACT STATEMENT

This statement serves to inform you of the purpose for collecting personally identifiable information through the DD Form 2900, Post-Deployment Health Re-Assessment (PDHRA).

AUTHORITY: 10 U.S.C. 136, Under Secretary of Defense for Personnel and Readiness; 10 U.S.C. 1074f, Medical Tracking System for Members Deployed Overseas; DoDI 1404.10, DoD Civilian Expeditionary Workforce; DoDI 6490.02E, Comprehensive Health Surveillance, and E.O. 9397 (SSN), as amended.

PURPOSE: To obtain information from an individual in order to assess the state of the individual's health after deployment outside the United States, its territories and possessions as part of a contingency, combat, or other operation and to assist health care providers in identifying and providing present and future medical care to the individual. The information provided may result in a referral for additional health care that may include medical, dental, or behavioral health care or diverse community support services.

ROUTINE USES: Your records may be disclosed to other Federal and State agencies and civilian health care providers, as necessary, in order to provide medical care and treatment. Use and disclosure of you records outside of DoD may also occur in accordance with 5 U.S.C. 552a(b) of the Privacy Act of 1974, as amended, which incorporates the DoD "Blanket Routine Uses" published at: http://dpclo.defense.gov/privacy/SORNs/blanket_routine_uses.html. Any protected health information (PHI) in your records may be used and disclosed generally as permitted by the HIPAA Privacy Rule (45 CFR Parts 160 and 164), as implemented within DoD by DoD 6025.18-R. Permitted uses and discloses of PHI include, but are not limited to, treatment, payment, and healthcare operations.

DISCLOSURE: Voluntary. If you chose not to provide information, comprehensive healthcare services may not be possible or administrative delays may occur. HOWEVER, CARE WILL NOT BE DENIED.

INSTRUCTIONS: You are encouraged to answer all questions. You must at least complete the first portion on who you are and when and where you deployed. If you do not understand a question, please discuss the question with a health care provider.

DEMOGRAPHICS

Last Name _____ **First Name** _____ **Middle Initial** ____

Social Security Number _____ **Today's Date** (*dd/mmm/yyyy*) _____

Date of Birth (*dd/mmm/yyyy*) _____ **Gender** O Male O Female

SAMPLE

Service Branch
- O Air Force
- O Army
- O Navy
- O Marine Corps
- O Coast Guard
- O Civilian Expeditionary Workforce (CEW)
- O USPHS
- O Other Defense Agency List: _____

Component
- O Active Duty
- O National Guard
- O Reserves
- O Civilian Government Employee

Pay Grade

O E1	O O1	O W1
O E2	O O2	O W2
O E3	O O3	O W3
O E4	O O4	O W4
O E5	O O5	O W5
O E6	O O6	
O E7	O O7	O Other
O E8	O O8	
O E9	O O9	
	O O10	

Home station/unit: _____

Current contact information:

Phone: _____
Cell: _____
DSN: _____
Email: _____
Address: _____
_____
_____

Point of contact who can always reach you:

Name: _____
Phone: _____
Email: _____
Address: _____
_____
_____

PLEASE ANSWER ALL QUESTIONS BASED ON YOUR MOST RECENT DEPLOYMENT

Primary location of last deployment: _____ **Date departed theater** (*dd/mmm/yyyy*) _____

Total deployments in past 5 years: O 1 O 2 O 3 O 4 O 5 or more

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Deployer's SSN (Last 4 digits): _____

1. **Overall, how would you rate your health during the PAST MONTH?**
   O Excellent O Very Good O Good O Fair O Poor

2. **Compared to before your most recent deployment, how would you rate your health in general now?**
   O Much better now than before I deployed
   O Somewhat better now than before I deployed
   O About the same as before I deployed
   O Somewhat worse now than before I deployed Please explain: _____
   O Much worse now than before I deployed Please explain: _____

3. **Were you wounded, injured, assaulted or otherwise hurt during your deployment?** O Yes O No

   If yes, are you still having any problems or concerns related to the event(s)? O Yes O No

   If yes, please explain: _____

4. **During your deployment:**
   a. Did you ever feel like you were in great danger of being killed? O Yes O No
   b. Did you encounter dead bodies or see people killed or wounded during this deployment? O Yes O No
   c. Did you engage in direct combat where you discharged a weapon? O Yes O No

5. **Since you returned from deployment, how many times have you gone to a health care provider for a medical, dental, or mental health problem/concern?**
   O No visits O 1 visit O 2-3 visits O 4-5 visits O 6 or more

6. **Since you returned from deployment, have you been hospitalized?** O Yes O No

   If yes, please list date and brief details: _____

7. **During the PAST MONTH, how difficult have physical health problems *(illness or injury)* made it for you to do your work or other regular daily activities?**
   O Not difficult at all O Somewhat difficult O Very difficult O Extremely difficult

8. **During the PAST MONTH, how much have you been bothered by any of the following problems?**

Symptom	Not bothered at all	Bothered a little	Bothered a lot
a. Stomach pain	O	O	O
b. Back pain	O	O	O
c. Pain in the arms, legs, or joints (knees, hips, etc.)	O	O	O
d. Menstrual cramps or other problems with your periods (Women only)	O	O	O
e. Headaches	O	O	O
f. Chest pain	O	O	O
g. Dizziness	O	O	O
h. Fainting spells	O	O	O
i. Feeling your heart pound or race	O	O	O
j. Shortness of breath	O	O	O
k. Pain or problems during sexual intercourse	O	O	O
l. Constipation, loose bowels, or diarrhea	O	O	O
m. Nausea, gas, or indigestion	O	O	O
n. Feeling tired or having low energy	O	O	O
o. Trouble sleeping	O	O	O
p. Trouble concentrating on things (such as reading a newspaper or watching television)	O	O	O
q. Memory problems	O	O	O
r. Balance problems	O	O	O
s. Noises in your head or ears (such as ringing, buzzing, crickets, humming, tone, etc.)	O	O	O
t. Trouble hearing	O	O	O
u. Sensitivity to bright light	O	O	O
v. Becoming easily annoyed or irritable	O	O	O
w. Fever	O	O	O
x. Cough lasting more than 3 weeks	O	O	O
y. Numbness or tingling in the hands or feet	O	O	O
z. Hard to make up your mind or make decisions	O	O	O
aa. Watery, red eyes	O	O	O
bb. Dimming of vision, like the lights were going out	O	O	O
cc. Skin rash and/or lesion	O	O	O
dd. Bleeding gums, tooth pain, or broken tooth	O	O	O

SAMPLE

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This form must be completed electronically. Handwritten forms will not be accepted.

Deployer's SSN (Last 4 digits): _____

9. a. Over the PAST MONTH, what major life stressors have you experienced that are a cause of significant concern or make it difficult for you to do your work, take care of things at home, or get along with other people (for example, serious conflicts with others, relationship problems, or a legal, disciplinary or financial problem)?

O None or
O Please list and explain: _____
_____
_____

b. Are you currently in treatment or getting professional help for this concern? O Yes O No

10. In the PAST YEAR did you receive care for any mental health condition or concern such as, but not limited to post traumatic stress disorder (PTSD), depression, anxiety disorder, alcohol abuse or substance abuse? O Yes O No

If yes, please explain: _____

11. What prescription or over-the-counter medications (including herbals/supplements) for sleep, pain, combat stress, or a mental health problem are you CURRENTLY taking?

O Please list: _____
_____
O None

12. a. How often do you have a drink containing alcohol?
O Never O Monthly or less O 2-4 times a month O 2-3 times per week O 4 or more times a week

b. How many drinks containing alcohol do you have on a typical day when you are drinking?
O 1 or 2 O 3 or 4 O 5 or 6 O 7 to 9 O 10 or more

c. How often do you have six or more drinks on one occasion?
O Never O Less than monthly O Monthly O Weekly O Daily or almost daily

13. Have you ever had any experience that was so frightening, horrible, or upsetting that, in the PAST MONTH, you:

a. Have had nightmares about it or thought about it when you did not want to? O Yes O No
b. Tried hard not to think about it or went out of your way to avoid situations that remind you of it? O Yes O No
c. Were constantly on guard, watchful or easily startled? O Yes O No
d. Felt numb or detached from others, activities, or your surroundings? O Yes O No

SAMPLE

NOTE: If two or more items on 13a. through 13d. are marked yes, continue to answer items 13e through 13v.

Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each question carefully and check the box for how much you have been bothered by that problem in the LAST MONTH. Please answer all items.

	Not at all	A little bit	Moderately	Quite a bit	Extremely
13e. Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?	O	O	O	O	O
13f. Repeated, disturbing dreams of a stressful experience from the past?	O	O	O	O	O
13g. Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?	O	O	O	O	O
13h. Feeling very upset when something reminded you of a stressful experience from the past?	O	O	O	O	O
13i. Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?	O	O	O	O	O
13j. Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?	O	O	O	O	O
13k. Avoid activities or situations because they remind you of a stressful experience from the past?	O	O	O	O	O
13l. Trouble remembering important parts of a stressful experience from the past?	O	O	O	O	O
13m. Loss of interest in things that you used to enjoy?	O	O	O	O	O
13n. Feeling distant or cut off from other people?	O	O	O	O	O
13o. Feeling emotionally numb or being unable to have loving feelings for those close to you?	O	O	O	O	O
13p. Feeling as if your future will somehow be cut short?	O	O	O	O	O
13q. Trouble falling or staying asleep?	O	O	O	O	O
13r. Feeling irritable or having angry outbursts?	O	O	O	O	O
13s. Having difficulty concentrating?	O	O	O	O	O
13t. Being "super alert" or watchful, on guard?	O	O	O	O	O
13u. Feeling jumpy or easily startled?	O	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
13v. How difficult have these problems (13e through 13u.) made it for you to do your work, take care of things at home, or get along with other people?	O	O	O	O

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Deployer's SSN (Last 4 digits): _____

14. Over the LAST 2 WEEKS, how often have you been bothered by the following problems?

	Not at all	Few or several days	More than half the days	Nearly every day
a. Little interest or pleasure in doing things	O	O	O	O
b. Feeling down, depressed, or hopeless	O	O	O	O

NOTE: If 14a. or 14b. are marked "More than half the days" or "Nearly every day," continue to answer items 14c. through 14i.

Over the LAST 2 WEEKS, how often have you been bothered by any of the following problems?	Not at all	Few or several days	More than half the days	Nearly every day
14c. Trouble falling/staying asleep, sleep too much.	O	O	O	O
14d. Feeling tired or having little energy.	O	O	O	O
14e. Poor appetite or overeating.	O	O	O	O
14f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down.	O	O	O	O
14g. Trouble concentrating on things, such as reading the newspaper or watching television.	O	O	O	O
14h. Moving or speaking so slowly that other people could have noticed. Or the opposite – being so fidgety that you have been moving around a lot more than usual.	O	O	O	O

	Not difficult at all	Somewhat difficult	Very difficult	Extremely difficult
14i. How difficult have these problems (14a.-14h.) made it for you to do your work, take care of things at home, or get along with other people?	O	O	O	O

15. Are you worried about your health because you believe you were exposed to something in the environment while deployed? O Yes O No

If yes, please explain: _____

16. Were you bitten or scratched by an animal during your deployment? O Yes O No

If yes, please explain what kind of animal was involved, your injury, and what happened:

_____

_____

17. Would you like to schedule an appointment with a health care provider to discuss any health concern(s)? O Yes O No

18. Are you interested in receiving information or assistance for a stress, emotional or alcohol concern? O Yes O No

19. Are you interested in receiving assistance for a family or relationship concern? O Yes O No

20. Would you like to schedule a visit with a chaplain or a community support counselor? O Yes O No

SAMPLE

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Deployer's SSN (Last 4 digits): _____

Health Care Provider Only – Provider Review, Interview, Assessment, and Recommendations:

Deployer reports most recent deployment was to _____ and has deployed _____ times before in the past five years.

1. Address concerns identified on deployer questions 1 and 2.

Deployer question	Not answered	Deployer indicated concern	Deployer's response or concern	Provider comments (if indicated)
Self health rating	O	O		
Change in health post-deployment	O	O		

2. Address wounds, injuries, assaults, etc., occurring during deployment as reported on deployer question 3.

a. Did deployer mark that he/she is still having a problem or concern related to a wound, injury, or assault that occurred during their deployment?
- O Yes
- O No (*go to block 3)*
- O Not answered by deployer

b. Refer for evaluation?
- O Yes (complete blocks 16 and 17)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

3. Deployment experiences as reported in deployer question 4. Consider in overall assessment; ask follow-up questions as indicated.

Deployer question	Not answered	Yes response	Provider comments (if indicated)
Danger of being killed	O	O	
Encountered bodies or saw people killed or wounded	O	O	
In direct combat and discharged weapon	O	O	

SAMPLE

4. Address concerns identified on deployer questions 5 through 7.

Deployer question	Not answered	Deployer indicated concern	Deployer's response or concern	Provider comments (if indicated)
Health care visits since return	O	O		
Hospitalized since return	O	O		
Physical limitations/problems	O	O		

5. Post-deployment general symptoms/health concerns.

List of symptoms reported as "Bothered a Lot" on Deployer Questions 8a. through 8dd.
List of symptoms reported as "Bothered a Little" on Deployer Questions 8a. through 8dd.

Physical symptom (PHQ-15) severity score for Deployer Questions 8a. through 8o.				
	Minimal < 4	Low 5 - 9	Medium 10 - 14	High ≥ 15
Deployer's total	_____	_____	_____	_____

a. Does deployer have evidence of high generalized post- deployment physical symptoms (a score of ≥ 15 on the PHQ-15 physical symptom scale – deployer questions 8a. through 8o.) or is "bothered a lot" by specific symptoms listed in 8a. through 8dd.?
- O Yes
- O No
- O Not answered by deployer

b. Based on deployer's responses to deployer questions 8a. through 8dd. is a referral indicated?
- O Yes (complete blocks 16 and 17)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

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Deployer's SSN (Last 4 digits): _____

6. Major life stressor as reported on deployer question 9.

a. Did deployer mark they have a concern or a difficulty with a major life stressor?
- O Yes Deployer's concern: _____
- O No (*go to block 7*)
- O Not answered by deployer

b. If yes, **ask** additional questions to determine level of problem: _____

c. Consider need for referral. Referral indicated?
- O Yes (complete blocks 16 and 17)
- O No
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain)* _____

7. Address concerns as reported in deployer questions 10 and 11.

Deployer question	Not answered	Yes response	Deployer's response	Provider comments (if indicated)
History of mental health care	O	O		
Medications	O	O		

8. Alcohol use as reported in deployer question 12.

a. Deployer's AUDIT-C screening score was _____. *(If score between 0-4 (men) or 0-3 (women) nothing required, go to block 9).* O Not answered by deployer

Number of drinks per week: _____ Maximum number of drinks per occasion: _____

Based on the AUDIT-C score and assessment of alcohol use, follow the guidance below:

Alcohol Use Intervention Matrix		
Assess Alcohol Use	**AUDIT-C Score Men 5-7 Women 4-7**	**AUDIT-C Score Men and Women ≥ 8**
Alcohol use WITHIN recommended limits: Men: ≤ 14 drinks per week OR ≤ 4 drinks on any occasion Women: ≤ 7 drinks per week OR ≤ 3 drinks on any occasion	Advise patient to stay below recommended limits	Refer if indicated for further evaluation AND conduct BRIEF counseling*
Alcohol use EXCEEDS recommended limits: Men: > 14 drinks per week or > 4 drinks on any occasion Women: > 7 drinks per week or > 3 drinks on any occasion	Conduct BRIEF counseling* AND consider referral for further evaluation	

SAMPLE

* **BRIEF** counseling: Bring attention to elevated level of drinking; Recommend limiting use or abstaining; Inform about the effects of alcohol on health; Explore and help/support in choosing a drinking goal; Follow-up referral for specialty treatment, if indicated.

b. Referral indicated for evaluation?
- O Yes (complete blocks 16 and 17)
- O No Provide education/awareness as needed. State reason if AUDIT-C score was 8+:
  - O *Already under care*
  - O *Already has referral*
  - O *No significant impairment*
  - O *Other reason (explain):* _____

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Deployer's SSN (Last 4 digits): _____

9. PTSD screening as reported in deployer question 13.

a. Did deployer mark yes on two or more of questions 13a. through 13d.?

O Yes
O No (go to block 10)
O Not answered by deployer

b. If yes, deployer's responses to questions 13e. through 13u. resulted in a PCL-C score of _____ and the deployer's response to level of impairment with life events (13v.) is indicated in the table below.

O 13e. through 13v. were not answered or are incomplete.

Based on the PCL-C score, the deployer's level of functioning, and your exploration of responses, follow the guidance below:

Post-Traumatic Stress Disorder Intervention Matrix				
Self-Reported Level of Functioning	**PCL-C Score <30** (Sub-threshold or no Symptoms)	**PCL-C Score 30-39** (Mild Symptoms)	**PCL-C Score 40-49** (Moderate Symptoms)	**PCL-C Score ≥ 50** (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Provide PTSD education*		Consider referral for further evaluation AND provide PTSD education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide PTSD education*	Consider referral for further evaluation AND provide PTSD education*		Refer for further evaluation AND provide PTSD education*

* PTSD Education = Reassurance/supportive counseling, provide literature on PTSD, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?

O Yes (complete blocks 16 and 17)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

10. Depression screening as reported in deployer question 14.

a. Did Deployer mark "More than half the days" or "Nearly every day" on Question 14a. or 14b.?

O Yes
O No (go to block 11)
O Not answered by deployer

b. If yes, deployer's responses to questions 14a. - 14h. resulted in a total PHQ-8 score of _____ and the deployer's response to level of impairment with life events (14i.) is indicated in the table below.

O 14c. through 14i. were not answered or incomplete.

Based on the PHQ-8 score, deployer's level of functioning, and exploration of responses, follow the guidance below:

Depression Intervention Matrix					
Self-Reported Level of Functioning	**PHQ-8 Score 1-4** (No Symptoms)	**PHQ-8 Score 5-9** (Sub-Threshold Symptoms)	**PHQ-8 Score 10-14** (Mild Symptoms)	**PHQ-8 Score 15-18** (Moderate Symptoms)	**PHQ-8 Score 19-24** (Severe Symptoms)
O **Not Difficult at All or Somewhat Difficult**	No intervention	Depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*
O **Very Difficult to Extremely Difficult**	Assess need for further evaluation AND provide depression education*		Consider referral for further evaluation AND provide depression education*	Consider referral for further evaluation AND provide depression education*	Refer for further evaluation AND provide depression education*

* Depression Education = Reassurance/supportive counseling, provide literature on depression, encourage self-management activities, and counsel deployer to seek help for worsening symptoms.

c. Referral indicated?

O Yes (complete blocks 16 and 17)
O No
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

SAMPLE

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Deployer's SSN (Last 4 digits): _____

11. Environmental and exposure concern/assessment as reported in deployer question 15.

a. Did deployer indicate a worry or possible exposure? O Yes O No (go to block 12)

If yes, mark deployer's exposure concern(s)	
O Animal bites	O Paints
O Animal bodies (dead)	O Pesticides
O Chlorine gas	O Radar/Microwaves
O Depleted uranium	O Sand/dust
O Excessive vibration	O Smoke from burning trash or feces
O Fog oils (smoke screen)	O Smoke from oil fire
O Garbage	O Solvents
O Human blood, body fluids, body parts, or dead bodies	O Tent heater smoke
O Industrial pollution	O Vehicle or truck exhaust fumes
O Insect bites	O Chemical, biological, radiological warfare agent
O Ionizing radiation	O Other exposures to toxic chemicals or materials, such as ammonia, nitric acid, etc. Please list:
O JP8 or other fuels	
O Lasers	
O Loud noises	

b. If yes, referral indicated?
O Yes (complete blocks 16 and 17)
O No (provide risk education)
O *Already under care*
O *Already has referral*
O *No significant impairment*
O *Other reason (explain):* _____

12. Animal bite (rabies risk) as reported on deployer question 16.

a. Did deployer mark "yes" on animal bite/scratch?
O Yes
O No *(go to block 13)*

b. If yes, based on details of event and care received is a referral and/or follow-up indicated?
Note: Rabies incubation period can be months to years. Rabies prophylaxis can begin at anytime.
O Yes (complete blocks 16 and 17)
O No (provide risk education)
O *Was appropriately treated*
O *Already under care*
O *Already has referral*
O *Situation was not at risk for rabies*
O *Other reason (explain):* _____

SAMPLE

13. Suicide risk evaluation.

a. **Ask** "Over the **PAST MONTH**, have you been bothered by thoughts that you would be better off dead or of hurting yourself in some way?"
O Yes
O No (go to block 14)

b. If 13.a. was yes, **ask:** "How often have you been bothered by these thoughts?"
O Few or several days
O More than half of the time
O Nearly every day

c. If 13.a. was yes, **ask:** "Have you had thoughts of actually hurting yourself?"
O Yes **(If yes, ask questions 13d. through 13g.)**
O No (If no thoughts of self-harm, go to block 14)

d. **Ask** "Have you thought about how you might actually hurt yourself?"
O Yes How? _____
O No

e. **Ask** "There's a big difference between having a thought and acting on a thought. How likely do you think it is that you will act on these thoughts about hurting yourself or ending your life over the next month?"
O Not at all likely
O Somewhat likely
O Very likely

f. **Ask** "Is there anything that would prevent or keep you from harming yourself?"
O Yes What? _____
O No

g. **Ask** "Have you ever attempted to harm yourself in the past?"
O Yes How? _____
O No

h. Conduct further risk assessment (e.g., interpersonal conflicts, social isolation, alcohol/substance abuse, hopelessness, severe agitation/anxiety, diagnosis of depression or other psychiatric disorder, recent loss, financial stress, legal disciplinary problems, or serious physical illness).
Comments: _____
_____

i. Does deployer pose a current risk for harm to self?
O Yes (complete blocks 16 and 17)
O No

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Deployer's SSN (Last 4 digits): _____

14. Violence/harm risk evaluation.

a. **Ask,** "Over the past month have you had thoughts or concerns that you might hurt or lose control with someone?" ○ Yes ○ No *(go to block 15)*

If yes, **ask** additional questions to determine extent of problem (target, plan, intent, past history) Comments: _____

b. Does member pose a current risk to others? ○ Yes (complete blocks 16 and 17) ○ No (briefly state reason): _____

15. Deployer issues with this assessment (mark as appropriate):
○ Deployer declined to complete form
○ Deployer declined to complete interview/assessment

Assessment and Referral: After review of deployer's responses and interview with the deployer, the assessment and need for further evaluation is indicated in blocks 16 through 19.

16. Summary of provider's identified concerns needing referral < Mark all that apply>	Yes	No
a. None Identified ○		
b. Physical health	○	○
c. Dental health	○	○
d. Mental health symptoms	○	○
e. Alcohol use	○	○
f. PTSD symptoms	○	○
g. Depression symptoms	○	○
h. Environment/work exposure	○	○
i. Risk of self-harm	○	○
j. Risk of violence	○	○
k. Other, list:	○	○

17. Recommended referral(s) < Mark all that apply even if deployer does not desire>	Within 24 hours	Within 7 days	Within 30 days
a. Primary Care, Family Practice, Internal Medicine	○	○	○
b. Behavioral Health in Primary Care	○	○	○
c. Mental Health Specialty Care	○	○	○
d. Dental	○	○	○
e. Other specialty care:	○	○	○
Audiology	○	○	○
Dermatology	○	○	○
OB/GYN	○	○	○
Physical Therapy	○	○	○
TBI/Rehab Med	○	○	○
Podiatry	○	○	○
Other, list	○	○	○
f. Case Manager/ Care Manager	○	○	○
g. Substance Abuse Program	○	○	○
h. Other, list:	○	○	○

18. Comments:
_____
_____
_____

19. Address requests as reported on deployer questions 17 through 20.

Deployer question	Not answered	Yes response	Comments (if indicated)
Request medical appointment	○	○	
Request info on stress/emotional/alcohol	○	○	
Family/relationship concern assistance	○	○	
Chaplain/counselor visit request	○	○	

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Deployer's SSN (Last 4 digits): _____

20. Supplemental services recommended / information provided	
O Appointment Assistance	O Family Support
O Contract Support: _____	O Military One Source
O Community Service: _____	O TRICARE Provider
O Chaplain	O VA Medical Center or Community Clinic
O Health Education and Information	O Vet Center
O Health Care Benefits and Resources Information	O Other, list:
O In Transition	

Provider's Name: _____ Date (*dd/mmm/yyyy*) _____

Title: O MD or DO O PA O Nurse Practitioner O Adv Practice Nurse O IDMT O IDC O IDHS

I certify this assessment process has been completed. **This visit is coded by V70.5 _ F**

S A M P L E

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G

PROGRAM REVIEWS FROM *SUBSTANCE USE DISORDERS IN THE U.S. ARMED FORCES*[1]

[1] The text in this appendix is reprinted from Appendix D of the Institute of Medicine report *Substance Use Disorders in the U.S. Armed Forces* (Washington, DC: The National Academies Press, 2012).

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This appendix summarizes programs identified in the *Comprehensive Plan on Prevention, Diagnosis, and Treatment of Substance Use Disorders and Disposition of Substance Use Offenders in the Armed Forces* (*Comprehensive Plan*) (DoD, 2011) as pertaining to the prevention, diagnosis, treatment, and management of substance use disorders (SUDs). Summary tables on each program[1] are followed by descriptive analyses based on the committee's review of relevant information gathered from policies, responses to information requests, the published literature, public meetings, and site visits. In addition to the programs discussed in the Department of Defense (DoD) report, the committee learned during the course of its research about additional pertinent programs worthy of inclusion here. These programs are reviewed at the end of the section on each branch. Several DoD programs are cited by the individual branches in the *Comprehensive Plan* as programs they implement; additionally, the branches occasionally make use of each other's programs. To avoid redundancy, these programs are reviewed in the sections on the branches responsible for their development and/or initial implementation and referenced in the sections on the other branches that utilize them.

[1]The summary tables are excerpted from the *Comprehensive Plan* (Appendix C). The elements in the tables and the subsequent findings on each program contained within were generated by DoD for the *Comprehensive Plan*. Based on the information presented in the *Comprehensive Plan*, the committee noted that when evidence-based practices (EBPs) are identified for a program, it is in many cases unclear to what extent they are being used or how specifically they are implemented.

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DEPARTMENT OF DEFENSE

Red Ribbon Campaign

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The national Red Ribbon campaign raises public awareness and mobilizes communities to combat tobacco, alcohol and drug use among military personnel, civilians and their families.	• Prevention	• N/A	• Active Duty • Dependents	• N/A*

NOTE: EBP = evidence-based practice; N/A = not applicable.
*Note that the entry on the Red Ribbon campaign in the DoD section of Appendix C of the *Comprehensive Plan* lists "N/A" in the "EBP" column, while the entry in the Air Force section suggests that the campaign does, in fact, employ EBPs, including "community-based processes, environmental strategies, information dissemination, alternative activities, education and problem recognition and referral."

Red Ribbon Week is an annual campaign that is conducted nationwide in the United States every October both at the community level and on military bases. Consequently, it has the capacity to reach service members and their families at all stages of military involvement except deployment outside of the United States. Within DoD, the targets are active duty service members (ADSMs) and their families, as well as the community at large. The focus is on raising awareness about SUD prevention and risk factors (DEA, 2012). The program's website indicates that "Red Ribbon Week educates individuals, families, and communities on the destructive effects of alcohol and drugs and encourages the adoption of healthy lifestyle choices." The program is a universal prevention campaign aimed at addressing peer pressure and prosocial bonding in youth, as well as parent monitoring. Thus, it is most developmentally appropriate for young military members with families. The primary setting for delivery is the community, although as noted, the campaign can be implemented on base. The committee finds there is no evidence on this program's effectiveness, and both military bases and communities vary widely in the activities they sponsor under the auspices of the campaign. There is presently no published information on Red Ribbon's theoretical basis or on its outcomes.

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That Guy Alcohol Abuse Prevention Education Campaign

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*[a]	*Target Population*[b]	*EBPs*[c]
• That Guy is a multi-media campaign designed to reduce binge drinking among military enlisted personnel ages 18-24. • The campaign includes online and offline advertising and promotions, viral marketing, a website, www.thatguy.com, public service announcements, and branded collateral materials.	• Prevention	• Number of personnel joining social network sites • Change in drinking behavior where implemented • Overall awareness of campaign • Change in drinking attitudes	• Active Duty	• N/A

NOTE: EBP = evidence-based practice; N/A = not applicable.
[a] The table on this program in the Navy section of Appendix C of the *Comprehensive Plan* lists the following under "Program Evaluation/Outcomes": "Total number of visits per month to website per Service, Average number of minutes per visit spent on website per Service, Total number of public service announcements per Service, and Number of promotional items distributed."
[b] The table on this program in the Navy section identifies Reserves as an additional target population.
[c] The table on this program in the Navy section lists "CSAP [Center for Substance Abuse Prevention] prevention strategies" under EBPs.

The That Guy campaign uses on- and offline public service announcements, a website with animated risk scenarios and modeling of prevention techniques, and prevention marketing. Because of its accessibility by Internet, the campaign can reach National Guard and Reserve members, although its primary focus is on ADSMs. In a typical animated scenario, a service member is shown exhibiting socially inappropriate behavior after drinking. The scenario is designed to show negative consequences of binge drinking, including negative reactions from military peers. Alternative scenarios with positive decision making and outcomes also are depicted. This campaign is most developmentally appropriate for younger ADSMs. The overall aims are to increase awareness about the hazards of excessive drinking and shift attitudes toward this behavior. This represents a change from the precontemplation to the contemplation stage of substance use behavior according to Prochastka and Velicer's (1997) transtheoretical stage of change model.

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In reviewing this program, the committee found that it uses evidence-based practices of modeling, rehearsal, discussion, and practice and focuses primarily on negative perceived consequences, negative social consequences, and peer pressure. Because it is an Internet-based campaign, its setting can be anywhere. Repeat use is dependent on the user. The March 2012 That Guy newsletter (That Guy Campaign, 2012) reports several statistics on reach and usage for 2011, including

- There were more than 1.3 million ThatGuy.com sessions.
- Users spent an average of 9 minutes on the site.
- The That Guy Facebook page had more than 26,000 fans.
- More than 2.7 million branded materials were being used by all of the branches.
- More than 4,200 points of contact were engaged across the globe.
- More than 800 installations, ships, fleets, submarines, and units had engaged in the campaign.
- Forty-seven states and 22 countries had a That Guy presence.

According to a recent RAND report, an annual DoD survey of forces indicated that awareness of the campaign had increased over time, and attitudes toward excessive drinking had changed (Weinick et al., 2011). DoD, TRICARE Management Activity, and Fleishmann-Hillard released a paper on That Guy in 2009 that mentions a "statistically significant increase in awareness of That Guy and a positive shift in attitudes toward excessive drinking," but does not describe an evaluation methodology or provide outcome data (DoD et al., 2009, p. 2). There has as yet been no formal outcome evaluation of the That Guy campaign in a peer-reviewed journal, and based on its findings, the committee cannot determine whether the program is effective at preventing risky drinking and alcohol misuse.

Health Assessments

Periodic Health Assessment (PHA) Screening				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• Personnel are screened annually for substance use related issues during the annual preventive health assessment. Services vary as to their use of screening instruments.	• Screening	• Percent of ADSM who complete annual PHA	• Active Duty • Reserve • National Guard	• Screening typically by AUDIT-C, but screening tools choice can vary*

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Force Health Protection and Readiness Post-Deployment Health Assessment (PDHA) and Post-Deployment Health Reassessment (PDHRA) Program				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• To review each service's member's current health, mental health/ substance abuse or psychosocial issues commonly associated with deployments, special medications taken during deployment, possible deployment-related occupational/ environmental exposures, and to discuss deployment related health concerns. Positive responses require use of supplemental assessment tools and/or referrals for medical consultation. The provider documents concerns available to help resolve any post-deployment issues. • The new DoD policy mandates person-to-person mental health assessments prior to deployment and then three times after return from deployment. These assessments include use of the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C), as well as intervention by a primary care provider, based on the number of positive responses made by the Service member on the AUDIT-C.	• Prevention • Screening	• Comprehensive quality assurance program	• Active Duty • Reserve • National Guard	• AUDIT-C

NOTE: ADSM = active duty service member; AUDICT-C = Alcohol Use Disorders Identification Test-Consumption; DoD = Department of Defense; EBP = evidence-based practice; N/A = not applicable; PHA = periodic health assessment.
*In the Air Force, all service members are assessed for hazardous drinking and alcohol abuse and dependence based on the AUDIT-C.

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Health assessments of military members are conducted during active military duty service on a yearly basis, as well as pre- and postdeployment. Health assessment could be considered a prevention strategy to the extent that the provider discusses SUD risk factors or the service member raises questions about risk factors or strategies for preventing SUDs, but its primary focus is on screening.

DoD's pre- and postdeployment health assessments have three stages. Stage 1 is based on self-report and has the objective of defining high-risk groups. The first three questions of the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) are used to detect risky drinking as part of Stage 1. Stage 2 collects additional information if Stage 1 screening is positive for posttraumatic stress disorder (PTSD) or depression. If Stage 1 screening with AUDIT-C is positive, Stage 3 consists of a provider interview in which brief intervention for risky drinking is administered or a referral is made. The provider training for the deployment health assessments instructs the provider to do the following in the brief intervention: bring attention to the elevated level of drinking; recommend limiting use or abstaining; inform about the effects of alcohol on health; explore and help/support in choosing a drinking goal; and follow up and refer for specialty treatment, if indicated (Vythilingam et al., 2010). Referral is recommended when the service member requires further evaluation of use, has tried and has been unable to change on his/her own, has had prior treatment, has had a recent problem with alcohol that resulted in counseling or referral to treatment, or has an AUDIT-C score equal to or greater than 8. Referral options vary with the service member's status, and include emergency behavioral health referral and referral to a provider in a military treatment facility, a TRICARE purchased care provider, a Department of Veterans Affairs (VA) medical center, a Veterans (VET) center, or Military OneSource (DoD, 2010; Vythilingam et al., 2010).

The committee finds that the use of AUDIT-C for pre- and postdeployment health assessments is an appropriate means of screening for excessive and hazardous alcohol use; AUDIT-C is well known and has been well validated for use in a variety of settings. Unfortunately, the only service branch to require the use of AUDIT-C in periodic health assessments is the Air Force. The other branches recommend screening by a clinician but do not identify specific screening tools to be used. The committee would prefer to see AUDIT-C used uniformly across all the branches and in all health assessments, independently of whether they are related to deployment.

A second important consideration in evaluating screening in both periodic and deployment-related health assessments is that positive screening should lead to further intervention depending on the severity of the condition being screened for. In the case of alcohol, identification of excessive

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use should lead to a more detailed assessment and brief intervention, with referral to treatment as indicated. Indeed, as described above, Stage 3 of the pre- and postdeployment assessments follows this procedure. However, studies have found that while positive screening rates for alcohol misuse can be as high as 27 percent among Army soldiers in postdeployment health assessments (Santiago et al., 2010), only a small proportion of those who screen positive ever receive treatment. For instance, Milliken and colleagues (2007) report that 12 percent of soldiers screened positive for alcohol misuse in postdeployment assessments, but only 0.2 percent were referred to the Army Alcohol Safety Action Program (ASAP), and only 0.05 percent were actually seen at ASAP within 90 days of referral. This situation is critical because members who screen positive for alcohol misuse are likely also to be engaged in risky behaviors such as drinking and driving and illicit drug use (Santiago et al., 2010).

The committee finds this low rate of referral and treatment for those who screen positive to be related to the stigma associated with substance abuse treatment in the military. Such stigma also exists in the larger society, but it is stronger in the military in part because of the requirement to inform Command when service members are admitted for SUD treatment. Many service members fear that Command knowledge of their need for treatment will negatively impact their career (Gibbs et al., 2011). The committee finds that the low rates of referral resulting from a positive screen for alcohol misuse in pre- and postdeployment health assessments represent a threat to public health and force readiness.

Military Pathways

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• Program offers service personnel and their families the opportunity to take anonymous, mental health and alcohol use self-assessments online, via the phone, and through special events held at installations. Program is designed to help individuals identify their own symptoms and access assistance before a problem becomes serious.	• Prevention • Screening	• Numbers of screenings • Quantities of promotional materials distributed • Customer satisfaction	• Active Duty • Reserve • National Guard • Dependents	• EBPs are utilized

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Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The self-assessments address posttraumatic stress disorder (PTSD), depression, generalized anxiety disorder, alcohol use, and bipolar disorder. After completing a self-assessment, individuals receive referral information including services provided by TRICARE, Military OneSource, and Vet Centers.				

NOTE: EBP = evidence-based practice.

Military Pathways encompasses a multifaceted set of program components aimed primarily at universal prevention. The program also includes a self-assessment/self-screening component that can serve as secondary prevention for military members who identify themselves as being at personal risk for SUD and subsequently seek help. Designed by the nonprofit organization Screening for Mental Health, the program has as its primary goals to "reduce stigma, raise awareness about mental health, and connect those in need to available resources" (Military Pathways, 2012, p. 1). The multiple components of the program (described in the table above) enable repetition of prevention education. A theoretical basis is implied by program content that includes empowerment building and social and family support seeking. The empowerment content is consistent with military life and institutional goals of fitness. A RAND report estimates that this intervention reaches more than 305,000 ADSMs and their families each year (Weinick et al., 2011). The program targets ADSMS and their families primarily at entry into the military and predeployment. However, it is assumed that the online, telephone, and video components of the program can be accessed at any stage of military life. The family resiliency kit and a special program for youth (Signs of Suicide, or SOS) are special components aimed directly at military family members (although they do not apply specifically to the prevention of substance abuse); trained paraprofessionals deliver the family kit, and school professionals (not specified) deliver the SOS program to youth in schools. The RAND report (Weinick et al., 2011) cites ongoing trials to evaluate the effectiveness of the self-screening and youth program components, but no outcome data have yet been published on the alcohol, PTSD, or mental health screening components. Without such data, the committee cannot comment on the extent to which the program is evidence based or effective at preventing and screening for SUDs.

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Real Warriors Campaign

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• A multimedia public education initiative designed to address the stigma associated with seeking psychological health care and encourage service members and their families to reach out to resources. • The Real Warriors Campaign website, public service announcements and broadcasts on Armed Services Radio encourage service members and their families to seek help for psychological health issues including SUD. • The website includes original articles focused specifically on substance misuse and providing individuals multiple avenues to care.	• Prevention	• Numbers of calls or hits • Customer satisfaction	• Active Duty • Dependents	• N/A

NOTE: EBP = evidence-based practice; N/A = not applicable; SUD = substance use disorder.

The Real Warriors Campaign is an initiative launched by the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE). While its goal is to "promote the processes of building resilience, facilitating recovery and supporting reintegration of returning service members, veterans and their families" (DCoE, 2012, p. 1), the program is not specifically aimed at the prevention of substance abuse. The campaign was developed in response to recommendations of the 2007 DoD Task Force on Mental Health designed to remove the barriers that often prevent service members from obtaining treatment for psychological health issues and traumatic brain injury (Weinick et al., 2011). Utilizing print materials, media outreach, an interactive website, and social media, the campaign features stories of actual service members who have sought treatment and continue to maintain successful military or civilian careers. In developing the program, DCoE did a thorough job of analyzing the characteristics of

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the service members who would be seeking treatment, and conducted literature searches and focus groups to determine the most effective content to include in the campaign (Acosta et al., 2012; DCoE, 2012). While RAND did conduct a recent study to assess the content, design, and dissemination of the campaign (Acosta et al., 2012), to date, no outcome evaluation has been conducted. DCoE does require the collection of various process indicators, such as the number of visitors to the website, but without further evaluation the committee cannot determine if this program is effective at preventing SUDs.

Military and Civilian Drug Testing Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The military and civilian drug testing programs are a primary component of the installation Drug Demand Reduction Programs. The program works to ensure a drug-free workplace.	• Prevention	• Percentage of mandated population testing per year • Rate of untestable samples • Rate of verified positive samples	• Active Duty • Reserve	• EBPs are utilized

NOTES: This table is included in the section on Air Force programs in Appendix C of the *Comprehensive Plan*, but is, in fact, a DoD-wide initiative. In addition, the Navy makes use of a software tool called the Navy Drug Screening Program that randomizes testing. EBP = evidence-based practice.

The Military and Civilian Drug Testing Program is identified in the *Comprehensive Plan* as both a prevention and screening program. The program is guided by policy (DoD, 1994), and the stated prevention aim is deterrence. The implied prevention mediator is increasing the perceived negative consequences of positive drug testing rather than drug use per se. As described in Chapter 5, however, there is no clear evidence from controlled studies that drug testing is an effective prevention strategy. While the decline in rates of substance use in the military correlates temporally with the inception of drug testing for specific substances (see Chapter 2), there have been no studies assessing the causal relationship between the two; therefore, the committee cannot report on the effectiveness of the drug testing program in preventing SUDs.

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Adolescent Substance Abuse Counseling (ASAC) Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The ASAC program provides substance abuse counseling services including outreach, prevention, education, and referral services to adolescents in selected OCONUS middle and high schools.	• Prevention • Screening • Diagnosis • Treatment	• Total number of prevention classes • Total number of students referred • Total number of students enrolled • Total number of students screened but not enrolled	• Dependents	• ASAC counselors are trained in EBPs such as outcome-informed counseling, solution-focused counseling, brief interventions, and ASAM Patient Placement Criteria

NOTES: The ASAC program is listed as an Air Force program in Appendix C of the *Comprehensive Plan*, but the committee learned during the course of its research that it is used by other branches as well, and therefore listed it here in the section on DoD programs. ASAC = Adolescent Substance Abuse Counseling; ASAM = American Society of Addiction Medicine; EBP = evidence-based practice; OCONUS = outside of contiguous United States.

ASAC was initially listed as a Science Applications International Corporation contract with the Army, but now also includes Air Force (where ASAC is listed under "DoD/Service Branch" programs), Navy, and Marine Corps dependents. The focus is on children of military families in 6th through 12th grades who are considered at risk for substance use and who are authorized to use military treatment facilities. Contracted providers who include licensed and certified counselors deliver early intervention counseling with adolescents and their parents and, if necessary, make referrals to additional services (U.S. Army, 2011). The counselors may include social workers, substance use counselors, family therapists, and psychologists. The program is delivered in DoD-dependent schools, in civilian schools, and within other existing substance abuse programs for the military. Services specified in the contract include treatment, identification and referral, and prevention education (U.S. Army, 2011).

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The ASAC prevention education program includes information and skill-building activities designed to increase protective factors such as life skills, decision-making skills, and prosocial support for dealing with parental deployment, reintegration, and transition, as well as to minimize risk factors related to transition. Prevention is delivered both in the classroom for whole groups of students and in a counseling format for subgroups and individuals within a school. Students identified as at further risk based on a request for help, a reported behavioral or substance use event, or a substance use assessment are referred for additional intervention. The prevention education component of ASAC is relevant to all stages of military involvement, with the possible exception of the postmilitary stage. While the program does not specify a theoretical basis in its standard operating procedures, it draws from Substance Abuse and Mental Health Services Administration (SAMHSA) guidelines for addressing risk and protective factors in school-based skills training programs.

Beyond prevention activities, the ASAC program provides extensive assessments to determine whether individuals need more intensive services. Counselors use the American Society of Addiction Medicine (ASAM) criteria to determine the appropriate level of care for referral if further intervention is needed. The standard operating procedures also detail many quality-assurance activities that are built into the program, including completing utilization reviews of all activities and maintaining a clinical quality-assurance plan (U.S. Army, 2011).

The committee finds that this contracted program provides a comprehensive set of services that meet standards of care for SUD prevention and early interventions for youth. The committee is unaware of the availability of the ASAC program across different branches and military sites. Also unknown is the effectiveness of the program as no formal outcome evaluations have been conducted with the target population.

Additional Programs and Initiatives

Military OneSource is an online source of information on many topics, including 800 telephone numbers of "consultants," the National Suicide Prevention Lifeline, and the Safe Helpline for Sexual Assault Support. DoD describes Military OneSource as

> a free service provided by the Department of Defense to service members and their families to help with a broad range of concerns including money management, spouse employment and education, parenting and child care, relocation, deployment, reunion, and the particular concerns of families with special-needs members. They can also include more complex issues like relationships, stress, and grief. Services are available 24 hours a day—by telephone and online. Many Military OneSource staff members have military experience (veterans, spouses, Guardsmen, Reservists), and

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> all receive ongoing training on military matters and military lifestyle. The program can be especially helpful to service members and their families who live at a distance from installations. (DoD, 2012, p. 1)

Military OneSource also provides basic information on alcohol abuse and Web links for the Army's Substance Abuse Program, Cocaine Anonymous, TRICARE Alcohol Awareness, and other related sources (DoD, 2012). In response to the committee's request for information, the program manager of Military OneSource explained the scope of services available. The counseling provided by Military OneSource's contracted providers is nonmedical in nature (e.g., connecting people to resources; counseling on relationship issues, readjustment, and stress). Individuals presenting with an issue that warrants a mental health diagnosis or pharmacotherapy are referred to services through the Military Health System or their health insurance. In July 2011, in response to concern that providers were counseling people beyond their scope,[2] an internal policy clarification was sent to Military OneSource providers specifying the nonmedical nature of the counseling that should be provided. The committee finds that while Military OneSource provides a confidential means for service members and their families to be screened for SUDs and referred to resources, the lack of any clinical counseling indicates that the service is not designed to provide actual treatment for mental health issues.

AIR FORCE

Alcohol and Drug Abuse Prevention and Treatment (ADAPT) Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The ADAPT Program provides substance related assessment, preventative education, clinical treatment and referral services for Airmen, civilian employees, and family members.	• Prevention • Diagnosis • Treatment	• Access time to substance assessment and clinical treatment • Proportion of participants completing treatment program (tracked locally only)	• Active Duty • Reserve • National Guard • Dependents	• Substance Abuse Counselors are trained in motivational interviewing and cognitive-behavioral interventions

[2]Personal communication, Dave Kennedy, Program Manager of Military OneSource, August 11, 2011 (Office of the Secretary of Defense, Personnel and Readiness, Military Community and Family Policy).

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Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The objectives of the ADAPT program are to promote readiness, health, and wellness through the prevention and treatment of substance abuse; minimize the negative consequences of substance abuse to the individual, family, and organization; provide comprehensive education and treatment to individuals who experience problems attributed to substance abuse; and to return identified substance abusers to unrestricted duty status or assist them in their transition to civilian life.		• Assessment of drinking behavior and duty performance at 3, 6, and 12 months post discharge from intensive outpatient, partial hospitalization, variable length of stay, or inpatient treatment programs (tracked locally only)		

NOTE: ADAPT = Alcohol and Drug Abuse Prevention and Treatment; EBP = evidence-based practice.

ADAPT is described in Air Force Instruction (AFI) 44-121 (U.S. Air Force, 2011), which is discussed in Chapter 6. The purpose of the program is to restore function and return personnel to duty or assist them in returning to civilian life. ADAPT has four tiers of activities according to AFI 44-121: Tier I—primary prevention and education, Tier II—secondary/targeted prevention, Tier III—tertiary care/treatment, and Tier IV—training.

According to AFI 44-121, Tier I activities center around primary prevention and education, which have a different focus depending on the

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individual being targeted (e.g., service member, health care professional, Air University student, commander). Program activities related to primary prevention appear to focus exclusively on the individual level, without including prevention at the environmental level (e.g., alcohol control policies).

Tiers II and III focus on secondary/targeted prevention and tertiary care/treatment, respectively. The targeted prevention program, Alcohol Brief Counseling (described below), is correctly directed at individuals who are at high risk because of heavy alcohol use but who do not qualify for a full diagnosis of abuse or dependence. All individuals seen in the ADAPT program also receive an Alcohol Education Module, which reinforces Air Force policies on use of substances and also focuses on clarification of values and anxiety and anger management.

For screening, all ADAPT sites make use of the Substance Use Assessment Tool (SUAT). The SUAT, developed for use in the Air Force in 2007, is a comprehensive mental health and substance use assessment and case management tool that is designed to be self-administered by the service member and is used across all ADAPT sites. It provides a preliminary diagnosis (to then be confirmed or revised by a licensed mental health provider), a level-of-care recommendation, and motivational interviewing feedback.

ADAPT treatment programs are designed to ensure that the individual acquires and applies an understanding of the disease of alcoholism, communication and coping skills, and mechanisms for establishing goals that reinforce an alcohol-free lifestyle. Abstinence from alcohol is required in the initial treatment phase of ADAPT. ADAPT staff evaluate any service members who have problems with abstaining from alcohol to determine appropriate interventions and, if necessary, change the treatment plan to help clients meet their goals and return to full duty status. Treatment is planned according to ASAM placement criteria. In ADAPT Level I treatment, which usually last 8 weeks, service members participate in both individual and group counseling sessions weekly. Counselors offer interventions based on motivational interviewing, as well as cognitive-behavioral treatment. The treatment team includes not only mental health professionals involved in the clinical care being provided but also the service member's immediate supervisor and the commander and/or first sergeant. The ADAPT staff at each base coordinate with local TRICARE providers to arrange treatment for those service members requiring inpatient residential treatment, a level of care not provided within ADAPT. Upon completion of residential or nonresidential treatment off base, service members normally return to their duty stations and enter the aftercare phase. Failure to complete treatment successfully may lead to administrative separation.

ADAPT staff design individualized aftercare plans providing continued support with at least monthly monitoring. During this phase of treatment, service members demonstrate their ability to meet Air Force standards and

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develop the skills and resources needed to maintain a substance-free lifestyle. Normally, individuals remain in aftercare for 6 months to a year after entering the ADAPT program. Procedures also include assessment of drinking behavior and duty performance at 3, 6, and 12 months after discharge from treatment at higher levels of care. The treatment team evaluates the individual's progress quarterly and keeps the commander informed (U.S. Air Force, 2011). The committee did not have access to information about treatment success rates.

Finally, ADAPT works closely with the Behavioral Health Optimization Program (BHOP) (described further below), which provides brief intervention in a primary care setting to respond to behavioral health needs. Clients are referred by primary care physicians and are seen for three to four sessions. These sessions focus, for example, on planned behavior change, screening for depression, and planning for relapse prevention. The committee found that BHOP does not see a large number of clients with substance abuse problems because primary care providers often refer these patients directly to ADAPT for further assessment. Nevertheless, the existence of BHOP and its relationship with ADAPT are a strength of the Air Force's approach to addressing behavioral health concerns, including substance abuse.

Overall, the committee finds that ADAPT offers a comprehensive array of services, providing interventions at different levels of intensity and complexity depending on the initial assessment of individuals referred to the program. Thus, brief intervention is available for high-risk individuals as is more intensive treatment, with the latter ranging from outpatient to day treatment to inpatient care. Aftercare plans, which include relapse prevention, also are offered.

Alcohol Brief Counseling (ABC)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• ABC is an individualized, targeted preventive intervention for members seen in ADAPT who are not diagnosed with a substance use disorder.	• Prevention	• Outcome survey to track self-reported impact of intervention on substance use and program quality monitoring (tracked locally only)	• Active Duty • Reserve • National Guard	• ABC utilizes standardized assessment tools (AUDIT, CEOA, SIP, RTCQ) and motivational interviewing

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Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• ABC's process is conducted within 10 days of the initial assessment. ABC components include a brief consultation and feedback, an alcohol education module and one or more follow-up session(s) to track progress on a personalized change plan.				

NOTE: ABC = Alcohol Brief Counseling; ADAPT = Alcohol and Drug Abuse Prevention and Treatment; AUDIT = Alcohol Use Disorders Identification Test; CEOA = Comprehensive Effects of Alcohol; EBP = evidence-based practice; RTCQ = Readiness to Change Questionnaire; SIP = Short Index of Problems.

If individuals assessed by ADAPT do not meet diagnostic criteria for an SUD, they receive ABC as an indicated prevention measure. Counseling sessions last about 45 minutes, and service members participate in one to four sessions, depending on an assessment of risk level. If a diagnosis is assigned during the course of ABC, an individual can then enter a treatment program, with the level of treatment being determined according to ASAM criteria. The Air Force reported to the committee that it tracks recidivism rates for those who undergo the ABC intervention, but no formal evaluations are conducted to assess the program's effectiveness.[3] The Air Force Medical Operations Agency reported to the committee outcome measures related to recidivism for fiscal year (FY) 2008-2010. Of the 5,960 service members referred to ABC in FY 2010, 1,137 (19 percent) were defined as recidivists; recidivism rates were similar for FY 2008 and 2009. The implementation of ABC is assessed during the Air Force Inspection Agency's Health Services Inspection.[4]

The committee finds that the use of ABC conforms to the evidence-based practice of providing brief intervention and education to those at risk for developing SUDs. The Air Force appropriately uses ABC as an initial intervention aimed at preventing more serious alcohol use in the future, and applies it to individuals who are drinking in a hazardous way but have not been diagnosed with an alcohol use disorder. The committee cannot comment on the program's effectiveness based on the limited outcome data reported on recidivism.

[3]Personal communication, Air Force Medical Operations Agency, October 25, 2011.
[4]Personal communication, Air Force Medical Operations Agency, October 25, 2011.

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Behavioral Health Optimization Program (BHOP)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• BHOP providers are integrated into primary care clinics to provide consultation to medical providers and focused assessment and interventions for patients with substance abuse concerns. • BHOP providers provide patient advice, education, and facilitate referrals to ADAPT for substance abuse assessment when appropriate.	• Prevention • Screening • Diagnosis	• None identified	• Active Duty • Reserve • National Guard • Dependents	• Training in EBPs is included in the basic and advanced BHOP training • AUDIT and AUDIT-C for screening • VA/DoD clinical practice guidelines • Motivational interviewing • 5-A's model

NOTE: ADAPT = Alcohol and Drug Abuse Prevention and Treatment; AUDIT = Alcohol Use Disorders Identification Test; AUDIT-C = AUDIT-Consumption; BHOP = Behavioral Health Optimization Program; DoD = Department of Defense; EBP = evidence-based practice; VA = Department of Veterans Affairs.

BHOP providers are psychologists who work in integrated in primary care clinics, consulting on cases that involve either behavioral health (e.g., PTSD) exclusively or dual diagnoses of a physical health problem with a behavioral health component (e.g., hazardous drinking). BHOP providers also offer brief advice and refer service members to the ADAPT program if they need more intensive substance abuse assessment. The structure of the BHOP program allows for a degree of confidential screening for SUDs, as well as brief advice, in a way that counters the stigma associated with service members disclosing and discussing personal issues related to their alcohol and other drug use. This brief intervention within primary care practices is an important model for identifying and resolving SUD issues early. With this new model, the Air Force is building the capacity to provide confidential screening, brief intervention, and referral to treatment (SBIRT) for those at risk of developing SUDs.

Consistent with national trends toward the integration of behavioral health care into primary care services, the Air Force has moved aggressively toward integrated care. The committee finds that BHOP is an important step toward fully integrated care, particularly as it evolves from identification of

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SUDs and referral to specialty care toward care that includes the provision of early and brief intervention for SUDs by primary care providers. BHOP is a model for expanding integrated care in all military treatment facilities.

Culture of Responsible Choices (CoRC)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• CoRC is a commander's program consisting of a four-tiered approach with emphasis on leadership, individual, base, and community-level involvement—underscoring responsible behaviors including alcohol and drug abuse, the prevention of accidents, tobacco cessation, obesity and fitness, health and wellness, prevention of STDs, etc. CoRC initiatives include Assessment/ Screening of risk in all personnel, education/ awareness programs, brief interventions and treatment when needed, top down emphasis on responsibility and commitment. Components also include base and local community opportunities for change such as developing a range of alternate activities, media campaign promoting responsibility, coalition with community agencies, and monitoring of locally identified metrics.	• Prevention • Screening • Diagnosis • Treatment	• Alcohol-Related Misconduct (ARM) incidences per 1,000 SMs • Drug positives per 1,000 SMs	• Active Duty • Dependents	• Use EBPs (e.g., screening instruments) recommended by the National Institute of Alcohol Abuse and Alcoholism (NIAAA)

NOTE: CoRC = Culture of Responsible Choices; EBP = evidence-based practice; SM = service members; STD = sexually transmitted disease.

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The CoRC program trains commanders to promote wellness at four levels: (1) leadership, (2) individual, (3) base, and (4) community. Several of the program components are designed as "toolkits." At the leadership level, commanders and health care providers who deliver prevention (i.e., ADAPT providers, BHOP consultants, and Life Skills Support Center [LSSC] personnel) are trained annually on the purpose, use, and measurement of prevention program components. Toolkits are used to supplement Command training.

Toolkits 1-4 address the individual level. Toolkit 1 is a universal prevention program targeting population-wide screening for alcohol use using the AUDIT instrument, with the option of an additional social norms survey. It targets primarily ADSMs but can also include civilians and contract employees at Command's discretion. Anonymous surveys are administered annually at major Command-involved activities such as Commander's Calls. The prevention focus includes deterrence and surveillance, as well as educational feedback about consequences of alcohol misuse and perceived social norms for use. To the extent that screening and social norms surveys are used for educational feedback, this toolkit could be considered evidence based. Toolkit 2 is a selected prevention program component that trains Command on the purpose of preventive health assessment and routine care, as well as on procedures for referring ADSMs who have been or are at risk for being involved in alcohol-related incidents to appropriate selective prevention and intervention. Annual screening using AUDIT-C is recommended. Referral channels are specified; for example, individuals with comorbid behavioral health conditions should be referred to an LSSC for further intervention after screening. To the extent that referral channels and procedures are clear, this toolkit could be considered to accord with evidence-based practices (EBPs) for screening and referral. Whether Command or providers are responsible for initial identification of high-risk individuals for screening is not specified. Toolkits 1 and 2 are used at the base as well as the individual level. The six components of the Enforcing Underage Drinking Laws (EUDL) program (discussed further below) apply to both levels.

Toolkit 3 is a procedural guide for service providers in behavioral health clinics and LSSCs in use of the AUDIT screening tool. This toolkit is used as indicated prevention for service members with alcohol problems. Toolkit 4 is a training and resource guide aimed at Command, ADAPT staff, and Drug Demand Reduction staff, with the purpose of building community collaborations for prevention. This toolkit includes training in prevention concepts, screening, social norms, consulting to the community, and prevention program management. It follows EBPs for community implementation processes and prevention operating systems (Hawkins and Catalano, 1992).

The committee does not agree with the designation of CoRC in the above table as having a clinical focus in treatment.

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Drug Education for Youth (DEFY)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• DEFY's goals are to produce 9- to 12-year-olds with character, leadership, and confidence so that they are equipped to engage in positive, healthy lifestyles as drug-free citizens, and have the necessary skills to be successful in their lives through coordinated community participation, commitment, and leadership thereby empowering military youth to make positive life choices. • DEFY is operated world-wide and consists of a summer leadership camp (Phase 1) and a school-year mentoring program (Phase 2). The program curriculum provides youth with a variety of topics including substance abuse prevention and other vital life skills including conflict resolution, self-management skills, study skills, leadership, and community service.	• Prevention	• Knowledge • Skills • Attitudes	• Dependents	• EBPs from the National Institute of Drug Abuse are incorporated within the DEFY curriculum

NOTE: DEFY = Drug Education for Youth; EBP = evidence-based practice.

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The DEFY program was started by the Navy in 1993, and although it is also used by the Air Force, the discussion is on this program is in the section on Navy programs below.

Enforcing Underage Drinking Laws (EUDL) Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• EUDL is a pilot prevention program being conducted in conjunction with the Department of Justice (DOJ) and the National Institute of Alcohol Abuse and Alcoholism (NIAAA). • EUDL is designed to reduce the availability of alcoholic beverages to and the consumption of alcoholic beverages by underage service members using environmental approaches and community coalitions.	• Prevention	• DWIs/DUIs • Traffic accidents • Compliance checks • Crimes	• Active Duty • Dependents	• Development of EUDL was predicated on the use of EBPs such as increased enforcement of underage drinking laws, increased DWI/DUI checks, increased compliance checks, covert underage buys, party patrols, etc.

NOTE: DUI = driving under the influence; DWI = driving while intoxicated; EBP = evidence-based practice; EUDL = Enforcing Underage Drinking Laws.

The EUDL program was a pilot that showed significant reductions in underage drinking (Spera and Franklin, 2010). A grant initiative funded by the Office of Juvenile Justice and Delinquency Prevention resulted in the development and testing of the EUDL program at five Air Force sites. The program used evidence-based strategies advocated by the Office of Juvenile Justice and Delinquency Prevention and the National Institute on Alcohol Abuse and Alcoholism (NIAAA). Its six components were (1) enforcement aimed at reducing the social availability of alcohol, (2) compliance checks at alcohol establishments, (3) driving under the influence (DUI) checks, (4)

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education of state legislatures and development of local policies, (5) a media awareness campaign, and (6) provision of alternative activities to alcohol use. Results from the five sites showed significant reductions in rates of problem drinking both within sites and compared with control communities (Spera and Franklin, 2010; Spera et al., 2012). The committee learned during an information gathering session that EUDL was a demonstration project and that there are currently no plans to expand it to all Air Force bases; however, some of its components will be implemented within other Air Force–wide initiatives.[5] The committee finds the EUDL program to be a promising example of an effective approach to SUD prevention in military settings.

Air Force Reserve Component Substance Abuse Prevention Specialist Training (SAPST)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The SAPST program aims to increase knowledge and improve skills of Drug Demand Reduction Program technicians and program managers in substance abuse prevention, facilitate full-scale adaptation and implementation of the SAPST model, and provide preliminary direction to the identification of related training and technical assistance needs.	• Prevention	• None identified	• Reserve	• EBPs are utilized

NOTE: EBP = evidence-based practice; SAPST = Substance Abuse Prevention Specialist Training.

A September 2011 evaluation of a SAPST session sponsored by SAMHSA in cooperation with the U.S. Air Force Reserve Command, held June 27 to July 1, 2011, measured trainees' reactions to the training. The trainees gave high marks to the training's design and materials and its usefulness, and expressed confidence that they could carry out the prevention programs covered. However, no follow-up outcome evaluations were conducted to determine whether the trainees actually carried out the prevention programs as they were trained to do, or to evaluate whether the programs

[5]Personal communication, Lt. Col. Mark S. Oordt, Ph.D., USAF ADAPT Program, October 25, 2011.

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reduced the prevalence of SUDs in the populations to whom they were delivered. Therefore, the committee cannot determine whether the program is effective at preventing SUDs.

ARMY

Army Substance Abuse Program (ASAP)

The Army Center for Substance Abuse Programs (ACSAP) manages ASAP, which provides nonclinical prevention services (e.g., universal education, deterrence, identification/detection, referral) and clinical rehabilitation services (assessment and treatment). These services and related activities are reviewed below.

Prevention, Education, and Training Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The program provides soldiers with substance abuse prevention and awareness training to include at a minimum: Army Substance Abuse Program (ASAP) policies and services, consequences of alcohol and other drug abuse, incompatibility of alcohol and other drug abuse with physical and mental fitness, combat readiness, Army Values, and the Warrior Ethos.	• Prevention	• Screening Enrollment Report by Installation and Command • Education/ Training Report by Unit • UPL Certification Database by Individual Command • Resource and Performance Report by Installation and Command	• Active Duty • Reserve • Dependents	• ADAPT curriculum utilizes EBPs

NOTE: ADAPT = Alcohol and Drug Abuse Prevention and Treatment; EBP = evidence-based practice; UPL = unit prevention leader.

The Army employs designated personnel called unit prevention leaders (UPLs) who oversee each unit's prevention plan. They monitor substance abuse training, ensuring that all active soldiers meet the mandatory mini-

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mum requirement to complete 4 hours of substance abuse awareness training per year (2 hours per year for Reserve and National Guard members) (U.S. Army, 2009). UPLs also monitor how commanders identify high-risk populations. UPLs are certified after a 2-week training program (U.S. Army, undated). The most noteworthy Army prevention programs are Prime for Life (PFL) and myPRIME.

PFL is based on the Lifestyle Risk Reduction Model, the Transtheoretical Model, and persuasion theory and has demonstrated efficacy in young adults and adults up to age 55 (SAMHSA, 2010). It is listed as a universal, selective, and indicated prevention program. The program's classroom-based training, offered by certified PFL instructors (ACSAP, 2012b), focuses on the adverse effects and consequences of alcohol and other drug abuse. Designed as a motivational group intervention to prevent alcohol and other drug problems or provide early intervention, PFL emphasizes changing participants' perceptions of the risks of alcohol and other drug use and related attitudes and beliefs. It also has been used with military personnel, college students, middle and high school students, and parents. Different versions of the program, ranging from 4.5 to 20 hours in duration, and optional activities are available for use with various populations. While PFL is listed as an evidence-based approach in the National Registry of Evidence-Based Programs and Practices (SAMHSA, 2010) and widely used throughout the United States, very few studies have been conducted that demonstrate the efficacy of PFL. It should also be noted that no studies have been conducted to evaluate the efficacy of PFL with the U.S. military population. Therefore, the committee cannot determine whether the use of this program with Army service members is effective at preventing SUDs.

The myPrime prevention program, designed specifically for use in the military, is based on the PFL curriculum. It is an indicated intervention intended for soldiers who present with issues with alcohol and/or other drugs while deployed. This online intervention-training tool enables deployed soldiers to self-assess their high-risk behaviors and is intended to influence changes in attitudes, beliefs, and behaviors (ACSAP, 2012b).

The ACSAP website (ACSAP, 2012a) identifies training appropriate at the squad to unit level. When a soldier who completed myPRIME while deployed returns to his/her home station, the commander must send the soldier to the garrison ASAP office for completion of care. The myPRIME adaptation for military personnel is generic in nature; it includes no military-specific information, nor has it been adapted for the contexts of substance use among military personnel. As with PFL, there is no evidence that this program is effective at preventing SUDs in the Army.

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Risk Reduction Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The Army Risk Reduction Program (RRP) is a commander's tool designed to identify and reduce soldiers' high-risk behaviors in the areas of substance abuse, spouse and child abuse, sexually transmitted diseases, suicide, crimes against people, crimes against property, absence without leave (AWOL), traffic violations, accidents and injuries, and financial problems. RRP focuses on effective use of installation resources and a coordinated effort between commanders and installation agencies to implement intervention and prevention programs.	• Prevention	• Regression Analysis by Risk Factors by Unit, Installation, Region, and Command • Unit Risk Inventory (URI) Survey Administrated at Unit Level with Upper Level Comparisons, Installation, Region, and Command • Reintegration-URI Survey Administrated at Unit Level with Upper Level Comparisons, Installation, Region, and Command	• Active Duty • Reserve	• N/A

NOTE: EBP = evidence-based practice; N/A = not applicable.

The Army Risk Reduction Program is a Command prevention tool aimed at reducing high-risk behaviors such as substance abuse among soldiers. It began in 1994 at Fort Campbell and has since been implemented at Army sites around the world. The program is designed to collect data on high-risk behaviors at the installation level and then bring together an Installation Prevention Team to create interventions targeting the high-risk behaviors thus identified. The program's data systems allow commanders to track trends in the incidence of high-risk behaviors and to compare those rates between specific units or with Army-wide rates (ACSAP, 2012c).

During its site visit to Fort Hood, the committee learned that the Risk Reduction Program had helped lead to the decision to close on-base liquor

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stores at 9:00 PM instead of 12:00 AM in an effort to reduce risky drinking behaviors on base. The committee finds that this program could assist commanders in allocating prevention resources to the highest-risk behaviors, in making decisions about implementing environmental prevention strategies (such as the earlier closing of liquor stores at Fort Hood), and in tracking outcome trends after specified interventions have been delivered. The extent to which commanders are held accountable for the results of the program's risk analyses and the extent to which the program's tools are utilized across Army sites is unknown.

Employee Assistance Program (EAP)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The Army's Employee Assistance Program (EAP) provides a wide variety of services for various adult living problems. These services include but are not limited to screening, short-term counseling, and referral for all adult living problems.	• Prevention • Screening	• EAP reports by Installation and User • Screening and Enrollment Report by Installation and Command	• Dependents	• N/A

NOTE: EBP = evidence-based practice; N/A = not applicable.

Civilian employers frequently offer EAPs as a human resources benefit to provide assessment and brief intervention services for employees seeking behavioral health assistance. The EAPs offered in the Army are located within ASAP and provide a multitude of services, including short-term counseling and referral to care providers for more intensive needs. The Army supports EAP services for ADSMs, members of the National Guard and Reserves, and civilian employees. Unlike ADSMs, Guard and Reserve members can access treatment programs through the EAP without having to notify their Command. While the Army's EAP services may provide some early intervention and referral services for SUDs (particularly for Guard and Reserve members who may need assistance with finding care options outside of the TRICARE network), the committee finds the location of these services within ASAP to be problematic because of the stigma associated with accessing care for SUDs. The committee did not receive enough information on the Army's EAP to comment on the quality or effectiveness of these services in preventing and screening for SUDs.

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Rehabilitation Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The objective of the Rehabilitation Program is to return soldiers to full duty as soon as possible; identify and refer soldiers who cannot be rehabilitated in the Army Substance Abuse Program (ASAP) to a rehabilitation facility in the vicinity where they reside after discharge from the Army; help resolve alcohol and other drug abuse problems in the family, with the ultimate goal of enabling the soldier to perform more effectively; and for civilian employees to restore them to effective duty performance.	• Screening • Diagnosis • Treatment	• Screening and Enrollment Report by Installation and Command • Rehabilitation Summary • Rehabilitation Caseload • DAMIS dynamic ad hoc query capability	• Active Duty • Reserve • Dependents	• N/A

NOTE: DAMIS = Drug and Alcohol Management Information System; EBP = evidence-based practice; N/A = not applicable.

The ASAP Rehabilitation Program focuses on returning soldiers to full duty quickly by providing outpatient, intensive outpatient, and residential rehabilitation services for SUDs. Enrollment in rehabilitation services requires Command notification, and the commander is included on the treatment team. Most ASAP clinics provide outpatient treatment (with a few exceptions noted in the next section); more intensive services often are referred to TRICARE network providers. During a site visit to Fort Belvoir, the committee found that while ASAP treats many individuals with comorbid disorders, ASAP treatment counselors are credentialed through the military treatment facility only to provide treatment for SUDs. The result is that soldiers cannot receive care in ASAP that addresses comorbid disorders. Since the Army requires master's level counselors with independent licensure (see Chapter 8), the committee finds this limitation to be impractical. The committee is unaware of any formal evaluations of the ASAP rehabilitation program to determine its effectiveness.

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Additional Programs and Initiatives

The committee reviewed two ongoing pilot programs within the Army—the Confidential Alcohol Treatment and Education Pilot (CATEP) and an Intensive Outpatient Program (IOP) pilot at Fort Hood. CATEP is a program for soldiers who self-refer to ASAP with alcohol problems *before* they are involved in an incident. Because participation in CATEP does not compromise one's military career, soldiers have improved access to treatment for alcoholism earlier in the course of their illness. The IOP program at Fort Hood, which began in February 2010, was designed to provide more intensive care than was available at the ASAP clinic on base, as well as to treat those with comorbid disorders. Currently, the program is providing ASAM Level II.5 care as a 4-weekday treatment program; therefore, the name of the program will be changing to reflect that it provides care beyond the IOP level. For further discussion of these two pilot programs, see Chapter 6.

A third initiative the committee examined is the Comprehensive Solider Fitness (CSF) program, a resiliency training program with four elements: (1) a global assessment tool (GAT), an online self-report measure of the ability to adapt to stress and challenge that is used as a measure of self-assessment and goal setting and as a guide for the selection of program modules that are tailored to an individual's needs; (2) comprehensive resilience modules, a set of self-development training modules that are accessed online and address specific resilience skills in four dimensions (social, emotional, spiritual, family) for a total of 24 hours; (3) a master resiliency train-the-trainer program that trains primarily noncommissioned officers (NCOs) to implement CSF with groups of soldiers at the unit or installation level, and requires a total of 10 days and 80 hours of training for certification; and (4) resiliency training, which is delivered by master trainers in groups to military members and their families. ADSMs are required to be trained in CSF, with a recommended implementation schedule of 2 hours/month; families and Army civilians can participate on a voluntary basis. Resiliency training can conceivably be delivered throughout the stages of military life, from entry through postdeployment.

The program, adapted from the Penn Resiliency Program, is based on resiliency theory (Rutter, 2006) and theories of positive psychology as an alternative to depression (Seligman, 1998). A special issue of *American Psychologist* described the CSF program and initial research results on military populations, which are focused on changes in GAT scores (Peterson et al., 2011). In addition, an internal military evaluation examined approximately 10,000 soldiers assigned by installation to one of two groups: intervention or control. Analyzing data from three GAT survey assessments conducted

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over a 15-month period, the evaluators concluded that the intervention group showed sustained, beneficial changes in resiliency, depression, and fitness compared with the control group (Lester et al., 2011b). However, assignment was not random; installations that could not schedule the program were assigned to the control group. Furthermore, it is unclear whether changes in either nonmilitary or military populations have translated to changes in substance use behavior. Thus, while CSF might be considered a promising approach to preparing and maintaining military fitness under stressful conditions, it is unclear whether this program prevents or reduces substance use.

NAVY

Substance Abuse Rehabilitation Program (SARP)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• Using the American Society of Addiction Medicine patient placement criteria, SARP matches the appropriate intensity of treatment to the individual's level of need. SARP covers a spectrum referred to as the continuum of care that ranges from early intervention, through outpatient, intensive outpatient, residential and medically managed care.	• Prevention • Screening • Diagnosis • Treatment	• Number of patients retained on Active Duty after 1 year • Percentage of patients completing treatment • Length of time to wait for a screening • Length of time before treatment begins	• Active Duty • Reserve • Dependents	• Motivational interviewing • Twelve-step facilitation • Living in Balance • Contingency management • Cognitive behavioral intervention

NOTE: EBP = evidence-based practice; SARP = Substance Abuse Rehabilitation Program.

SARP is the Navy's substance use treatment program. It provides prevention, screening, diagnosis, and treatment services. The Navy recognizes that SUDs are preventable and treatable. Command is trained to identify Navy members in need of treatment. Orders are written, and those identified are required to follow through with treatment orders or be at risk for loss of clearance and discharge.

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The effectiveness of the Navy's prevention and treatment programs is monitored in part by the Alcohol and Drugs Management Information and Tracking System (ADMITS). ADMITS collects, maintains, analyzes, and disseminates data on all incidents and activities related to the Navy's drug and alcohol abuse prevention and control programs. It also provides screening numbers and documentation of treatment outcomes to SARP. ADMITS is able to track numbers of Drug and Alcohol Abuse Report submissions, screening results submitted accurately, and treatment results submitted accurately (DoD, 2011).

Aftercare also is provided to each individual seen in treatment. Typical aftercare includes ongoing participation in approved self-help groups and clinically monitored outpatient counseling groups, and enrollment in the Navy My Ongoing Recovery Experience (MORE) program (described in the following section). Recommendations are tailored to the individual, and Command is responsible for monitoring aftercare participation.

SARP has 40 sites plus 14 additional sites on ships to provide substance use treatment. More than 300 certified substance use counselors are available. The counselors follow the ASAM Patient Placement Criteria. Outpatient treatment consists of an 8-day program for those identified as alcohol abusers. Intensive outpatient treatment, consisting of a 3-week, full-day program, is available for individuals identified as dependent. Residential programs also are available for those who are dependent. Treatment includes programs for family members interested in learning how dependence impacts families. Evidence-based treatments provided include cognitive-behavioral therapy, motivational interviewing, and psychopharmacology.

The Navy also offers an indicated prevention program called Impact. This program was described to the committee during its visit to the naval base in San Diego. It is a 20-hour program designed for patients who have not been diagnosed with a significant substance-related disorder but whose use of substances has created concern for the patient or the patient's Command. The program includes participation in an interactive educational curriculum and exposure to 12-step recovery programs.

The San Diego SARP, the largest and most intensive, provides both residential care (34 days of around-the-clock care, including assessment, group counseling, workshops, fitness activity, and self-help meetings) and outpatient care. Instruction 5353.4A requires SARPs to provide a continuum of care that includes

- early intervention/education (20 hours of instruction) (ASAM Level 0.5)—Alcohol-AWARE and Alcohol-Impact (these programs are not classified as treatment, and initial completion of the programs does not require Command notification);
- outpatient treatment and continuing care (9 hours or less contact per week unless mission requirements necessitate more compressed

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and intense clinical contact during the first 2 weeks of care) (ASAM Level I);

- intensive outpatient treatment and partial hospitalization (80 to 100 hours of clinical contact over a 4- to 6-week period) (ASAM Level II)—4 or more hours of care 3 to 5 days per week;
- clinically monitored residential treatment (variable lengths of stay, generally up to 4 weeks in duration) (ASAM Level III)—for patients who require a safe and stable living environment in which to develop recovery skills; and
- medically managed inpatient treatment (ASAM Level IV)—medical services for detoxification and comorbidities coordinated through military treatment facilities.

SARP is therefore a comprehensive treatment program that offers several therapeutic interventions with varying levels of intensity depending on ASAM placement criteria (Levels 0.5 to IV). Besides treatment, SARP's activities appropriately encompass prevention, early indicated intervention, screening and diagnosis, and aftercare. EBPs are applied throughout. The effectiveness of treatment is monitored, although no assessment of effectiveness with state-of-the-art randomized techniques has been conducted. The committee was particularly impressed with the focus, breadth, supervision, and operation of SARP's prevention, screening, diagnostic, and treatment services.

My Ongoing Recovery Experience (MORE)

Clinical Focus	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• MORE is a continuing care program that supports patients as they leave their primary treatment. Through the use of Web technology, MORE provides tailored support to patients during the first 18 months after treatment as a means to improve treatment outcomes and eliminate, reduce, or shorten episodes of relapse.	• Treatment	• Abstinence and retention rates of those actively involved/ completing the MORE program versus those who do not participate • Number of relapses during 18-month enrollment in MORE	• Active Duty • Reserve • Dependents	• Motivational interviewing • Twelve-step facilitation • Living in Balance • Contingency management • Cognitive behavioral intervention

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Preventing Psychological Disorders in Service Members and Their Families: An Assessment of Programs

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• MORE allows for ongoing support wherever a patient is located to support continued engagement in a therapeutic effort that will enhance long-term abstinence and recovery from substance dependence.		• Length of relapses before returning to the path of recovery • Number of days patients are abstinent		

NOTE: EBP = evidence-based practice; MORE = My Ongoing Recovery Experience.

MORE is an 18-month online support program for individuals who complete SARP. The program connects these individuals to additional tools and resources to aid in their recovery. MORE was developed and is administered by the widely recognized Hazelden treatment program and is oriented toward 12-step recovery. Since August 2010, MORE has supported those in the early stages of aftercare by giving them a recovery coach who is a licensed addiction counselor and is available to provide electronic and telephone support. The program encourages individuals to designate goals for the week and promotes insight through journaling, the development of healthy coping strategies, reading of fact sheets, and participation in a serenity area of the MORE website to help manage stress. Hazelden has also created a new recovery support tool called Mobile MORE Field Guide to Life. This iPhone application, which builds on the MORE program, is being pilot tested by the Navy.

MORE is a positive example of the innovative use of the Internet and the provision of a confidential source of support for recovery. The evaluation and outcomes of the MORE program cited in the above table are likely based on research by Hazelden's Butler Center for Research (Klein et al., 2012). That study was conducted on a limited sample of residential patients discharged in 2006-2007 who met the diagnostic criteria only for dependence, so the study population does not appear to be comparable to the greater range of diagnostic severity encountered in discharged SARP patients. An evaluation of the outcomes of MORE with the Navy population is therefore needed.

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Drug Detection and Deterrence Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The Drug Detection and Deterrence Program develop policies and provide guidance for all Navy urinalysis drug-screening programs. Provides policy guidance and ensures compliance with existing policies and directives of DoD, Department of the Navy, and other agencies in development, implementation, quality assurance, and evaluation of substance abuse prevention programs.	• Prevention	• Number of urine samples submitted to Navy Drug Screening Laboratories at San Diego, Great Lakes, and Jacksonville • Number of drug positives due to illicit drug use • Number of drug positives cleared due to prescribed medication • Number of drug positives retained due to innocent ingestion • Number of drug positives retained due to break in the chain of custody • Number of drug positives cleared due to ADMIN board/Court-Martial acquittal and Board of Inquiry retention	• Active Duty • Reserve	• N/A

NOTE: DoD = Department of Defense; EBP = evidence-based practice; N/A = not applicable.

The policies promulgated in relation to this program are reviewed in Chapter 6. In general, policies emphasize detection and deterrence and do not specify the need for evidence-based public health interventions focused on prevention. The program is driven by concerns of commanders rather than medical providers and thus discourages early identification and education to prevent SUDs.

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Drug Education for Youth (DEFY)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• DEFY's goals are to produce 9- to 12-year-olds with character, leadership, and confidence so that they are equipped to engage in positive, healthy lifestyles as drug-free citizens, and have the necessary skills to be successful in their lives through coordinated community participation, commitment, and leadership thereby empowering military youth to make positive life choices. • DEFY is operated worldwide and consists of a summer leadership camp (Phase 1) and a school-year mentoring program (Phase 2). The program curriculum provides youth with a variety of topics including substance abuse prevention and other vital life skills, including conflict resolution, self-management skills, study skills, leadership, and community service.	• Prevention	• Number of DEFY program sites • Number of youth participants • Number of adult staff participants • Longevity of individual program sites (longer running program is considered more successful)	• Dependents	• CSAP prevention strategies

NOTES: Appendix C of the *Comprehensive Plan* provides information on DEFY in both the Air Force and Navy sections. The content pertaining to program outcomes/evaluation and EBPs differs in the two tables. CSAP = Center for Substance Abuse Prevention; DEFY = Drug Education for Youth; EBP = evidence-based practice.

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DEFY is a comprehensive prevention program now shared by the Navy, Air Force, and Marine Corps. The Navy launched the DEFY prevention program in 1993. In 1999, the Air Force became a partner in the DEFY effort and began operating program sites at numerous installations worldwide. In addition, in 1996 the Attorney General's Weed & Seed program adopted DEFY, expanding it to any location with a U.S. attorney's office. Navy policy specifies that DEFY is a voluntary program, and local commanders should not mandate participation in any way (U.S. Navy, 2007). While DoD identifies in the *Comprehensive Plan* that DEFY incorporates EBPs in its curriculum, the committee is not aware of any formal outcome evaluations that have been conducted with military dependent participants. Therefore, it is unknown whether the program is effective at preventing SUDs for military dependents. The Air Force reported that DEFY administers surveys to youth participants and parents for purposes of evaluating the program.[6]

Right Spirit Campaign

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The Right Spirit Campaign enhances fleet readiness by the reduction of alcohol abuse and related incidents, and provides a safe and productive working environment while deglamorizing alcohol use. The campaign uses videos, posters, etc.	• Prevention	• Number of command and self-referrals for alcohol screenings • Number of participants in local events held to deglamorize alcohol use • Reduction in number of alcohol incidents fleet-wide	• Active Duty • Reserve	• CSAP prevention strategies

NOTE: CSAP = Center for Substance Abuse Prevention; EBP = evidence-based practice.

The Right Spirit Campaign was designed to change the Navy's attitude and culture regarding alcohol. The committee was informed that the Right

[6]Personal communication, Lt. Col. Mark Oordt, Air Force Medical Operations Agency, October 25, 2011.

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Spirit Campaign will be phased out during FY 2012 and therefore did not request additional information on this program to review.

Alcohol Abuse Prevention Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• A comprehensive alcohol abuse prevention and control program for all Navy military personnel that focuses on the responsible use of alcoholic beverages through education, training, and awareness. Assigns responsibility to all personnel and recognizes that alcohol abuse and dependency are preventable and treatable.	• Prevention	• Number of personnel with ARIs • Number of personnel with DUI/ DWI • Number of treatment failures • Number of self-referrals	• Active Duty • Reserve	• Community-based processes, environmental strategies, information dissemination, alternative activities, education, and problem recognition and referral

NOTE: ARI = Alcohol Related Incident; DUI = driving under the influence; DWI = driving while intoxicated; EBP = evidence-based practice.

This program is similar to the Drug Detection and Deterrence Program, discussed above. It assigns responsibility for alcohol abuse and dependency to all personnel and recognizes that they are preventable and treatable. The program has not been formally evaluated for effectiveness. However, alcohol misuse and abuse appear to remain highly prevalent among Navy personnel, as is the case with the other branches. Thus, the committee finds that there appears to be either a breakdown in implementation or some limitations in the materials used for the Navy's alcohol prevention programs. Further, the program relies on information dissemination rather than motivational interviewing messages and skill-building exercises that are part of evidence-based prevention programs.

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Navy Drug and Alcohol Advisory Council (NDAAC)

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The NDAAC provides local and regional commanders with written plans of action to combat identified local and regional drug and alcohol threats.	• Prevention	• Quarterly meetings in area of responsibility • Number of prevention programs/events monitored • Number of ARIs at AOR • Number of DUIs/ DWIs at AOR • Number of days without ARI or DUI/DWI	• Active Duty • Reserve • Dependents	• N/A

NOTE: AOR = Area of Responsibility; ARI = Alcohol Related Incident; DUI = driving under the influence; DWI = driving while intoxicated; EBP = evidence-based practice; N/A = not applicable; NDAAC = Navy Drug and Alcohol Advisory Council.

The NDAAC is a local and regional mechanism by which commanders can monitor and communicate achievements or lack of success in attaining prevention goals related to alcohol-related incidents. Thus it is not a prevention program. While local monitoring is appropriate, it would be more effective to establish specific short- and long-term branch-level goals for reducing harmful alcohol use that are focused not just on incidents (i.e., getting caught) but also on changes in alcohol use behavior (e.g., reduced number of military personnel who binge drank during the last month; reduced number of underage personnel consuming any alcohol). The Navy also offers Commands a training course for drug and alcohol program advisers on all matters relating to alcohol or other drugs. This collateral duty Command position advises the commanding officer on all substance abuse matters, including administrative screenings, reports, prevention education, and monitoring of aftercare for service members who complete treatment programs.

Overall the committee finds that the program could be enhanced if specific short- and long-term behavior change targets were established at the branch level. Commanders should compare their progress with that of other installations and be held accountable for reaching prevention-related behavioral goals.

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Training and Courses

Prevention Specialist Course				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The Prevention Specialist Course provides education and training on how to design and implement evidence-based prevention programs at the local command level.	• Prevention	• Decreased number of Alcohol and Drug Related Incidents (ARIs/DRIs) at commands • Number of people successfully passing the certification examination and becoming certified • Prevention specialists • Number of prevention programs implemented at the command level	• Active Duty • Dependents	• Students are trained in CSAP strategies and learn to utilize the National Registry of Evidence-Based Programs and Practices (NREPP) in selecting prevention programs for their local community
Navy Drug and Alcohol Counselor School (NDACS)				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• NDACS provides education and training to Active Duty personnel who in turn provide treatment at SARP programs. This training ensures Active Duty personnel are providing high-quality patient care competently utilizing EBPs.	• Prevention • Screening • Diagnosis • Treatment	• Number of counselors certified following internship • Number of personnel passing certification examinations at various levels • Number of personnel screened out, deselected and dis-enrolled from the course	• Active Duty	• Adult learning model • Motivational interviewing • Twelve-step facilitation • Living in Balance

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Clinical Preceptorship Program				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The program provides counselors assigned to SARPs with the unique skills and training required of counselors engaged in substance use disorder treatment and education.	• Screening • Diagnosis • Treatment	• Number of counselors passing certification examinations and becoming certified • Hours provided and utilized at each SARP • Treatment Director/ Counselor's satisfaction annual quality assessment survey • Number of ethical complaints per year submitted to U.S. Navy Certification board	• Active Duty	• Motivational interviewing • Interpersonal recall model • In vivo supervision

Personal Responsibility and Values Education and Training (PREVENT) Course				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• A prevention education and health promotion course (24-hr course) specifically developed to target the 18- to 25-year age group. PREVENT deals with life choices related to alcohol and drug use; interpersonal relationships (including sexual responsibility); and health, fitness, and financial responsibility.	• Prevention	• Number of personnel who attend annually • 15,798 (3-year annual average throughput)	• Active Duty • Reserve	• N/A

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Alcohol and Drug Abuse Management Seminar (ADAMS) for Supervisors Course				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• A course designed to provide Navy supervisors with knowledge and skills in alcohol and drug abuse prevention, recognition and documentation, intervention and aftercare. Because policy and programs are subject to change, ADAMS for Supervisors should be repeated every 5 years.	• Prevention	• Number of personnel who attend annually • 9,801 (3-year annual average throughput)	• Active Duty • Reserve	• N/A
Alcohol and Drug Abuse Management Seminar (ADAMS) for Leaders Course				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• A brief seminar designed for Commanding Officers, Executive Officers, Command Master Chiefs, Chiefs of the Boat, and other senior command personnel to provide an overview of what is taught in the ADAMS for Supervisors course.	• Prevention	• Number of personnel who attend annually • 723 (3-year annual average throughput)	• Active Duty • Reserve	• N/A

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Alcohol-AWARE Course				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• Alcohol-AWARE is an alcohol-awareness training that provides basic information about alcohol use and associated risks, Navy policies, responsible drinking, and alternatives. • Course is a requirement for all personnel.	• Prevention	• Number of personnel who attend annually • 7,382 (3-year annual average throughput)	• Active Duty • Reserve	• N/A
Drug and Alcohol Program Advisor (DAPA) Course				
Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• This course provides training to Drug and Alcohol Program Advisors for commands on all matters relating to alcohol or other drugs. This collateral duty command position advises the CO on all substance abuse matters to include administrative screenings, reports, prevention education, and monitor aftercare of service members.	• Prevention	• Number of personnel who attend annually • 1,421 (3-year annual average throughput)	• Active Duty • Reserve	• N/A

NOTE: CO = commanding officer; CSAP = Center for Substance Abuse Prevention; EBP = evidence-based practice; N/A = not applicable; SARP = Substance Abuse Rehabilitation Program.

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The Navy has made an extensive and impressive investment in a series of training initiatives ranging from prevention to intervention for the entire Navy workforce and their families to sophisticated leadership training for commanders. Among these courses are the Prevention Specialist Course, the Navy Drug and Alcohol Counselor School (NDACS), the Clinical Preceptorship Program, the Personal Responsibility and Values Education and Training (PREVENT) Course, the Alcohol and Drug Abuse Management Seminar (ADAMS) for Supervisors and the ADAMS for Leaders Courses, the Alcohol-AWARE Course, and the Drug and Alcohol Program Advisor (DAPA) Course.

The purpose of the **Prevention Specialist Course** is to prepare installation personnel who are responsible for prevention programming. Participants take a certification examination upon completing the course. These specialists then design their own programs at local installations under the commander's direction. Thus, training is provided to designated personnel in prevention programming at each installation. The committee finds that while the content of this course appears to be appropriate, directing prevention specialists to Center for Substance Abuse Prevention (CSAP) strategies and to a registry of evidence-based programs, the implementation of unique prevention programs at each installation is challenging and likely to erode overall quality. The committee also finds that it would be more cost-effective to have branch-wide initiatives in which the prevention specialists would receive training that could be modified to reflect local conditions. Fidelity to the evidence-based program models could be monitored.

NDACS is a 10-week program that is divided into 7 weeks of didactic training and 3 weeks of clinical rotation. The school convenes a new class five times per year for military personnel who will be working in various drug- and alcohol-related jobs, including outreach, screening, assessment, and treatment for alcohol and other drug addictions. In reviewing the NDACS student guide (U.S. Navy, 2011), the committee noted that basic psychosocial theory and its application to clinical practice and basic biology (as regards SUDs) are covered extensively. However, there is little medical information regarding evidence-based treatment approaches, and as is the case with virtually all training materials the committee reviewed, there is a lack of attention to, or in this case no coverage of, the role of medication in the treatment of SUDs.

Following their training at NDACS, graduates enter the **Clinical Preceptorship Program** as intern counselors. The Clinical Preceptorship Program is a structured internship intended to develop knowledge and skills under the mentorship of a person with advanced skills in drug and alcohol counseling. After a minimum 12-month internship, interns may apply for certification as alcohol and drug counselor (ADC) I.

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The **PREVENT** Course focuses on sailors aged 18-25 and assists them in achieving their highest levels of personal development. It is believed that this will reduce risk-related behaviors and enhance mission readiness. Like the ADAMS and DAPA Courses, PREVENT has training goals and lesson plans; its facilitator guide was prepared by the Pacific Institute for Research and Evaluation, a group with sophisticated knowledge of prevention programs.

ADAMS, developed for E-5s and above, is divided into two courses, one directed at supervisors and the other at leaders, such as commanding officers and executive officers. These seminars are basically a practical leadership course and are highly regarded by Commands, as the committee learned on its site visit to the naval base at Point Loma, California. The current evaluation metrics appear to be limited to the number of people trained annually.

Alcohol-AWARE is a prevention-oriented course that provides anti-alcohol education intended for all sailors E-1 through E-4 and O-1 through O-3. The emphasis is on leadership, deglamorization, intervention, and accountability.

The **DAPA Course** trains advisers who manage and administer the Command's alcohol and drug abuse programs. During its San Diego site visit, the committee heard of the critical importance of this position in linking Command to effective SUD program and policy implementation.

Both the ADAMS and DAPA Courses have training guides, lesson plans, and case scenarios. The committee reviewed these materials and found them to be sound learning tools. Particularly impressive are the ADAMS scenarios directed at supervisors and commanders. The committee is aware of the crucial role of the Command structure in the implementation of SUD prevention and treatment programs. Hands-on training for that Command structure through ADAMS and DAPA is essential to the success of these programs. The committee believes the ADAMS and DAPA Courses are models worthy of adoption by all branches.

Additional Programs and Initiatives

In addition to the programs cited by the Navy in the *Comprehensive Plan*, the committee reviewed Families OverComing Under Stress (FOCUS). FOCUS is a family-centered program aimed at building resiliency among ADSMs; their spouses, children, and other family members; providers; and other community members. As a resiliency program, its primary clinical focus is on prevention. It is implemented and repeated over several developmental stages, including pre-, during, and postdeployment. While this large-scale demonstration project was initiated by the Navy's Bureau of Medicine and Surgery (BUMED), it has been expanded to 18 installations

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serving the Army, Air Force, Navy, and Marine Corps. Based on resiliency theory (Rutter, 1999) and multiple family and individual resiliency programs, FOCUS is considered evidence based. The committee reviewed two published articles on the implementation and evaluation of FOCUS (Lester et al., 2011a, 2012). Based on this review, the committee finds FOCUS to be a promising program that should be widely disseminated at military sites. Efforts to evaluate the program and document its effectiveness should also be continued.

MARINE CORPS

Marine Corps Substance Abuse Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The Marine Corps Substance Abuse Program provides screening and assessment, and treatment services for Active Duty military members and other eligible beneficiaries with substance abuse disorders.	• Prevention • Screening • Diagnosis • Treatment	• Number of completion of treatments • Number of treatment failures • Number of re-screens after completion of treatment	• Active Duty	• ASAM Patient Placement Criteria for the treatment of substance related disorders are used for alcohol treatment

NOTE: ASAM = American Society of Addiction Medicine; EBP = evidence-based practice.

The Marine Corps Substance Abuse Program operates under the Marine Corps Community Services Command and within the Marine and Family Programs Division "to provide timely, consistent and effective care for active duty military members and other eligible beneficiaries with substance abuse and dependency disorders which interfere with mission readiness and inter-personal functioning" (USMC, 2011a, p. 1). The program is responsible for prevention, screening, diagnosis, and treatment for SUDs. Three program elements (prevention, drug demand reduction, and treatment) form the core of the program. Prevention support services include prevention activities, urine testing, and indicated prevention programs. The Drug Demand Reduction program includes Command-level education and training, compulsory random drug testing with punitive consequences,

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assessments of illegal drug use, and training and action plans at installations as needed.

Substance Abuse Counseling Centers (SACCs) provide screening and assessment for alcohol and other drug problems. Outpatient education and counseling may include early intervention, outpatient care, and intensive outpatient services. Marine Corps Order 5300.17 details the requirements for SACCs: "The Marine Corps is required to identify, counsel, or treat Marines identified as alcohol or drug abusers or alcohol or drug dependent" (USMC, 2011b, p. 3-1). Individuals involved in a substance abuse incident are referred to a SACC for assessment. At the SACC, qualified personnel (generally certified substance abuse counselors), under the supervision of the medical officer (either a physician or a psychologist), provide necessary intervention and treatment services. The substance abuse counselor conducts the initial biopsychosocial assessment using a standard form contained in NAVMC 2931. The items on this form do not appear to reflect standardized screening instruments for assessing alcohol and other drug use. If the counselor determines that a Marine does not need formal assessment for treatment placement by a licensed independent practitioner, the Marine returns to duty or is assigned to the early intervention program offered through the SACC (Impact, which is also used by the Navy and was reviewed previously under Navy programs).

At the start of treatment, an individualized treatment plan is developed and approved by the medical officer. This plan addresses seven dimensions to determine the required level of care: potential for withdrawal, biomedical complications, emotional/behavioral complications, readiness to change, relapse potential, recovery/living environment, and operational commitment. An interdisciplinary team reviews the assessment, treatment plan, and treatment progress weekly and makes recommendations to the medical officer. The SACC treatment modalities include a 12-step program, motivational interviewing, group therapy, and other models depending on the individual counselors providing treatment. The committee learned that the treatment modalities provided at each SACC site vary, and there are no standardized or required methods.[7] The committee finds this lack of standardization and endorsement of evidence-based treatment modalities to be a weakness of the Marine Corps programs.

Marine Corps Order 5300.17 requires 1 year of aftercare for those who have engaged in treatment. This aftercare is not provided through the SACC but is delivered in the unit. It involves monitoring and documentation of progress on the individual's aftercare plan.

[7]Personal communication, Erik Hollins, Marine and Family Programs Division, December 26, 2011.

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Substance Abuse Prevention and Intervention Program

Purpose and Goals	*Clinical Focus*	*Program Evaluation/ Outcomes*	*Target Population*	*EBPs*
• The Marine Corps Substance Abuse Prevention program provides prevention tools such as antidrug videos and games, substance abuse prevention tool kits, Command Summits, and the Battalion Alcohol Skill Intervention Curriculum that help commanders prevent problems that detract from unit performance and mission readiness. • To assist in the commander's prevention efforts, a Drug Demand Reduction Coordinator, Substance Abuse Control Officers, and Alcohol Abuse Prevention Specialists are available to provide support in the following areas: ○ Illegal drug use prevention activities ○ Drug testing ○ Implementing prevention programs ○ Coordinating treatment services with the SACC ○ Conducting aftercare	• Prevention	• Number of positive samples • Number of multiple positives • Number of prescription drug confirmed positives	• Active Duty • Reserve	• Prevention tools created specifically for the Marine Corps based on research by the Naval Health Research Center

NOTE: EBP = evidence-based practice; SACC = Substance Abuse Counseling Center.

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Activities with the goal of preventing substance use and abuse among Marines generally are carried out in individual units and Commands. The specific content of the education delivered through these activities varies from site to site. One component of the Marine Corps Substance Abuse Prevention and Intervention Program is the Battalion Alcohol Skills Intervention Curriculum (BASIC), which is used across Marine Corps sites. Following a train-the-trainer model, SACC staff train battalion unit trainers, who then train their senior leadership and unit commanders in how to deliver the BASIC program within their units. The training focuses on building skills and providing information on alcohol use, challenging assumptions about the effects of alcohol, and reducing risk associated with alcohol use based on a harm reduction rather than an abstention approach. The program grew out of work done by contracted researchers from the University of Washington, San Diego State University, and the University of California, San Diego, to study the problem and make recommendations for possible interventions among Marines. The program is based on the BASICS (Brief Alcohol Screening and Intervention for College Students) program, an evidence-based prevention program originally developed by researchers from the University of Washington Addictive Behaviors Research Center for college students with problem drinking (Dimeff et al., 1999).

The original BASICS program is listed as an evidence-based prevention program in the National Registry of Evidence-Based Programs and Practices (SAMHSA, 2012). The committee finds that the use of the BASIC program in the Marine Corps shows promise for the implementation of an evidence-based prevention program. However, the only evaluation of BASIC showed that it did not have a significant overall effect on drinking behavior among Marines (Hurtado, 2003). Additional research is needed to determine the effectiveness of BASIC in the Marine Corps and perhaps identify modifications that would increase positive results.

The Impact program (described previously in the section on Navy programs) also falls under the umbrella of the Marine Corps Substance Abuse Prevention and Intervention Program. This indicated prevention program is delivered at the majority of SACC sites to those Marines identified as being at risk for developing SUDs because of their risky use of alcohol or other drugs. At the Marine Corps Base at Camp Pendleton, Impact has been modified to include the Marine Alcohol Awareness Course (MAAC),[8] a 1-day (8-hour) group educational course designed to raise individuals' awareness level when choosing to consume alcohol. Much like Impact, the course highlights many of the negative consequences and peripheral

[8]Personal communication, Erik Hollins, Marine and Family Programs Division, December 26, 2011.

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problems that can result from consuming alcohol. The course focuses primarily on alcohol-related policies and consequences and how individuals can establish proper measures and responsible behavior (i.e., safety, environmental and situational awareness, and a solid plan) before deciding to drink alcohol. The program is based on a risk reduction model of alcohol use and designed for delivery to those individuals who have been involved in alcohol-related incidents.

Additional Programs

The Marine Corps utilizes the FOCUS program, described previously in the section on Navy programs. As a resiliency program, FOCUS places primary clinical emphasis on prevention. It is implemented and repeated over several developmental stages, including pre-, during, and postdeployment. FOCUS is considered to be a large-scale demonstration project that has been expanded to 18 installations serving the Army, Air Force, Navy, and Marine Corps (FOCUS Project, 2012). Based on resiliency theory (Rutter, 1999) and multiple family and individual resiliency programs, it is considered evidence-based.

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TABLE OF DOD PROGRAMS TO INCREASE RESILIENCE OR PREVENT PSYCHOLOGICAL HEALTH DISORDERS, AS IDENTIFIED BY RAND

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DOD Programs to Increase Resilience or Prevent Psychological Health Problems, as Identified by RAND

		DEPLOYMENT PHASE					
Program Name	**Includes evidence-based intervention[1]**	**Predeployment**	**Deployment**	**Return or Redeployment**	**Post-Deployment**	**Not Related to Deployment Phase**	**Family component**
After Deployment				x	x		x
Air Force Suicide Prevention Program	x					x	x
Air Force Wounded Warrior Program				x	x		x
Air National Guard Psychological Health Program					x		x
America's Heroes at Work	x				x		
Are You Listening?						x	
Army Center for Enhanced Performance	x					x	x
Army Confidential Alcohol Treatment and Education Pilot	x					x	
Army Strong Community Center						x	
Army Suicide Prevention Program						x	
Army Wounded Warrior Program					x		x
AXON						x	
Behavioral Health Optimization Program	x			x	x		x
Brigade Resiliency Teams		x	x	x	x		x
Buddy-to-Buddy Program					x		
Care Coalition						x	x
Child, Adolescent and Family Behavioral Health Proponency	x					x	x
Citizen Soldier Support Program	x					x	
Combat and Operational Stress Reaction/Staff Resiliency Program					x		
Community Behavioral Health Services	x	x	x	x	x		
Comprehensive Combat and Complex Casualty Care Program	x					x	x
Defense and Veterans Brain Injury Center Regional Care Coordination	x				x	x	
Families OverComing Under Stress (FOCUS)	x					x	x
Family Advocacy Program (Air Force)	x					x	x
Family Advocacy Program (Army)	x					x	x
Family Advocacy Program (Navy)	x					x	x
Family Optimization Systems (FAMOPS)	x	x	x	x	x		x
Family Strong Hawaii		x	x	x	x		x
Federal Recovery Coordination Program				x	x		
Healing Heroes				x	x		
Integrative Pain Center	x					x	
Integrative Restoration (iRest)	x					x	x
LivingWorks Suicide Intervention Training Programs (Applied Suicide Intervention Skills Training, safeTALK, and suicideTALK)						x	
Marine Corps Combat and Operational Stress Control		x	x	x	x		
Marine Corps Operational Stress Training Program		x	x	x	x		
Marine Corps Substance Abuse Program	x					x	
Marine Corps Wounded Warrior Regiment Psychological Health and TBI Clinical Services Staff					x		
Military and Family Life Consultants	x	x	x	x	x		x
Military Child Education Coalition Living in the New Normal Program				x			x
Military Child Education Coalition Student 2 Student Programs						x	x
Military OneSource	x	x	x	x	x		x
Military Pathways	x					x	
Mind-Body Trauma First Aide	x					x	x
Mountain Post Wellness Center		x		x	x		x
National Guard Family Program		x	x	x	x		x
National Guard Transition Assistance Advisors					x		x
Navy Alcohol and Drug Abuse Prevention Program						x	
Navy Operational Stress Control	x	x	x	x	x		x
Navy Safe Harbor					x		x
OASIS (Overcoming Adversity and Stress Injury Support)	x			x	x		x
Operation BRAVE (Building Resilience And Valuing Empowered) Families	x			x	x		x
Operation: Military Kids	x					x	x
Operational Stress Control and Readiness (OSCAR)						x	
Partners in Care						x	x
Postdeploymenthealth.com	x				x		x
Prevention, Treatment and Outreach	x	x	x	x	x		
Psychological Health Advocacy Program		x	x	x	x		
Psychological Health Pathways Program	x			x	x		
Real Warriors Campaign		x	x	x	x		
Recovery Coordination Program				x	x		x

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		DEPLOYMENT PHASE					
Program Name	**Includes evidence-based intervention[1]**	**Predeployment**	**Deployment**	**Return or Redeployment**	**Post-Deployment**	**Not Related to Deployment Phase**	**Family component**
Reserve Psychological Health Outreach Coordinators Program		x	x	x	x		
RESPECT-Mil	x					x	
Returning Warrior Workshops				x			x
Road to Reintegration: Systems of Care					x		
Scripps Military Brain Injury Rehabilitation Program		x		x	x		x
Sesame Workshop Military Families Initiative		x	x	x	x		x
Sexual Assault Prevention and Response Office						x	
Sexual Assault Prevention and Response Program (Air Force)						x	
Sexual Assault Prevention and Response Program (Coast Guard)						x	
Sexual Assault Prevention and Response Program (Marine Corps)						x	
Sexual Assault Prevention and Response Program (National Guard)						x	
Sexual Assault Prevention and Response Program (Navy)	x					x	
Sexual Harassment/Assault Response and						x	
Signs of Suicide	x					x	x
SimCoach						x	x
Special Psychiatric Rapid Intervention Team	x					x	
The Caring Letters Project	x					x	
The National Intrepid Center of Excellence	x					x	
The Wingman Project						x	
Tragedy Assistance Program For Survivors	x					x	x
Traumatic Brain Injury: The Journey Home	x					x	
Traumatic Stress Response Team	x					x	
Vets4Warriors						x	
Virtual Reality and Innovative Technology Applications	x					x	
Warrior and Family Assistance Center						x	x
Warrior Resilience & Thriving	x	x	x		x		
Wellness and Resiliency Assessment—Post-Deployment	x			x	x		
Wounded Warrior Call Center					x		
Wounded Warrior Regiment				x	x		x
Yellow Ribbon Reintegration Program (Air Force)		x	x	x	x		x
Yellow Ribbon Reintegration Program (Army)		x	x	x	x		x
Yellow Ribbon Reintegration Program (Marine Corps)		x	x	x	x		x
Yellow Ribbon Reintegration Program (National Guard)		x	x	x	x		x
Yellow Ribbon Reintegration Program (Navy)		x	x	x	x		x

[1]Programs with evidence-based interventions have activities and/or interventions that have been evaluated and shown to be effective in one or more research studies or evaluations. This information was supplied by the interviewees; RAND did not independently assess the strength of the evidence base for the programs. Programs not designated as evidence-based either do not have an evidence base or the evidence base is unknown.
SOURCE: http://smapp.rand.org/multi/military/innovative-practices/catalog/

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