

Invisible Wounds: Serving Service Members and Veterans with PTSD and TBI



**National Council on Disability
March 4, 2009**

National Council on Disability
1331 F Street, NW, Suite 850
Washington, DC 20004

Invisible Wounds: Serving Service Members and Veterans with PTSD and TBI

This report is also available in alternative formats and on the National Council on Disability (NCD) Web site (www.ncd.gov).

Publication date: March 4, 2009

202-272-2004 Voice
202-272-2074 TTY
202-272-2022 Fax

The views contained in this report do not necessarily represent those of the Administration as this and all NCD documents are not subject to the A-19 Executive Branch review process.

National Council on Disability Members and Staff

Members

John R. Vaughn, Chairperson
Chad Colley, Vice Chairperson
Patricia Pound, Vice Chairperson

Victoria Ray Carlson
Robert R. Davila, Ph.D.
Graham Hill
Marylyn Howe
Kathleen Martinez
Lisa Mattheiss
Heather McCallum
Katherine O. McCary
Lonnie Moore
Anne M. Rader
Linda Wetters
Tony Williams

Staff

Michael C. Collins, Executive Director
Martin Gould, Ed.D., Director of Research
Mark S. Quigley, Director of External Affairs
Julie Carroll, Senior Attorney Advisor
Joan M. Durocher, Senior Attorney Advisor
Lisa Grubb, Special Assistant to the Executive Director
Geraldine Drake Hawkins, Ph.D., Senior Program Analyst
Anne C. Sommers, Legislative Affairs Specialist
Stacey S. Brown, Staff Assistant
Carla Nelson, Secretary

Table of Contents

Executive Summary	1
Section 1: Introduction.....	8
Section 2: Background	13
1. Characteristics of Deployed Forces.....	13
2. Experiences of Deployed Forces.....	14
Section 3: Post Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI)...	15
1. What is PTSD?	15
2. What is TBI?	19
3. Relationship Between PTSD and TBI.....	20
4. Risk Factors for PTSD.....	21
Section 4: Evidence Based Approaches for Prevention, Outreach, Assessment, Diagnosis, and Treatment	24
1. Prevention	24
2. Outreach, Assessment, and Diagnosis.....	25
3. Treatment	27
4. Other Interventions	30
5. Holistic Approach.....	36
Section 5: Components of the Health Care System	37
1. Eligibility	37
2. Department of Defense	39
3. Veterans Health Administration	46
4. Private Sector	49
5. Nonprofit and Volunteer Organizations.....	50
Section 6: Barriers to Seeking Care	51
1. Stigma	51
2. Access.....	52
3. Additional Issues for Certain Populations	53
Section 7: Family Issues	55
1. Effect of PTSD/TBI on the Family.....	55
2. Services for Family Members	57
Section 8: Recommendations	59
References.....	63

Executive Summary

More than 1.6 million American service members have deployed to Iraq and Afghanistan in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). As of December 2008, more than 4,000 troops have been killed and over 30,000 have returned from a combat zone with visible wounds and a range of permanent disabilities. In addition, an estimated 25-40 percent have less visible wounds—psychological and neurological injuries associated with post traumatic stress disorder (PTSD) or traumatic brain injury (TBI), which have been dubbed “signature injuries” of the Iraq War.

Although the Department of Defense (DoD) and the Veterans Administration (VA) have dedicated unprecedented attention and resources to address PTSD and TBI in recent years, and evidence suggests that these policies and strategies have had a positive impact, work still needs to be done. In 2007, the Department of Defense Task Force on Mental Health concluded that

Despite the progressive recognition of the burden of mental illnesses and substance abuse and the development of many new and promising programs for their prevention and treatment, current efforts are inadequate to ensure the psychological health of our fighting forces. Repeated deployments of mental health providers to support operations have revealed and exacerbated pre-existing staffing inadequacies for providing services to military members and their families. New strategies to effectively provide services to members of the Reserve Components are required. Insufficient attention has been paid to the vital task of prevention.

PTSD and TBI can be quite debilitating, but the effects can be mitigated by early intervention and prompt effective treatment. Although medical and scientific research on how to prevent, screen for, and treat these injuries is incomplete, evidence-based practices have been identified. A number of panels and commissions have identified gaps between evidence-based practices and the current care provided by DoD and VA and have recommended strategies to address these gaps. The window of opportunity to assist the service members and veterans who have sacrificed for the country is quickly closing. It is incumbent upon the country to promptly implement the recommendations of

previous panels and commissions and fill the remaining gaps in the mental health service systems.

In terms of prevention, emphasis must be placed on minimizing combat stress reactions, and preventing normal stress reactions from developing into PTSD when they do occur. When PTSD or TBI does occur, the goal of treatment must be to help the service member regain the capacity to lead a complete life, to work, to partake in leisure and civic activities, and to form and maintain healthy relationships.

PTSD and TBI are often addressed together because they often occur together and because the symptoms are at times difficult to distinguish.

PTSD is an anxiety disorder arising from “exposure to a traumatic event that involved actual or threatened death or serious injury.” It is associated with a host of chemical changes in the body’s hormonal system, and autonomic nervous system. Symptoms vary considerably but the essential features of PTSD include:

- *Re-experiencing*: Such as flashbacks, nightmares and intrusive memories;
- *Avoidance/Numbing*: Including a feeling of estrangement from others; and,
- *Hyperarousal/Hypervigilance*: Including feelings of being constantly in danger.

The challenge for both professionals and veterans is to recognize the difference between “a normal response to abnormal circumstances” and PTSD. Some will develop symptoms of PTSD while they are deployed, but for others it will emerge later, after several years in many cases.

According to current estimates, between 10 and 30 percent of service members will develop PTSD within a year of leaving combat. When we consider a range of mental health issues including depression, generalized anxiety disorder, and substance abuse, the number increases to between 16 and 49 percent.

Traumatic brain injury (TBI), also called acquired brain injury or simply head injury, occurs when a sudden trauma causes damage to the brain. TBI can result when the head suddenly and violently hits an object, or when an object pierces the skull and enters brain tissue. Victims may have a wide range of symptoms such as difficulty

thinking, memory problems, attention deficits, mood swings, frustrations, headaches, or fatigue. Between 11 and 20 percent of service members may have acquired a traumatic injury in Iraq and Afghanistan.

Evidence-based practices to prevent PTSD include teaching skills to enhance cognitive fitness and psychological resilience that can reduce the detrimental impact of trauma. In terms of screening, evidence suggests that identifying PTSD and TBI early and quickly referring people to treatment can shorten their suffering and lessen the severity of their functional impairment. Several types of rehabilitative and cognitive therapies, counseling, and medications have shown promise in treating both injuries.

Service members and veterans may access care through the Department of Defense, the Veterans Health Administration, or the private sector. Each health care system has a number of strengths and weaknesses in delivering evidence-based care. For example:

Department of Defense: DoD has developed a number of evidence-based programs designed to 1) maintain the psychological readiness of the forces in order to reduce the incidence of stress reactions; 2) embed psychological services in deployed settings to ensure early intervention when stress reactions occur; and 3) deliver evidence based rehabilitative therapies on base and through TRICARE, a managed care system that uses a network of civilian providers. However, the military, not unlike the civilian health care setting, has a shortage of mental health providers who must be spread about military bases and deployed settings.

Service members who rely on the TRICARE network may have limited access to services. Because of the low reimbursement rates, many of TRICARE's providers are not accepting new TRICARE patients and because of the shortage of available mental health providers in some areas, enrollees may wait weeks or months for an available appointment.

Veterans Health Administration: VA has undergone significant changes in the past 10-15 years that has transformed it into an integrated system that generally provides high quality care. In response to the increased demand for services to treat OEF/OIF veterans with PTSD, the system has invested resources in expanding outreach

activities enhancing the availability and timeliness of specialized PTSD services. Nevertheless, access to care is still unacceptably variable across the VA system. Some service members continue to face barriers to seeking care. These barriers include stigma and limited access.

Stigma: Service members are affected by three types of stigma:

- Public stigma: The notion that a veteran would be perceived as weak, treated differently, or blamed for their problem if he or she sought help.
- Self Stigma: The individual may feel weak, ashamed and embarrassed.
- Structural Stigma: Many service members believe their military careers will suffer if they seek psychological services. Although the level of fear may be out of proportion to the risk, the military has institutional policies and practices that restrict opportunities for service members who reveal that they have a psychological health issue by seeking mental health services.

Limited Access: Even when service members or veterans decide to seek care, they need to find the “right” provider at the “right” time. Long waiting lists, lack of information about where to find treatment, long distances to providers, and limited clinic hours create barriers to getting care. When care is not readily available, the “window of opportunity” may be lost.

Culturally diverse populations and women face additional barriers. Despite high rates of PTSD, African American, Latino, Asian, and Native American veterans are less likely to use mental health services. This is due, in part, to increased stigma, absence of culturally competent mental health providers, and lack of linguistically accessible information for family members with limited English proficiency who are providing support for the veteran. Women have an increased risk of PTSD because of the prevalence of Military Sexual Trauma.

Family and Peer Support: Family support is a key component to the veteran’s recovery. However, because of the stress of providing care, the veteran’s PTSD puts the family at increased risk of developing mental health issues as well. The current system provides inadequate support for the family in its caregiving role and inadequate

access to mental health services that directly address the psychological well being of the spouse, children, or parents.

Support from peers who have shared a similar experience is also important. Peers can provide information, offer support and encouragement, provide assistance with skill building, and provide a social network to lessen isolation. Peer support may come in the form of naturally occurring mutual support groups; consumer-run services; formal peer counseling services. In addition, consumers need to be involved in the development and deployment of services for patients with PTSD and TBI.

Recommendations and Conclusion

The wars in Iraq and Afghanistan are resulting in injuries that are currently disabling for many, and potentially disabling for still more. They are also putting unprecedented strain on families and relationships, which can contribute to the severity of the service member's disability over the course of time. NCD concurs with the recommendations of previous Commissions, Task Forces and national organizations that:

1. A comprehensive continuum of care for mental disorders, including PTSD, and for TBI should be readily accessible by all service members and veterans. This requires adequate staffing and adequate funding of VA and DoD health systems.
2. Mechanisms for screening service members for PTSD and TBI should be continuously improved to include baseline testing for all Service Members pre-deployment and follow up testing for individuals that are placed in situations where head trauma may occur.
3. The current array of mental health and substance abuse services covered by TRICARE should be expanded and brought in line with other similar health plans

It is particularly critical that prevention and early intervention services be robust. Effective early intervention can limit the degree of long term disability and is to the benefit of the service member or veteran, his or her family and society. Therefore, NCD recommends that:

4. Early intervention services such as marital relationship counseling and short term interventions for early hazardous use of alcohol and other substances should be strengthened and universally accessible in VA and TRICARE.

Consumers play a critical role in improving the rehabilitation process. There are many opportunities for consumers to enhance the services offered to service members and veterans and their families. NCD recommends that:

5. DoD and VA should maximize the use of OIF/OEF veterans in rehabilitative roles for which they are qualified including as outreach workers, peer counselors and as members of the professional staff.
6. Consumers should be integrally involved in the development and dissemination of training materials for professionals working with OIF/OEF veterans and service members.
7. Current and potential users of VA, TRICARE and other DoD mental health and TBI services should be periodically surveyed by a competent independent body to assess their perceptions of: a) the barriers to receiving care, including distance, cost, stigma, and availability of information about services offered; and b) the quality, appropriateness to their presenting problems and user-friendliness of the services offered.
8. VA should mandate that an active mental health consumer council be established at every VA medical center, rather than have this be a local option as is currently the case.
9. Congress should mandate a Secretarial level VA Mental Health Advisory Committee and a Secretarial level TBI Advisory Committee with strong representation from consumers and veterans organizations, with a mandate to evaluate and critique VA's efforts to upgrade mental health and TBI services and report their findings to both the Secretary of Veterans Affairs and Congress.

DoD and VA have initiated a number of improvements, but as noted by earlier Commissions and Task Forces, gaps continue to exist.

It is imperative that these gaps be filled in a timely manner. Early intervention and treatment is critical to the long-term adjustment and recovery of service members and veterans with PTSD and TBI. NCD recommends that:

10. Congress and the agencies responsible for the care of OEF/OIF veterans must redouble the sense of urgency to develop and deploy a complete array of prevention, early intervention and rehabilitation services to meet their needs now.

As this report indicates, the medical and scientific knowledge needed to comprehensively address PTSD and TBI is incomplete. However, many evidence-based practices do exist. Unfortunately, service members and veterans face a number of barriers in accessing these practices including stigma; inadequate information; insufficient services to support families; limited access to available services, and a shortage of services in some areas. Many studies and commissions have presented detailed recommendations to address these needs. There is an urgent need to implement these recommendations.

Section 1: Introduction

The war is done for me now. The days of standing in the hot desert sun, setting up ambushes on the sides of mountains and washing the blood from my friend's gear are over. The battles with bombs, bullets, and blood are a thing of the past. I still constantly fight a battle that rages inside my head.

Brian McGough, a 32 year-old Army staff sergeant whose convoy was attacked with IEDs in 2006. From his blog "Inside my Broken Skull."

American service members have sacrificed a great deal in the battles in Afghanistan and Iraq, and many of those who have returned are still battling. Only now they are not fighting the enemy around them. They are, at times, fighting an even more elusive foe within—the psychological effects of war. This foe is often not recognized or acknowledged. Moreover, the system that provides treatment for psychological trauma for veterans is not always well implemented.

More than 1.6 million American service members have deployed to Iraq and Afghanistan in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), and over 565,000 have deployed more than once (Veterans for Common Sense, 2008). As of December 2008, more than 4,200 troops have been killed and over 30,800 have returned from a combat zone with visible wounds and a range of permanent disabilities (O'Hanlon and Campbell 2008). In addition, an estimated 25-40 percent have less visible wounds—psychological and neurological injuries associated with Post Traumatic Stress Disorder (PTSD) or Traumatic Brain Injury (TBI) (Tanielian and Jaycox 2008; Hoge, et al. 2008).

It is common to make a distinction between visible injuries such as orthopedic injuries, burns, and shrapnel wounds and less visible injuries such as PTSD. The distinction often is characterized as "physical" versus "mental" injuries. These terms imply that PTSD somehow is not physical. However, this is an artificial distinction. PTSD and other "mental illnesses" are characterized by measurable changes in the brain and in the hormonal and immune systems. In this report, we use the terms "visible" and "not visible" to make the distinction.

Although PTSD and TBI have different origins—PTSD is caused by exposure to extreme stress, whereas TBI is caused by blast exposure or other head injury—they are closely related. People with TBI are more prone to PTSD, and many people with PTSD may have co-morbid undiagnosed mild TBI. Substance abuse, often associated with both injuries, complicates the situation for many people. Although this report focuses on PTSD and TBI, these injuries account for only a portion of the mental health issues affecting our service members including depression, generalized anxiety disorders, substance abuse, and interpersonal conflicts.

War is inherently a traumatic experience, but PTSD can be mitigated through prevention and training programs prior to deployment, effective stress reduction techniques during operations, and treatment programs after combat exposure. DoD, VA, and civilian researchers have developed many strategies to diminish the onset of PTSD and treat both the direct symptoms of PTSD and its impact on the individual's ability to function.

Despite these strategies, a plethora of evidence points to gaps in the current health care system for service members and veterans. Media reports, Congressional inquiries, commissions, and lawsuits have revealed deficiencies in outreach, access, care coordination, and treatment. The evidence points to wide variations in access to mental health services; an inadequate supply of mental health providers; resistance on the part of some military leaders to adopt new attitudes; and resistance on the part of the service member or veteran to seek service because of the stigma associated with psychological disorders.

In the past several years, DoD and VA have developed a number of new programs, policies, and strategies to address the mental health needs of service members and veterans of OEF/OIF. For example, Congress extended the automatic eligibility for services through the Veterans Health Administration from two years to five; DoD instituted mandatory PTSD screening upon service members' return from combat as well as a reassessment 3-6 months later; VA has developed treatment protocols that incorporate evidence-based practices; the Vet Centers have hired additional staff to provide outreach; and DoD and VA are working toward integrating their systems to be more effective.

Although DoD and VA have dedicated unprecedented attention and resources to address PTSD and TBI in recent years (eg. Defense Centers of Excellence), and some evidence suggests that these policies and strategies have had a positive impact, work still needs to be done. In 2007, the Department of Defense Task Force on Mental Health concluded that “Despite the progressive recognition of the burden of mental illnesses and substance abuse and the development of many new and promising programs for their prevention and treatment, current efforts are inadequate to ensure the psychological health of our fighting forces. Repeated deployments of mental health providers to support operations have revealed and exacerbated pre-existing staffing inadequacies for providing services to military members and their families. New strategies to effectively provide services to members of the Reserve Components are required. Insufficient attention has been paid to the vital task of prevention” (US DoD Task Force on Mental Health 2007).

The situation requires an urgent response. While the intensity of combat and the number of enemy initiated attacks has fallen since mid 2007, service members continue to struggle with the wounds of PTSD that they acquired earlier in the war and that others continue to acquire. Early intervention and timely rehabilitation is critical to maximizing the long-term health outcomes of the men and women who served in Iraq and Afghanistan.

NCD's study examines evidence based approaches for prevention, diagnosis, and treatment of PTSD, reviews preliminary indications of many new strategies being implemented by VA and DoD, and concludes that the extra attention being devoted to this disability is not only warranted, but has the potential to greatly reduce financial and human costs for all concerned.

NCD recognizes that these issues have been studied by other governmental and professional organizations. This report attempts to augment the recommendations of these previous studies with a focus on barriers to access to care for citizens with disabilities; the importance of early intervention and comprehensive rehabilitation to minimize the long term effects of disability; and the need for continuing consumer involvement both in the rehabilitation of individuals and the oversight of the

implementation of the many policy and service delivery changes needed to effectively address the rehabilitative needs of service members and veterans.

This report is structured as follows in the succeeding sections:

- Section 2 provides a brief description of the demographic composition of the fighting forces and their experiences in the combat theater. Many of these characteristics are associated with an increased risk of PTSD.
- Section 3 describes the symptoms, prevalence and risk factors for PTSD and TBI.
- Section 4 reviews the evidence-based approaches for preventing and treating PTSD and TBI.
- Section 5 reviews the systems that are in place and discusses how they differ from the evidence based approaches described in Section 4.
- Section 6 addresses the issue of service members not availing themselves of all services.
- Section 7 describes special issues affecting the families of service members and the availability of services to address these issues.
- Section 8 presents NCD's recommendations.

In preparing this report, NCD gathered information from scientific journals, professional conferences, commission reports, VA and DoD protocols and regulations, Congressional testimony, newspaper reports, advocacy websites and papers, blogs, on-line support groups, and interviews. These sources represent a range of perspectives including those of DoD and VA leaders, mental health providers, veterans, advocates, parents, and spouses.

Some of the information and recommendations were drawn from the reports of recent task forces and commissions, including the President's Commission on Care for America's Returning Wounded Warriors (the Dole/Shalala Commission); the Task Force on Returning Global War on Terror Heroes (the Nicholson Task Force); the Veterans Disability Benefits Commission; the Department of Defense Task Force on Mental Health; the American Psychological Association's Presidential Task Force on Military

Deployment Services for Youth, Families and Service Members; and, the US Army Surgeon General's Mental Health Advisory Team's annual assessment of needs and survey of deployed troops. A complete list of sources is provided at the end of the report.

Section 2: Background

Iraq has become an incubator for post traumatic stress disorder (PTSD) in the American service members. The combat zone in Iraq has no frontline, no safe zone, and the embattled soldier has little with which to differentiate friend from foe, no warning of when or where the next improvised explosive device will be detonated. It is hardly surprising that we are seeing high rates of depression, PTSD, and other anxiety disorders in service members who have been deployed to Iraq.

Greenburg and Roy, 2007

1. Characteristics of Deployed Forces

The United States has had between 122,000 and 171,000 troops in Iraq and Afghanistan at any one time since major combat operations ended in May 2003 (O'Hanlon and Campbell 2008). Almost 1.6 million American service members have deployed to OIF and OEF, and almost 565,000 have deployed more than once (Veterans for Common Sense 2008).

- 28 percent are guard and reserve (Waterhouse and O'Bryant 2008);
- The average age of an active duty member deployed to Iraq or Afghanistan is 27, and the average age of deployed National Guard or Reserve troops is 33;
- 60 percent of those deployed are married and over half have children;
- 88 percent are male, and 12 percent are female;
- The troops are from diverse racial backgrounds (22 percent African-American, 11 percent Latino, 4 percent Asian, 3 percent other) (Maxfield 2006);
- Half of the 1.6 million service members who have deployed are still in the military (Veterans for Common Sense, 2008); and
- Three-quarters of the forces deployed to Iraq are Army, 15 percent are Marine Corps, and 10 percent are Navy and Air Force (O'Bryant and Waterhouse 2006).

2. Experiences of Deployed Forces

Everyone's experience of deployment is a little different, so it's unfair to cast all experiences in the same mold. People see stories of Infantry guys watching their squadmates die and murdering Iraqi civilians, and assume that I personally have seen levels of Hell of which I have had no taste. Conversely, people read the blogs of career soldiers and Pogues, and perhaps get an image of this place that is a little sunnier than expected. People want to lump our stories into the either/or. All or none. And that's not really fair.

SPC Freeman stationed in Iraq. From his blog "The Calm Before the Sand."

From March 2003 to November 2008, 4,203 American service members were killed in Iraq. Most of the fatalities have been Army soldiers. Forty percent were caused by Improvised Explosive Devices (IEDs), and 30 percent were the result of other hostile fire. Three percent were from car bombs. During intense fighting between May and July 2007, there were 162 insurgent attacks per day with over 75 in Baghdad and Al-Anbar Province alone (O'Hanlon and Campbell 2008)

Many service members are operating under constant threat of death or injury and seeing the violent death of their comrades and others. Enemies and civilians are often indistinguishable, and service members are asked to play dual roles of warrior and ambassador.

Many have been on multiple deployments with relatively little downtime between deployments. Some operations are 24-hours per day with soldiers sleeping an average of only five and half hours per day (US Army Surgeon General 2008). Based on an annual survey conducted by the Army, Soldiers have recently reported a decline in a range of combat exposures. Despite this reduction, the soldiers surveyed continue to encounter intense combat experiences while deployed to Iraq most soldiers have received incoming artillery, rocket or mortar fire. (US Army Surgeon General 2008).

Section 3: Post Traumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI)

1. *What is PTSD?*

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV), the publication that defines the criteria used in diagnosing mental disorder, classifies PTSD as an anxiety disorder that arises from “exposure to a traumatic event that involved actual or threatened death or serious injury” (American Psychiatric Association 1994).

Standing in line at the check out stand the feeling was almost unbearable, like a low electric current was flowing through my body, not enough to hurt but enough to make me really uncomfortable. The people behind me were standing way too close to me, their kid making way too much noise. I thought of the children I had seen in Iraq and how I never saw one cry, even the wounded ones.

*It felt like I was suffocating in the store, near panic, but I was going to maintain, I could do this, JUST BUY YOUR **** AND GET TO THE CAR.*

Just then was when the boy behind me popped the balloon he was playing with.

I was on the floor, clawing at the fake marble colored tiles, attempting to crawl under a magazine rack. I may have yelled INCOMING I don't know but when I came back into my body everyone was looking at me.

A 32-year-old OIF Army Veteran. From his blog “This is Your War II.”

A. **Symptoms**

Symptoms vary considerably from person to person, but the essential features of PTSD include the following (description based on Helpguide 2008):

- *Re-experiencing:* The most disruptive symptoms of PTSD involve flashbacks, nightmares, and intrusive memories of the traumatic event. The veteran may be flooded with horrifying images, sounds, and recollections of what happened. He or she may even feel like it is happening again. These symptoms are sometimes referred to as intrusions, since memories of the past intrude on the present. These symptoms can appear at any time, sometimes seemingly out of the blue. At other times, something triggers a memory of the original traumatic event: a noise, an image, certain words, or a smell.

- *Avoidance/Numbing*: Patients with PTSD may attempt to avoid thoughts or activities that could remind them of the traumatic event. In addition, they may lose their ability to experience pleasure and may seem emotionally “flat” or nonresponsive. They may feel detached or estranged from others. Often, they have a sense of a “foreshortened future” feeling that tomorrow may never exist.
- *Hyperarousal/Hypervigilance*: Individuals with PTSD may feel and react as if they are constantly in danger. This increased arousal may disrupt sleep, contribute to irritability and anger, and impair concentration. Hypervigilance may coexist with an exaggerated startle response.

B. The Science

PTSD has a biological basis. It is associated with a host of chemical changes in the body’s hormonal system, immune system, and autonomic nervous system. Medical research suggests that the intense bursts of brain activity during traumatic experiences may lay down new neural pathways in the brain (Johnson 2005).

Individuals respond to traumatic experiences along a continuum. Most people have a sudden increased arousal and vigilance. This is a “normal stress response” to danger and generally dissipates with time. For some, the symptoms intensify, become chronic, and interfere with their ability to function (Davidson et al. 2004).

The challenge for mental health professionals and the veterans themselves is to recognize the difference between what has been termed “a normal response to abnormal circumstances” and PTSD. While it is important to avoid “pathologizing” normal reactions, it is equally important to identify when these normal stress reactions are likely to lead to functional limitations. Early intervention will reduce the chance that the stress reaction will become chronic PTSD. In addition, if treatment is delayed, veterans may develop unhealthy coping strategies and may damage their relationships and social support network, leaving them very isolated (Hirsell 2007).

The timing of the onset of stress symptoms varies. These symptoms tend to be heightened by events that elicit memories of the trauma such as anniversary dates or noteworthy “time anchors;” media exposure to war zone events; sights, sounds, or

smells that are suggestive of the warzone; certain melodies or lyrics; experiences involving significant losses (such as death of a loved one, etc.); or conflicts with authority (Scurfield 2006).

Some will feel the effects of the trauma while they are still deployed. This is referred to as a combat stress reaction (CSR). Reports from a survey of deployed army revealed that a substantial number of military personnel were experiencing emotional problems during their service in Iraq. For example, 15 percent of those surveyed screened positive for acute stress symptoms and 18 percent screened positive on a combined measure of acute stress, depression, or anxiety. Others may have symptoms immediately upon return from combat, while others may experience a delay of six months to many years, or when they leave the military troops (US Army Surgeon General 2008).

In response to concerns that claims of delayed onset PTSD are attempts to unfairly receive disability compensation, The Institute of Medicine, at the request of the Veterans Benefit Administration, conducted a comprehensive review of the scientific literature and concluded that “considerable evidence suggests that rates of PTSD increase over time following deployment.” (Institute of Medicine and National Research Council 2007)

C. Comorbidity

PTSD usually occurs in conjunction with other psychiatric, behavioral and medical conditions. Several studies have found that more than 80 percent of people who have been diagnosed with PTSD also have a generalized anxiety disorder, social anxiety disorder, major depressive disorder, or one of a range of psychiatric or substance-related conditions. (Institute of Medicine and National Research Council 2007). The conditions may be triggered by PTSD (e.g., many people turn to alcohol and drugs in an attempt to self-medicate the symptoms of PTSD), or preexisting disorders may increase the risk of PTSD.

A growing body of research is finding a link between PTSD and poor physical health. People with PTSD have more adverse health outcomes in a number of domains such as self-reported health, morbidity, health care utilization, and mortality (Institute of

Medicine and National Research Council 2007). Although the psycho-biological mechanism that causes these adverse general medical health outcomes is not well understood, the evidence of the relationship is overwhelming. For example, researchers have found that compared to veterans without PTSD, those with PTSD have substantially higher post-war rates for many chronic conditions including circulatory, nervous system, digestive, musculoskeletal, and respiratory, even after controlling for the major risk factors for these conditions. (Barrett et al. 2002). They also have found shorter average life spans (Boscarino 2005).

D. Functional Difficulties

PTSD can affect an individual's ability to maintain relationships, work, and in some cases, interact with their environment and those around them.

Relationships: Research with Vietnam veterans clearly documents the adverse effects of PTSD on intimate relationships. Vietnam veterans with PTSD are twice as likely as veterans without PTSD to have been divorced and three times as likely to experience multiple divorces. Veterans with PTSD perpetrate domestic violence at greater rates than comparable veterans without PTSD. (American Psychological Association 2007).

Although many couples are able to withstand the stress of PTSD, some military spouses, in their blogs, describe a similar dynamic. The veteran gets anxious and angry over little things, making everyday life for the family incredibly stressful. Compounding the everyday stress, the veteran may feel emotionally numb and “put up a wall,” becoming uninterested in social and sexual activities. The spouse, hurt and stressed, may “snap” at the veteran and the anger escalates as the cycle continues. In other situations, the veteran with PTSD may have a sharp temper or violent streak that scares or angers the spouse.

Work: A diagnosis of war-related PTSD has been linked consistently to poor employment outcomes (Smith et al. 2005). Many symptoms of PTSD can directly affect job performance, such as difficulty concentrating on job tasks, handling stress, working with others, taking instructions from a supervisor, or maintaining reliable attendance.

Interacting with the environment: For people with PTSD, memories may be triggered by sights, sounds, smells, or feelings that remind them of the traumatic event. This reaction may cause them to become isolated.

E. Comorbidity

According to current estimates, between 10 and 30 percent of service members develop PTSD within a year of combat. When one considers a range of mental health issues including depression, generalized anxiety disorder, and substance abuse, the number increases to between 16 and 49 percent (Hoge et al 2004, Milliken et al 2007, Tanielian and Jaycox 2008, US DoD Task Force on Mental Health 2007, Army Surgeon General 2008).

The precise prevalence of PTSD among service members who have returned from deployment to Iraq and Afghanistan cannot be determined at this time. The estimates of probable PTSD are affected by a number of factors including the sensitivity and specificity of the screening instruments used in the study; the time period after combat when the questionnaire or assessment is administered; and response bias among service members who may be reluctant to acknowledge symptoms due to factors such as stigma or fear of impact on their career.

Although estimates vary, all conclude that a significant number of service members and veterans are at risk for various degrees of stress reaction, including for some diagnosable PTSD.

2. What is TBI?

Traumatic brain injury (TBI), also called acquired brain injury or simply head injury, occurs when a sudden trauma causes damage to the brain. TBI can result when the head suddenly and violently hits an object, or when an object pierces the skull and enters brain tissue.

A. Symptoms

Symptoms of TBI can be mild, moderate, or severe, depending on the extent of the damage to the brain. The term “mild TBI” is synonymous with “concussion.” (Hoge et al

2008). A person with a mild TBI may remain conscious or may experience a loss of consciousness for a few seconds or minutes. Other symptoms of mild TBI include headache, confusion, lightheadedness, dizziness, blurred vision or tired eyes, ringing in the ears, bad taste in the mouth, fatigue or lethargy, a change in sleep patterns, behavioral or mood changes, and trouble with memory, concentration, attention, or thinking. A person with a moderate or severe TBI may show these same symptoms, but may also have a headache that gets worse or does not go away, repeated vomiting or nausea, convulsions or seizures, an inability to awaken from sleep, dilation of one or both pupils, slurred speech, weakness or numbness in the extremities, loss of coordination, and increased confusion, restlessness, or agitation (National Institute of Neurological Disorders and Stroke 2008).

Most brain injuries are mild, and many soldiers with mild TBI can recover with rest and time away from the battlefield. However, the military estimates that one-fifth of the troops with these mild injuries will have prolonged—even lifelong—symptoms requiring continuing care (US Army Surgeon General 2008). They may have cognitive issues such as difficulty thinking, memory problems, attention deficits, mood swings, frustrations, headaches, fatigue, or many other symptoms.

B. Prevalence

VA only recently began a widespread TBI screening program and DoD has only recently begun documenting TBIs in each service member's medical record. As a result, neither DoD nor VA can estimate the prevalence of TBIs based on screenings. Based on available survey data, an estimated 11 to 20 percent of service members sustained a mild TBI/concussion while serving in OEF/OIF (US Army Surgeon General 2008, Hoge et al. 2008, Taneilian and Jaycox 2008).

3. *Relationship Between PTSD and TBI*

PTSD and TBI are often addressed together for two reasons. First, the symptoms may be similar, so it is difficult to distinguish between the two injuries. Second, many people with TBI also have PTSD.

Although PTSD is a biological/psychological injury and TBI is a neurological trauma, the symptoms of the two injuries have some parallel features. In both injuries, the symptoms may show up months after someone has returned from war, and in both injuries, the veteran may “self medicate” and present as someone with a substance abuse problem. Overlapping symptoms include sleep disturbances, irritability, physical restlessness, difficulty concentrating, and some memory disturbances. While there are similarities, there are also significant differences. For example, with PTSD individuals may have trouble remembering the traumatic event, but otherwise their memory and ability to learn is intact. With TBI the individual has preserved older memories, but may have difficulty retaining new memories and new learning.

Research indicates that people with TBI are more likely to develop PTSD than those who have not incurred a brain injury (Hoge 2008). Two scientific theories attempt to explain this relationship. First, TBI can damage a person’s cognitive function and hinder their ability to manage the consequences of his or her psychological trauma, thus leading to a greater incidence of PTSD (Bryant 2008). Second, a mild TBI injury in the combat environment, particularly when associated with loss of consciousness, reflects exposure to a very intense traumatic event that threatens loss of life and significantly increases the risk of PTSD (Hoge 2008).

4. Risk Factors for PTSD

Several factors have been shown to increase the risk of PTSD. Some of these factors are particularly common to the deployments in Iraq and Afghanistan, which may account for the high rate of injury among service members and veterans.

A. Characteristics of Deployment

- *Length of deployment*—Numerous studies document a direct relationship between the amount of exposure to combat stressors and the likelihood of eventually developing PTSD (Scurfield 2006).
- *Multiple deployments*—Confirming that the amount of exposure increases risk, the MHAT-V found that soldiers have an increased risk with each additional deployment; 27 percent of soldiers on their third deployment reported serious combat stress or

depression symptoms, compared to 19 percent on their second, and 12 percent on their first deployment (US Army Surgeon General 2008).

- *Violation of expectations*—When deployment length is longer than expected (such as when the length of deployment changes in the middle of the deployment) the rate of PTSD increases (Rona et al. 2007).
- *Sleep deprivation*—Soldiers who report being sleep deprived are at significant risk of reporting mental health issues. It is unclear whether sleep deprivation is a symptom or the cause of mental health issues. In MHAT-V soldiers reported an average of 5.6 hours of sleep, which is significantly less than what is needed to maintain optimal performance (US Army Surgeon General 2008).
- *Inadequate dwell time*—The dwell time, (the time between the end of one deployment and a redeployment) has an important impact on PTSD (Hoge 2008) The optimal minimum dwell time for active duty military is twice the period of the initial deployment (a 1:2 deployment to dwell ratio) and a 1:5 deployment to dwell ratio for National Guard and Reserve troops. (Defense Science Board 2007). Thus, a service member deployed for a year should have at least two years dwell time before being redeployed. Many of the adaptive skills necessary in combat must be "turned off" when service members come home and "turned back on" when they return for their next deployment. Evidence suggests that 12 months is insufficient time to "reset" the mental health of soldiers after a combat tour of over a year (US Army Surgeon General 2008).
- *Types of combat exposure*—Certain "malignant" types of combat exposure also appear to place service members at particular risk. For example, McCarroll et al. (1995) found higher levels of PTSD symptoms in veterans who had handled human remains compared to those who had not.
- *Training*—Service members who feel unprepared for their work in theater and those who perceive the events as unpredictable are more likely to develop PTSD (Iverson 2008). Stress-exposure training, which involves simulations of dealing with dead noncombatants, unconventional combatants, injuries, surprise attacks, and live-fire

actions, can help prevent combat stress reactions in theater by preparing service members in advance for situations they may face in combat (Hosek 2006).

- *Bodily Injury*—Soldiers who sustain bodily injury are more likely to develop PTSD than are soldiers who experienced the same event but were not physically injured (Koren et al. 2005).
- *Military Sexual Assault*—Being sexually assaulted while in military services leads to PTSD in some, generally female, veterans. There is evidence that military sexual assault makes PTSD more likely than does sexual assault occurring before or after military service (Yeager et al. 2006).
- *Unit Cohesion*—Many researchers have found that strong unit cohesion and leadership reduces the risk of PTSD. High levels of unit cohesion seem to increase the resilience of service members to cope with military-related stressors (Brailey et al. 2007). However, for some, high levels of unit cohesion may be seen later as an illusion that has been betrayed, increasing anger and risk of PTSD (Brailey et al. 2007).

B. Personal Factors

Service members process what happens in combat in the context of the rest of their lives. As a result, early childhood adversity, previous trauma, and history of mental illnesses increase the risk of PTSD. Low education, ethnic minority status, younger age, and lower rank are also associated with increased risk (Brewin et al. 2000, Riddle et al. 2007, Iverson et al. 2008).

Two post-deployment factors are associated with an increased risk of PTSD: lack of social support and “life stress” (Brewin et al. 2000).

Section 4: Evidence Based Approaches for Prevention, Outreach, Assessment, Diagnosis, and Treatment

The goal of PTSD interventions is to address the prevention, diagnosis, and treatment of PTSD. In terms of prevention, emphasis must be placed both on minimizing combat stress reactions, and, when they do occur, preventing normal stress reaction from developing into chronic PTSD. Preventing all cases of PTSD, however, is impossible. When cases do arise, assessment and diagnosis leading to timely treatment is crucial. The goal of treatment is not merely to reduce service members' symptoms, but to help them regain the capacity to lead complete lives as full members of their community – to work, to partake in leisure and civic activities, and to form and maintain healthy relationships with their family and friends.

In an attempt to maximize the effectiveness of their treatment programs, DoD, VA, and the broader psychological community have undertaken studies to identify the best practices for treating PTSD. The “gold standards” for identifying best practices are randomized controlled trials (RCT), which are designed to ensure that any changes in the outcome measure can be attributed to the intervention rather than to extraneous factors. Unfortunately, many promising interventions have not been subjected to RCT studies. In this section, we describe best practices based on theoretical frameworks and medical research in addition to evidence from RCTs.

1. *Prevention*

Cognitive fitness and psychological resilience can serve as barriers to developing PTSD. Although no RCT studies exist that indicate how to increase this resilience among service members, VA and DoD developed the following general guidelines based on theoretical frameworks (US Department of Veterans Affairs and Department of Defense 2004):

- Provide realistic training that includes vicarious, simulated, or actual exposure to traumatic stimuli that may be encountered;
- Strengthen perceived ability to cope by providing instruction in coping skills;

- Create supportive interpersonal work environments; and,
- Develop and maintain adaptive beliefs such as confidence in leadership, confidence in the meaningfulness of the work, and knowledge about the transitory nature of most acute stress reactions.

Preliminary evidence suggests that psychological preparation enhances resilience. For example, in a 2007 survey of deployed soldiers, those who received pre-deployment “Battlemind” training described in Section 5 reported fewer mental health problems in Iraq than those who did not receive the training (US Army Surgeon General 2008).

2. Outreach, Assessment, and Diagnosis

A. PTSD

Screening: Early identification of PTSD and other stress reactions is critical. Quickly referring people to treatment can shorten their suffering and lessen the severity of their functional impairment.

The effectiveness of screening remains controversial for two reasons. First, screening troops immediately upon return from combat yields false positives, meaning that screening misidentifies cases that are normal combat stress reactions. Medicalizing and pathologizing these reactions may cause the individual to take on a patient role and symptoms that may normally dissipate over time with rest, relaxation, and social support may persist. (DoD response in US Government Accountability Office May 2006).

Second, people may misrepresent their symptoms based on the situation. For example, service members may not admit to symptoms when they are screened immediately upon return from Iraq because they are eager to get back to their families and know that any indication that they need psychiatric help will delay that process. Service members who plan to remain in the military may hide symptoms so that they can stay with their unit. The benefits of PTSD screening 3-6 months after return from combat clearly outweigh the risks. However, the screening does not identify all cases.

Integrate mental health screening and diagnosis into primary care: Because veterans are likely to seek care for a general medical ailment, the primary care

physician (PCP) may be the first health-care professional to engage an individual with PTSD. In a study of 103,788 OEF/OIF veterans seen in VA health care facilities between 2001 and 2005, almost one-quarter received a mental health diagnosis and most initial mental health diagnoses (60 percent) were made in non-mental-health clinics, mostly primary care settings (US Department of Veterans Affairs, Office of Inspector General 2007).

The PCP can play a critical role in referring someone to care, but the client may not follow through with the recommendations. There are two models for integrating mental health into primary care that can address this problem. The first is a model of co-located collaborative care between a mental health provider and primary care physician. In this model, if the primary care physician believes the patient has PTSD, that same day she or he can refer the patient to a mental health clinician located in the same building. The second approach is a case management model, in which a primary care physician can refer patients to a mental health provider, and a case manager will conduct ongoing phone follow-up to encourage continued engagement in the treatment process and to assist in negotiating needed adjustments in the treatment plan (US Department of Veterans Affairs, Office of Inspector General 2007).

B. TBI

The best time to assess the impact of TBI is immediately after the injury. For severe TBIs, the impact is obvious and the individual is removed from combat as soon as possible. For mild TBI, many soldiers just “shake it off” but may encounter problems later. Of the three approaches to diagnosing mild TBI, all have limitations. For example:

- **Cognitive Evaluations**—TBI may cause cognitive impairments. Thus, it is useful to measure changes in cognitive functioning. A baseline cognitive assessment is needed so that in the event of exposure to an IED or other types of blasts, service members' cognitive functioning right after the injury can be compared to their baseline functioning prior to deployment.
- **Neuroimaging**—For most mild TBI patients, magnetic resonance imaging (MRI) and computed tomography (CT) scans are inconclusive or difficult to interpret (Belanger et al. 2007, Hoge 2008). Other imaging techniques such as functional Magnetic

Resonance Imaging (fMRI), Positron Emission Tomography (PET), and Single Photon Emission Computed Tomography (SPECT) show some promise in detecting mild TBI, but these findings are preliminary (Belanger et al. 2007). Because of their cost, brain scans are not a viable alternative for large scale screenings, but can be useful in some cases.

- **Self-reported History**—Self-reported history of mild TBI/concussion is not well correlated with post-deployment symptoms. Using self reports for screening is likely to result in mislabeling service members as “brain injured” when there are other reasons for their symptoms that may require different treatment (Hoge 2008).

3. Treatment

A. PTSD

Available PTSD treatment can address the primary symptoms of PTSD by helping clients bring under control the vivid re-experiencing of the trauma and the continual re-appraisal of the event so that they can feel better about themselves and their actions. (Brewin 2007). In addition to addressing the symptoms, treatment addresses functional limitations such as relationship and trust issues, anger management, feelings of alienation, sleep disturbances, and other limitations.

In 2004 VA and DoD jointly released a set of clinical guidelines for treating PTSD. The guidelines included individual psychotherapy, group therapy, and pharmacotherapy recommendations based on a review of efficacy studies (US Department of Veterans Affairs and Department of Defense 2004).

1. Individual Psychotherapy

The aforementioned guidelines recommend that the therapist explain to the client the range of available and effective therapeutic options and then the therapist and client should jointly agree on an approach. The guidelines strongly recommend the following four evidence-based practices:

Exposure therapy: The client repeatedly confronts feared situations, sensations, memories, or thoughts in a planned, often step-by-step manner. With repeated,

prolonged exposure to previously feared situations, the fear tends to dissipate. ET usually lasts from 8 to 12 sessions depending on the trauma and treatment protocol.

Exposure therapy may be very intimidating for clients to contemplate and can be time consuming and emotionally wrenching for them to complete. The client may have homework in which they write down a nightmare, script a new ending and read the script repeatedly. During the therapy, the client may begin to have more symptoms before the symptoms begin to subside. Thus, it is important to have a strategy to ensure that the client will continue through the entire therapeutic protocol.

In addition, although exposure therapy is highly successful in reducing the key symptoms associated with PTSD, such as intrusive memories, it does not address other issues such as feelings of detachment from others, excessive anger and feelings of alienation. To treat these, the therapist must draw on other therapeutic approaches.

Cognitive restructuring: The client identifies upsetting thoughts about the traumatic event, particularly thoughts that are distorted and irrational, and learns to replace them with more accurate, balanced views. For example, veterans may feel they are to blame for failing to save a fallen comrade even if they did everything they could. Cognitive restructuring helps them look at what happened in a healthier way.

Stress Inoculation Training: This treatment includes a variety of approaches to manage anxiety and stress and to develop coping skills. The client is taught deep muscle relaxation, breathing control, assertiveness, role playing, thought stopping, positive thinking and self-talk.

EMDR (Eye Movement Desensitization and Reprocessing): EMDR incorporates elements of exposure therapy with eye movements or other forms of rhythmic, left-right stimulation, such as hand taps or sounds. For example, in EMDR the client talks about the traumatic event while visually following the therapist's finger back and forth. Eye movements and other bilateral forms of stimulation are thought to work by "unfreezing" the brain's information processing system and allowing the individual to reprocess the memory.

In 2006, the Institute of Medicine (IOM) concluded that, based on results from RCT, the only proven effective intervention is exposure therapy (Institute of Medicine and National Research 2007). The IOM committee noted that this finding does not mean that exposure therapy is the only therapy that should be used. The committee used very strict criteria for evaluating the studies and recognizes that some interventions may be useful but have not been tested. Additional research on evidence-based interventions clearly is needed.

2. Group Therapy

In group therapy, four to twelve clients are led by a mental health professional and can share their thoughts, find comfort in knowing they are not alone, and gain confidence by helping others resolve their issues. Little research has been done to validate its effectiveness, or to delineate those characteristics of group therapy that lead to improved clinical outcomes. The VA/DoD guidelines recommend that this therapy be done in conjunction with individual therapy (US Department of Veterans Affairs and Department of Defense 2004).

3. Pharmacotherapy

In terms of pharmacotherapy, evidence indicates that certain medications, especially selective serotonin reuptake inhibitors (SSRIs) such as Prozac and Zoloft, are effective at relieving core symptoms of PTSD. The VA/DoD guidelines recommend the use of these and several other medications that have shown some efficacy. They recommend against the use of benzodiazepine and typical antipsychotic drugs such as Chlorpromazine, Haloperidol, and Thioridazine.

B. TBI

According to the Centers for Disease Control and Prevention (CDC), treatment for individuals who have sustained mild TBI may include increased rest, refraining from participation in activities that are likely to result in additional head injury, management of existing symptoms, and education about mild TBI symptoms and what to expect during recovery. For some cases, rehabilitative or cognitive therapies, counseling, or medications might be used. Currently, there are no evidence-based clinical practice

guidelines that address treatment of mild TBI (US Government Accountability Office Feb 2008).

4. *Other Interventions*

A. Family Support

Family support is fundamental to a service member's recovery from PTSD. According to a 2005 DoD survey, 74 percent of DoD active-duty personnel cope with stress by talking to a friend or family member (Bray et al., 2006). While there are no randomized controlled studies documenting the value of this informal support, the evidence that does exist suggests this support is extremely important. Spouses and family members are often the first to recognize when service members require professional assistance and often play a key role in influencing service members to seek help (US DoD Task Force on Mental Health 2007).

Unfortunately, this support is not always available. In fact, the very nature of PTSD works to drive this support away. One of the classic symptoms of PTSD is withdrawal, leading veterans to try to shut out the very family members and friends who could help them alleviate their pain. Veterans may be reluctant to open up because they worry that what they say will upset the family. Sometimes when they do turn to their family members, they find that those relatives are under a lot of stress as well, and may not be able to offer needed support.

Providing support and education to the whole family can go a long way toward effective treatment. Family members must be equipped with the ability to recognize distress, and the knowledge of how and where to refer loved ones for assistance (US DoD Task Force on Mental Health 2007).

Family and relationship problems are a serious concern. For example, in a recent anonymous survey of 532 National Guard members, 292 of whom had recently returned from deployment in Iraq, 36% of the deployed acknowledged relationship problems with spouse, 26% relationship problems with children, and 31% emotional numbness that interferes with their relationships. Rates of problems for those deployed were three times greater than for those not deployed. The Army's Mental Health Advisory Team's

2007 surveys indicated that up to 30% of Soldiers and Marines are considering divorce by the midpoint of their deployment, with rates highest for those in their fourth or fifth deployment (US Army Surgeon General 2008). Furthermore relationship problems are a key factor in the majority of suicidal behaviors among active duty service members (US DoD Task Force on Mental Health 2007).

After returning home, relationship problems are often the first symptoms to come to the fore. It is therefore crucial that access to marital and relationship counseling be free of barriers. Early intervention with relationship problems can reduce the long term social costs for veterans and can serve as a means to bring veterans with more severe problems such as PTSD to the attention of healthcare providers.

DoD and VA might consider developing a formal training course for families similar to the Family to Family Education program hosted by the National Alliance on Mental Illness and should continue to utilize the effectiveness of the Chaplaincy Corps.

B. Peer Support

Empirical evidence and theories of PTSD suggest the importance of social support as a moderator of the effects of trauma. Support from peers who have shared the experience is particularly important. Peers can provide information, offer support and encouragement, provide assistance with skill building, and provide a social network to lessen isolation.

Researchers divide peer support models into three categories: 1) naturally occurring mutual support groups; 2) consumer-run services; and 3) the employment of consumers as providers within clinical and rehabilitative settings (Davidson 1999).

Naturally occurring mutual support groups: Service members who return to garrison after their deployment are naturally surrounded by peers. However, this community of peers may not exist to the same degree for National Guard members and Reservists. They receive a short homecoming briefing and usually have 90 days at home before they report back for weekend training. This separation from other soldiers comes at a time when support and connections with others who are going through the same

emotional adjustments is critical. This separation may account for some of the increased prevalence of PTSD among the Guard and Reserve.

Consumer-run services: A variety of peer consumer run models exist in the community and in the VA system such as: support groups, drop-in centers, consumer-run organizations; warm lines (peer run telephone call-in service for support and information), and internet support groups and message boards. Research on consumer-run services has consistently yielded positive results. For example, participants of self help groups have increased social networks and quality of life, improved coping skills, greater acceptance of mental illness, improved medication adherence, lower levels of worry, and higher satisfaction with health (Solomon 2004).

Consumers as employees: In a peer employee model, individuals with mental illnesses are trained and certified and then hired into positions that are adjunct to traditional mental health services. These positions include peer companion, peer advocate, consumer case manager, peer specialist, and peer counselor. Although these models are relatively new, emerging evidence suggests that adding peer services improves the effectiveness of traditional mental health services (Solomon 2004). In addition, the peer provider can alter the negative attitudes of many mental health consumers toward mental health providers, and of some providers toward consumers. In recent years, the evidence for the efficacy and cost-effectiveness of this practice has grown to the point that the Centers for Medicare and Medicaid Services (CMS) has recently allowed Medicaid reimbursement for services provided by peer specialists, and the military in Canada has recently established the Operational Stress Injury Social Support Program based on a peer support model (Veterans Affairs Canada 2006).

Peers may also be used as outreach workers. Service members or veterans who have been deployed during war need not have PTSD or TBI themselves to understand the barriers to seeking services created by stigma and military culture. These peers can help identify people who need professional interventions and facilitate their entry into treatment.

Peer support services should be part of the array of services available. However, if should not be used as a cost-saving substitute for clinical services. As a means of

insuring quality care, peer services should implement a credentialing process similar to that of clinical services. Both Georgia and New Jersey have been successful in developing credentialing programs for peer support workers.

Consumers aiding in the development and deployment of services: In order for DoD and VA to develop and deploy services that are responsive to the needs of the consumers, consumers with PTSD and TBI must be included in the planning processes. There are many possible mechanisms. VA has initiated a program for local Mental Health Consumer Councils through which veteran consumers of care, their families and representatives meet with local professional and administrative leaders and assist in identifying problems or gaps in service and brainstorming ways to overcome barriers to care. This program is currently operating only in selected medical centers, and is a local option.

C. Web-based Education and Support

The Internet has become a vital resource for information and interventions. It allows service members, veterans, and their families to access resources immediately and anonymously.

Afterdeployment.org: In response to a 2006 Congressional mandate to develop a website for service members, veterans and their families, DoD has recently unveiled www.afterdeployment.org. The site has 12 modules, each of which address a post deployment issue including adjusting to war memories, dealing with depression, handling stress, improving relationships, succeeding at work, overcoming anger, sleeping better, controlling alcohol and drugs, helping kids deal with deployment, seeking spiritual fitness, living with physical injuries, and balancing your life.

DE-STRESS: VA is exploring the effectiveness of melding an internet-based intervention with professional therapy. In the DE-STRESS program (DELivery of Self-TRaining and Education for Stressful Situations), veterans use a web site to access information and complete a series of homework assignments that monitor, manage and treat PTSD symptoms. The work done on the Web site is self-paced and self-directed and takes approximately eight weeks to complete. The web activities are complemented

by either face-to-face meetings or telephone conversations with professional therapists. (Litz et al. 2007).

Other web resources: Websites hosted by a variety of private, nonprofit, and governmental organizations offer easily accessible educational materials such as fact sheets, academic articles, and links to other sources. Two particularly informative sites are VA's National Center for PTSD (<http://www.ncptsd.va.gov>) and Mental Health America's "Operation Healthy Reunion" (<http://www.nmha.org/reunions/info.cfm>).

Online support groups offer veterans a relatively anonymous place to share their questions, concerns, frustrations, and fears and hear reactions from people in similar situations. Several MSN groups have emerged such as Iraq War Wives, Aftermath of War: Coping with PTSD, and Iraq War Veterans.

D. Other Nonmedical Interventions

A variety of other nonmedical interventions have shown some promise, but their efficacy is not fully established. These interventions include acupuncture, exercise, and mindful meditation (Hollifield et al. 2007, Stathopoulou et al. 2006, Chartier 2007).

E. Employment and Housing

Veterans with psychological health issues such as PTSD and TBI are at elevated risk of unemployment and homelessness. In addition, evidence suggests that stable housing and supported employment are effective interventions for mental health rehabilitation (Martinez and Burt 2006, Bond 2004). However, availability of housing and employment supports for veterans with mental health issues is limited.

Employment: Individuals with PTSD and mild TBI may have difficulty holding a job. They may, for example, have difficulty concentrating on job tasks, coping with stress, exhibiting appropriate emotions, or controlling anger. In some cases, the employer can make accommodations such as reducing distractions in the workplace, allowing the employee to play soothing music, and allowing flexible scheduling (Artman and Duckworth 2007). In an effort to increase employment options for veterans, the Department of Labor has initiated the "America's Heroes at Work" campaign to educate

employers on the issues surrounding the employment of veterans with PTSD and TBI and strategies to accommodate their needs (DOL 2008).

In other cases, the employee may need additional support. Although no employment-related interventions have been developed and tested specifically for veterans with PTSD and mild TBI, promising strategies have been established for people with mental illnesses. For example, substantial evidence indicates that supported employment integrated with mental health treatment is effective in placing and maintaining people with mental health issues in competitive employment (Cook et al. 2005). NCD reviewed strategies for increasing employment among people with disabilities in *Empowerment for Americans with Disabilities: Breaking Barriers to Careers and Full Employment* (National Council on Disability 2007).

Housing: VA has multiple programs that provide short-term housing and treatment for homeless veterans including: the Compensated Work Therapy/Transitional Residence Program; the Homeless Veterans Reintegration Program; the Domiciliary Care for Homeless Veterans Program; the Homeless Providers Grant and Per Diem (GPD) Program. The Department of Housing and Urban Development (HUD) also assists homeless veterans through a Supported Housing Program funded jointly by HUD and VA and HUD's Section 8 Voucher Program, which specially designates vouchers for veterans with chronic mental illnesses. VA centers also coordinate with local government and nonprofit agencies to assist homeless veterans (US Department of Veterans Affairs 2008).

In 2007, VA estimated that it had served approximately 300 OEF/OIF veterans in its homeless programs and has identified 1,049 more as being at risk of becoming homeless. The experience of Vietnam veterans indicates that the risk of homelessness increases over time. In a survey conducted in the mid-1980's, more than three-quarters of Vietnam-era combat troops and 50 percent of noncombat troops who eventually became homeless reported that at least ten years passed between the time they left military service and the time they became homeless (Perl 2007).

5. *Holistic Approach*

The Restoration and Resilience Center at Fort Bliss, Texas integrates many techniques described above into one program. The participants are in treatment 35 hours per week for 6-9 months. The treatment includes daily psychotherapy and daily group therapy combined with holistic approaches such as yoga, massage therapy and other nontraditional approaches.

The program also includes a physical component. Participants are required to walk at least 10,000 steps per day, which includes a 45-minute power walk. They also play water polo three times per week, which facilitates their interaction with other people. Throughout the program, the soldiers are also involved in field trips to public places that they might otherwise avoid because they perceive those places as too big, too crowded and too noisy. The soldiers are taught ways to regulate their stress level, so that they can handle the stress of the crowds and noise in these environments.

The program was established in 2007, so its success has not been firmly established. However, early indications are very promising. Among the first set of participants, one-third have graduated and returned to their units, while only two have dropped out and been medically discharged from the Army ("A Soldier's Mind" 2008).

Section 5: Components of the Health Care System

As service members move from pre-enlistment, enlistment, deployment, post deployment, and separation from the military, they face a variety of health care systems including the Department of Defense, the Veterans Health Administration, as well as public and private insurance in the civilian sector. In order to address the needs of all service members and veterans, policy makers must address gaps in all the systems. This section provides a brief overview of the eligibility criteria for each system and the PTSD and TBI services available.

1. Eligibility

Service members (active duty and Guards/Reserves) move through multiple payers and multiple service systems before, during, and after their deployment. At different times they may be covered by Civilian insurance (Medicare, Medicaid, or private insurance), VA, DoD/TRICARE, or they may, at times be uninsured (Exhibit 1).

Exhibit 1: Health Care Coverage for Service Members and Veterans

	Active Duty	National Guard and Reserve
Active Duty- Before Enlistment Guard/Reserve- Before Activation	Civilian insurance (private, public, or uninsured) VA or TRICARE for those who are already veterans	
Active Duty Activated Guard/Reserve*	DoD/TRICARE—For troops stationed on base, care provided in MTF.	DoD/TRICARE—Most care provided by network providers
Deployment	DoD—In-theater support, embedded mental health professionals, chaplains, etc.	
Post Deployment Deactivated Guard/Reserve	DoD/TRICARE Also have access to on-base military chaplains, family support groups, etc.	DoD/TRICARE—180 days of premium-free coverage. May buy additional 18-36 months for \$3,732/yr (\$7,984 for family coverage) ¹

		VA—eligible for enrollment for five years. Once enrolled, eligible for life
After Separation from Military	VA—presumptive eligibility for five years. Ongoing eligibility under certain conditions. Once enrolled, eligible for life. Private Medicare/Medicaid Uninsured TRICARE (under certain circumstances)	VA—presumptive eligibility for five years. Ongoing eligibility under certain conditions. Once enrolled, eligible for life. Private Medicare/Medicaid Uninsured

*Guard and Reserve members are considered “activated” when they are called or ordered to duty for more than 30 consecutive days.

A. Active Duty

All active duty service members and active Guard and Reserve are eligible for health care through DoD. This includes direct services provided in Military Treatment Facilities (MTFs) as well as a managed care plan (TRICARE) that uses civilian sector providers.

B. Veterans

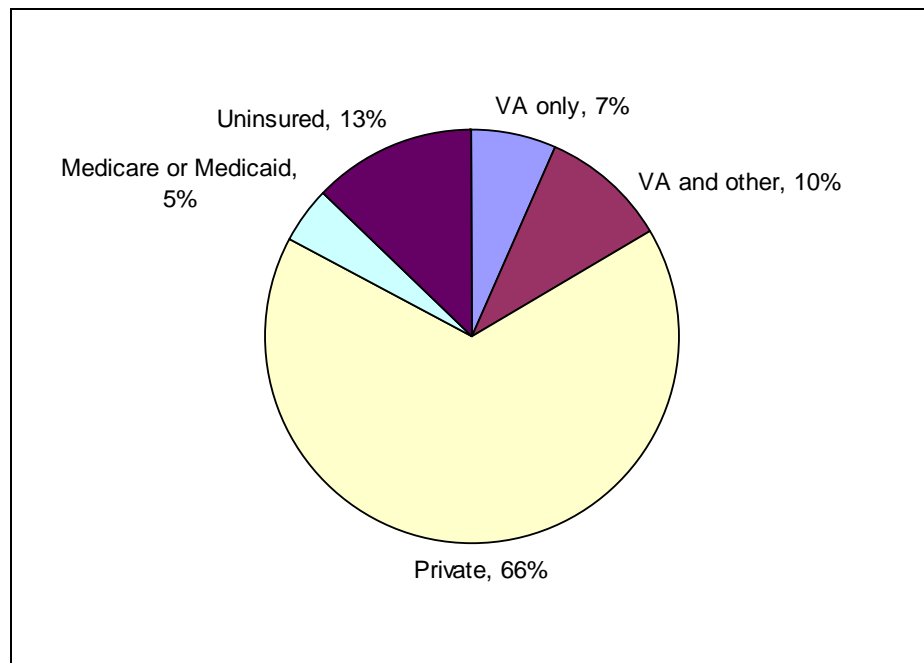
OEF/OIF veterans are automatically eligible for enhanced enrollment in VA health care services for 5 years with no copayments. National Guard and Reserve members who have left active duty and have returned to their units also receive this enhanced enrollment eligibility. At the end of the five years, these veterans can continue to use VA services, but depending on their income and disability status, they may be required to make applicable copayments.

C. Civilian Systems

Among OEF/OIF veterans who are eligible for VA health care, 35 percent used that care as of December 2007 (Veterans for Common Sense 2008). No information exists on the 65 percent that did not use VA services. Some likely relied on civilian coverage and others may have experienced no perceived need for care. Some may have tried to

access VA care, but encountered barriers to accessing services. Others may be unaware of the services that are available. The actual number of eligible OEF/OIF veterans that will use VA services after the 5 year presumptive eligibility period will be determined by service-connected disability ratings and other factors. However, based on an analysis of veterans under 65, it is likely that a significant majority will rely on private insurance and some will be uninsured (Exhibit 2).

Exhibit 2: Health Insurance Status of Veterans Under age 65, 2007



Source: Author's Analysis of the Current Population Survey

Description: Pie chart showing that among veterans under age 65, 17 percent are enrolled with VA (7 percent use VA only, 10 percent use VA in conjunction with other insurance). Most veterans (66 percent) are privately insured and do not use VA, 5 percent are enrolled in Medicare or Medicaid, and 13 percent are uninsured.

2. Department of Defense

DoD provides health care to over eight million beneficiaries, including active duty personnel, and retirees and their dependents. DoD medical health system (MHS) has two missions—readiness and benefits. The *readiness mission* ensures that personnel are ready to deploy, provides medical services and support to the armed forces during military operations, and involves deploying medical personnel and equipment to support

military forces throughout the world. The *benefits mission* provides medical services and support to members of the armed forces, their family members, and others entitled to DoD health care. (US GAO 2007).

DoD’s dual health care mission is carried out through a direct care system that comprises 530 Army, Navy, and Air Force Military Treatment Facilities (MTFs) worldwide. Within the direct care system, each military branch is responsible for managing its MTFs and other activities. Historically, these separate systems are not well coordinated. The services generally fail to cooperate with each other and resist efforts to consolidate their medical departments (US GAO 2007)

DoD also operates a purchased care system that uses civilian managed care support contractors (TRICARE) to develop networks of civilian primary and specialty care providers and to provide other customer service functions, such as claims processing.

Prevention Programs: The Army’s signature prevention program is the mandatory Battlemind training program, which is provided in a large group setting to all Army personnel prior to deployment, and immediately upon return. In the 45-minute pre-deployment program, soldiers about to deploy are told what they are likely to see, hear, think, and feel. The post-deployment program explains the possible impact of deployment on psychological, social-emotional, and behavioral functioning. It explains what is “normal” and provides information about available mental health resources available should service members have difficulties readjusting. The Battlemind program highlights the problems that can occur when the skills needed for effective combat are carried over into the home environment (Exhibit 3).

Exhibit 3: Combat Skills that Can Cause Problems if Not Adapted to the Home Front

Combat Skill	Negative Presentation on the Home Front
Buddies (cohesion)	Withdrawal
Accountability	Controlling
Targeted Aggression	Inappropriate Aggression
Tactical Awareness	Hypervigilance
Lethally Armed	“Locked and Loaded” at Home

Emotional Control	Anger/Detachment
Mission Operational Security (OPSEC)	Secretiveness
Individual Responsibility	Guilt
NonDefensive (combat) Driving	Aggressive Driving
Discipline and Ordering	Conflict

Source: Walter Reed Army Institute of Research 2007

Battlemind has shown some success. The Army's most recent survey of deployed soldiers found that soldiers who received training were less likely to screen positive for mental health problems while in Iraq (12 percent compared to 21 percent). Soldiers that did not screen positive were significantly more likely to agree that (a) the training in managing the stress of deployment was adequate, and (b) the training to identify service members at risk for suicide was sufficient. However, even with Battlemind training, one-third of soldiers were not confident in their ability to help service members get mental health assistance, and 40 percent were not confident in their ability to identify service members at risk of suicide (US Army Surgeon General 2008)

Mandatory Behavioral Health Screenings for PTSD: Beginning in 1998, DoD has required service members to complete a Pre-Deployment Health Assessment (PHA) shortly before deployment and the Post-Deployment Health Assessment (PDHA) immediately after deployment. Recognizing that a service member's symptoms may change over time, DoD recently mandated that the Post-Deployment Health Re-Assessment (PDHRA) be completed six months after the service member returns home.

Military members complete a brief set of screening questions, which are reviewed by a mental health professional. The service member is supposed to be referred for additional services as needed. Although the screenings potentially can identify individuals who need, but do not seek, services, they have significant limitations.

- Implementation of this program varies among military installations, and the reviewing providers may lack the necessary training to detect and address pathology (US GAO May, 2006).

- Referrals are inconsistent. A GAO report found that, four of five returning troops potentially at risk for PTSD, were not referred for further mental health evaluation. Half of those eventually got help on their own, but less than 10 percent were referred through the military (US GAO May, 2006).
- Service members may not accurately report their mental health concerns.

TBI Screenings: DoD admits that it lacks a system-wide approach for proper identification, management, and surveillance of individuals who sustain mild to moderate TBI (English 2007). However, quality pilot programs have been in existence for some time and efforts are underway to make screening universal.

Treatment: In addition to services available through TRICARE (described in detail below), DoD has a variety of programs designed to maintain the psychological readiness of the forces that are administered both within and outside the confines of the Defense Health Program including, for example:

- *Military Treatment Facility:* Installation-level military medical treatment facilities and the larger military medical centers and clinics each develop and implement programs focusing on deployment issues. While there are a number of excellent programs, the availability, coherence, and quality of such programs varies across the system, depending upon the number of mental health professionals assigned to the unit, their training and experience, and command support for behavioral health programs (US DoD Task Force on Mental Health 2007).
- *Military OneSource:* This initiative offers a 24-hour, 7-day-a-week, confidential nonmedical information and referral system that can be accessed through the telephone, Internet, and e-mail. It also offers confidential short-term (up to six sessions per year per problem), face-to-face counseling for nonclinical problems. If care is sought for a clinical problem for which TRICARE provides reimbursement, Military OneSource refers the individual to TRICARE or the nearest MTF.
- *Chaplains:* Military mental health services often are delivered in partnership with services provided by military chaplains. This is especially true in deployed environments where mental health and pastoral services constitute an essential

component of deployment support. Outside of the deployed environment, military chaplains provide marital and individual counseling, and service members may seek out chaplains because issues of stigma may be lessened, and greater assurances of confidentiality may be offered.

- *Substance Abuse Prevention and Treatment.* Each military service has substance abuse prevention and treatment programs.
- *Other Organizations:* A number of other organizations provide direct or indirect support for the psychological health of military members and their families, including Health Promotions Offices, Sexual Assault Prevention and Response Offices, Exceptional Family Member Programs, Suicide Prevention Programs, and Combat Operational Stress Control programs.

This multiplicity of programs, policies, and funding streams provides many points of access to support for psychological health. However, the multiplicity may also lead to confusion about benefits and services, fragmented delivery of care, and gaps in service provision (US DoD Task Force on Mental Health 2007) and cause considerable variation in mental health service delivery among the different bases and military services.

In addition, the military has a shortage of uniformed behavioral health professionals. This shortage is exacerbated by the need to spread these providers between deployed and nondeployed settings, the high turnover rate, and the limited ability to rely on civilian professionals (American Psychological Association 2007). Several commissions and studies—including the DoD Task Force on Mental Health—have concluded that the number of mental health care professionals in the military health care system is too low to meet current needs.

The military is trying to meet this demand for mental health by offering financial incentives to recruit and retain existing psychologists, psychiatrists and other mental health professionals, and by offering expanding internship opportunities for training. Besides bringing on more professionals to active duty, the Army, Navy and Air Force are all hiring professionals as civilian contractors or federal employees.

Psychological Health Services in Theater: Recognizing that isolating mental health professionals in offices or clinics may discourage service members with concerns about the stigma from seeking care, the military has been embedding mental health providers in units. Each branch has developed a slightly different approach but all are based on the theory that keeping service members with their units helps in the recovery process.

The Army has three tiers of care. The first tier is provided by fellow service members or uniformed mental health professionals and chaplains embedded with the troops. In the next tier, the soldier is taken to a “combat stress control unit” for one to three days of rest, hot food, hot showers, clean uniforms and medication if needed. The stress control unit is near the combat unit and can relocate if the combat unit relocates. Soldiers are treated with the expectation that they will feel better in a couple of days and go back to work. An advantage of this approach is that soldiers maintain their identity with their combat unit and leadership. The third tier is a combat support hospital that provides more intensive services. If the issue cannot be resolved in these settings, the soldier is evacuated to Germany or the United States.

The Marines’ Operational Stress Control and Readiness (OSCAR) program matches psychologists, psychiatrists and mental health technicians with Marine regiments in the months before a deployment, continuing during a rotation in Iraq, then back home. The Navy has the “Psychologists at Sea” program that puts Navy psychologists aboard aircraft carriers.

Despite these new programs, access to behavioral health services in theater is limited. Compared to 2006, soldiers reported more difficulty accessing services in 2007. The Army advisory team cites a shortage of behavioral health personnel in Iraq, with one behavioral health provider for every 734 soldiers (US Army Surgeon General 2008).

TRICARE: TRICARE Prime, the health care plan available to active duty service members and activated guard and reserve troops, is similar to a civilian maintenance organization (HMO), where each enrollee is assigned a “gatekeeper” who provides primary care and authorizes referrals for specialty care. Beneficiaries receive care from a Military Treatment Facility (MTF) when available. If services are not available at the MTF, or the enrollee does not live near an MTF, he or she may seek care from a

provider in the TRICARE network—a network of civilian health professionals. A point of service option is also available for care received without a referral, but results in higher out-of-pocket costs.

Although the TRICARE benefit covers outpatient mental health, service members who rely on the TRICARE network often have limited access to services. The DoD Task Force on Mental Health found that many providers on the TRICARE network provider list were not accepting TRICARE patients. A recent GAO survey of Reservists, most of whom had prior experience with private insurance coverage, also highlighted the paucity of available TRICARE network providers. Although the survey did not focus on mental health providers specifically, it found that only 12 percent of Reservists felt that the availability of providers and specialists was better in TRICARE than in the private sector, compared to 50 percent who felt that availability was better in the private sector (US GAO Feb 2007).

While there are some areas where TRICARE seems to be providing an accessible continuum of mental health services, this is not generally the case. With increased deployments of National Guard and Reserve members who have time limited TRICARE coverage for themselves and their families, combined with increasing demand for services from families and retirees and the deployment of mental health professionals who would otherwise be providing services on base, the networks are stretched to their limit. TRICARE has difficulty expanding the network because of low reimbursement rates and fragmented rules (US DoD Task Force on Mental Health 2007).

The DoD Mental Health Task Force determined that the TRICARE continuum of care for mental health services is severely deficient. Intensive outpatient care, one of the most frequently utilized services in private and VA care is not covered at all, substance abuse treatment options are limited, characterized by very poor access, and well below the level offered even by Medicaid. Crucial early intervention services including marital/family counseling and early intervention for hazardous substance misuse are not covered (US DoD Task Force on Mental Health 2007).

Based on recommendations from the DoD Mental Health Task Force, the Secretary of Defense has undertaken efforts to increase staffing, increase recruitment and improve the continuum of TRICARE services.

3. *Veterans Health Administration*

VA operates the nation's largest integrated health care system with over 210,000 employees and a budget of \$37.3 billion. In fiscal year 2007, VA provided health care to approximately 5.6 million veterans at 157 VA Medical Centers and 875 community-based outpatient clinics nationwide (US Department of Veterans Affairs 2008). As of April 2007, over one-third (35 percent) of the 717,000 OEF/OIF veterans, who were eligible for VA services, sought VA care, most commonly for musculoskeletal injuries and mental health issues.

VA has undergone significant positive changes in the past 10-15 years. It has become an integrated system that is, by many measures, producing the highest quality care in the country (Longman 2005).

This improvement can be credited at least partially to the system being decentralized, with treatment being shifted to more outpatient settings. The system is now divided into 21 regional "Veterans Integrated Service Networks" that administer health services and tailor service delivery to local needs and conditions. In addition to decentralization, VA also developed an electronic medical record system (VISTA) heralded as a model for other providers (Frist 2005). These significant improvements notwithstanding, VA continues to face challenges in adapting the current health care delivery to meet the unparalleled incidence of PTSD and TBI in the returning OEF/OIF veteran population.

There is concern that VA is not geographically accessible to all veterans. Approximately 39 percent of veterans reside in rural areas. Although according to VA, over 92 percent of enrollees reside within one hour of a VA facility, and 98.5 percent are within 90 minutes, this includes small community based outpatient clinics, which offer very limited or no mental health services (Cross 2007). Some argue that VA should consider itself the healthcare provider for all veterans and provide services both through VA staffed clinics and where necessary, due to travel time or other factors, through contractual arrangements with local providers.

Vet Centers: In addition to the medical centers and clinics, VA has 209 Veterans Readjustment Centers known as “Vet Centers.” They have a considerable degree of autonomy and thus can tailor services and staffing to meet the specific cultural and psychological needs of the veterans they serve. Although the centers get some support from VA health centers, they are separate entities and guarantee that anything said at the Vet Center stays at the Vet Center. VA is implementing plans to expand the number of Vet Centers to 232 within the next two years.

Every Vet Center has at least one VA qualified mental health professional on staff. In FY 2006, the Vet Center program had 1,066 assigned staff positions of which 159 were outreach specialists and 876 were authorized counseling staff (58 percent of whom were licensed mental health professionals). Vet Centers are generally small, storefront buildings with four or five staff members, two-thirds of whom are veterans (Batres 2007).

One of the distinguishing features of the Vet Center program is its authority to provide services to veterans’ immediate family members. As noted earlier, family participation can be critical to the success of treatment. Therefore, family members are included in the counseling process, to the extent necessary to treat the veterans’ readjustment issues. Veterans’ immediate family members are also eligible for care at Vet Centers. In addition, Vet Centers offer bereavement counseling to surviving family members.

Outreach for OIF/OEF veterans: VA has invested new resources to reach out to OIF/OEF veterans. Hundreds of outreach workers, mostly OIF/OEF veterans have been hired by both the VA medical centers and Vet Centers. These outreach workers and other VA staff members attend all demobilization activities for National Guard and Reserve Units, and attempt to in general make OIF/OEF veterans aware of services and facilitate their use of services.

Screening and Assessment: VA provides screening for mental health issues, including depression, PTSD, and substance abuse in all primary care clinics. Recently VA implemented universal screening for TBI for all OIF/OEF veterans. Patients screening positive on any of the mental health or TBI screens are further evaluated and triaged to treatment as indicated.

Treatment: VA offers a continuum of care for patients with mental disorders but not all types of care may be available to each client. For PTSD each medical center has at least one therapist who specializes in the care of patients with stress disorders. Most have an interdisciplinary PTSD team, and at selected medical centers intensive outpatient, residential or inpatient programming is available. A few medical centers have programs specifically dedicated to female veterans or veterans with comorbid substance abuse. A few of the largest Community Outpatient Clinics offer specialized PTSD care, but most offer only general mental health care, and smaller clinics may offer only primary care.

As noted earlier in this report, analyses of the effectiveness of PTSD treatments including the most recent Institute of Medicine report indicate that the treatments with proven efficacy are intensive and time consuming to administer. They require specialized training for staff and the availability of time to provide them to veterans. VA has struggled to translate the results of these effectiveness studies to widespread clinical practice across the system. Efforts are ongoing, and VA has created a special office to try to improve the translation of evidence based approaches, but they are still unavailable in many locations.

Some locations, particularly smaller clinics rely on “telemental” therapy, in which clients receive treatment from a remote mental health professional using video conferencing. While preliminary research clearly has established that a variety of telemental health modalities are feasible, reliable, and satisfactory for general clinical assessments and care, much less is known about the clinical application and general effectiveness of telemental health modalities employed in the assessment or treatment of PTSD (Morland et al. u.d)

Waiting lists and waiting times: VA recently completed an analysis of gaps in mental health care throughout the system. This analysis underscored the reality that access to services is still unacceptably variable across the VA system, despite considerable augmentation of programming in the past few years. In response VA is beginning to fund additional initiatives to fill these gaps. For example in September 2008 VA announced it was adding substance use disorder clinicians to PTSD teams at a cost of

\$13.3 million per year and that it will provide approximately \$17 million per year to establish Intensive Outpatient Substance Use Disorder Programs at 28 additional medical centers, bringing the total number of facilities with these programs to 105.

4. Private Sector

A large percentage of veterans, Guard members, and Reservists rely on TRICARE or private insurance provided by their own, or their spouse's, employer. As a result, many providers treating these service members are not part of the military or VA system, and may not be familiar with the unique needs of the population.

Relative to active duty families, members of the National Guard and Reserves and their families have limited access to military chaplains, family support programs, and all other parts of the military landscape designed to support psychological health. Unfortunately, community providers may not be sufficiently aware of or sufficiently trained to fulfill their needs (US DoD Task Force on Mental Health 2007).

The military service branches and VA have undertaken efforts to disseminate knowledge and best practices to civilian health professionals. For example, the Center for Deployment Psychology at the Uniformed Services University of the Health Sciences developed a two-week intensive training course and a series of seminars, and is planning to reach out to both military and civilian psychologists, psychology interns and residents.

Private insurance does not guarantee access to quality mental health services. The President's New Freedom Commission on Mental Health identified several obstacles that prevent insured consumers from getting appropriate care in the private sector. These obstacles include unfair treatment limitations and cost-sharing requirements placed on mental health benefits, and a fragmented mental health delivery system (President's New Freedom Commission on Mental Health 2003). As the Institute of Medicine points out in *Improving the Quality of Care for Mental and Substance-use Conditions: Quality Chasm Series* (2006), mental health care is frequently delivered in ways that are not consistent with scientific evidence, and often delivered in isolation from general health care, despite the fact that mental illnesses and general health

problems are frequently intertwined. Patients receive care from multiple physicians, across multiple sites, and in multiple delivery systems. These different entities often fail to coordinate care or share information. This failure to collaborate jeopardizes patients' health and recovery. Collaboration is especially difficult because mental health substance-use problems are often addressed by public-sector programs apart from private-sector general health care.

5. *Nonprofit and Volunteer Organizations*

Numerous nonprofit and volunteer organizations provide creative approaches to reducing PTSD symptoms and helping service members and veterans reintegrate into society. These types of programs could play an important role in encouraging veterans to seek longer-term professional care or in supplementing traditional therapies. For example:

- Organizations such as Give an Hour, Operation Comfort, Strategic Outreach to Families of All Reservists (SOFAR), the Colorado Psychological Association, and The Returning Veterans Project NW provide free counseling services.
- The Wounded Warrior Project has a weeklong adventure program including ropes courses, water sports, and a Native American healing ritual.
- The Valley Forge Return to Honor Workshop offers complimentary three-day intensive cognitive and experiential reintegration workshops.
- The Merritt Center offers complimentary retreat programs that include walks in the woods, sweat lodge ceremony, therapeutic massage, release exercises of body and mind and other relaxation strategies.

Some programs serve a small geographic area, while others are nationwide. Each program performs its own outreach based on its available resources. These programs have no national registry.

Section 6: Barriers to Seeking Care

I served in Baghdad from April 2003 to May 2004... September of 2003 I was sent for treatment ...I met with a Major there a couple of times who put me on three different antidepressants. For those of you who have been there, you know how difficult this is. For one, just the PTSD and Combat Stress Control is a huge stigma that generally isn't viewed too kindly by the chain of command. Add to this the fact that I was an NCO in charge of a combat engineer team who prided themselves in their "sapper" skills.

But the other difficult part is actually getting the antidepressants you were prescribed. For us, there wasn't a pharmacy anywhere nearby; you had to go to the Green Zone.

Lejeune, Chris. From his blog on The VetVoice Diaries.

Researchers have found that among the military service members who have returned from Iraq and Afghanistan and report symptoms of post traumatic stress disorder or major depression, only slightly more than half have sought treatment (Tanielian and Jaycox 2008). Barriers to seeking care fall into two general categories: stigma and access (Hoge et al. 2004).

1. **Stigma**

Three unique types of stigma pose barriers to treatment (Sammons 2005):

Public Stigma refers to the public (mis)perceptions of individuals with mental illnesses. Over half of surveyed soldiers who met criteria for a psychological health problem thought they would be perceived as weak, treated differently, or blamed for their problem if they sought help (Hoge et al. 2004; US DoD Task Force on Mental Health 2007).

Self Stigma refers to the individual internalizing the public stigma and feeling weak, ashamed and embarrassed.

Structural Stigma refers to the institutional policies or practices that unnecessarily restrict opportunities because of psychological health. Service members repeatedly report believing that their military careers will suffer if they seek psychological services. They believe that seeking care will lower the confidence of others in their ability,

threaten career advancement and security clearances, and possibly cause them to be removed from their unit (US DoD Task Force on Mental Health 2007).

The Army has made a concerted effort to reduce the stigma associated with psychological health issues and the efforts seem to have had a positive effect. Based on the Army’s annual survey of soldiers in theater, fewer soldiers who met the screening criteria for a mental disorder report that stigma affected their decision to seek treatment in 2007 than in 2006. However, the levels remain unacceptably high as over half of male soldiers in Iraq who meet the screening criteria were concerned that they “would be seen as weak” and 40 percent believed that their leaders would blame them for the problem (US Army Surgeon General 2008) (Exhibit 4).

Exhibit 4: Perceived Barriers to Seeking Mental Health Services, 2006 and 2007

Factors that Affect the Decision to Seek Mental Health Treatment	2006	2007
I would be seen as weak	53	50
Members of my unit might have less confidence in me	51	45
My leaders would blame me for the problem	43	39
It would harm my career	34	29
It would be too embarrassing	37	34

Source: Data from MHAT-V 2008

2. Access

Even when service members or veterans decide to seek care, they need to find the “right” provider at the “right” time. As described in section 5, this is not always possible. When care is not readily available the “window of opportunity” may be lost.

In contrast to the data collected by DoD on barriers to mental health care, there is currently a dearth of information on barriers to care for OIF/OEF veterans seeking VA care. VA publishes patient satisfaction data, but by definition this data only reflects the views of veterans who have overcome whatever barriers that exist and succeeded in gaining access to care. A feedback loop which includes the systematic collection of data on the perception of consumers about the ease of access to care is crucial to identify and decrease barriers to care. No such mechanism for VA care currently exists.

A recurring survey of a national sample of OIF/OEF veterans, including those who do not currently utilize VA services could identify barriers to care, such as: distance from required specialized services; availability of specified types of service including early intervention services; bureaucratic obstacles to accessing care; user friendliness; clinic hours and policies; perceived stigma and concerns with impact on job or reserve unit status; and lack of information about what services are available.

3. *Additional Issues for Certain Populations*

A. Culturally Diverse Populations

Little attention has been paid to the unique needs of culturally diverse populations with PTSD. Despite high rates of PTSD, African-American, Latino, Asian, and Native American veterans are less likely to use mental health services for several reasons:

Cultural competency of providers: A study of Native American and Latino veterans identified several barriers to VA services: 85 percent felt “VA care-givers know little about ethnic cultures,” and 79 percent felt that “VA care-givers have problems talking with ethnic veterans” (Nugent et al. 2000). Although little research on the issue specifically focuses on veterans, studies in the civilian sector suggest that individuals are more likely to follow through with therapy if the clinician and client are matched ethnically (Norris and Alegria 2005). The scarcity of minority providers makes this unlikely for most nonwhite veterans. In addition, many intervention materials are unknowingly embedded with cultural expectations and unsubstantiated assumptions about such issues as time orientation, social and occupational commitments, family structure, and gender roles.

Stigma: Compared to white veterans, African-American veterans are more likely to feel shame and guilt for their PTSD. Latinos are more likely to believe that asking for help will bring dishonor to their families. These responses are exacerbated because both groups are more likely to feel that a health provider has judged them unfairly (Norris and Alegria 2005).

Linguistic access: Although most service members and veterans are fluent in English, their family members may have limited English proficiency. Given the important role of

families in encouraging veterans to seek services and in locating those services, multilingual outreach and family support is necessary. VA-wide publications such as “VA Benefits” are available in several languages. However, most material, including outreach material, is developed by local or regional VA entities (such as a Vet Center or a VISN), and those entities develop materials in languages other than English at their discretion. The VA Center for Minority Veterans encourages, but cannot require, that materials be available in other languages.

B. Women

Women make up about 10 percent of the US forces in Iraq and Afghanistan. Some of these women have been returning from Iraq not only with combat-related trauma, but also with Military Sexual Trauma (MST). Although estimates vary, between 13 percent and 30 percent of women veterans experienced rape, and a higher percentage experienced some type of sexual trauma over the course of their military careers. The sexual trauma combined with combat trauma makes women far more likely to experience PTSD (Yeager et al. 2006).

The military’s response to individual reports of MST, and the barriers that women face in reporting this trauma, is beyond the scope of this report. VA has established a number of programs to address the impact, including Military Sexual Trauma counseling, Women Veterans Stress Disorders Treatment Teams, and MST centers.

Section 7: Family Issues

There is a child in my life who thinks I am a hero, a point which is certainly debatable. He was simply happy that I returned home in one piece—at least he thought I was in one piece—and ready to start our lives over from the point at which we left off. However, it fast became apparent to him that I am not the same person he knew before I left, and he is confused by that. He wants the "old me" back and so do I. It is painful and disappointing for both of us.

An Army Reservist who returned from Iraq and Kuwait. From her blog "Citizen Soldier Sojack in OIF."

Service members return home to various types of support systems that may include parents, spouses, children, and significant others. These support systems are critical to the well-being of the veteran with PTSD and TBI. However, they are particularly at risk because family members often do not have access to psychological and informational support services. Providing these services is particularly important for several reasons:

- Family members are often the first to identify that the veteran is having difficulty, and are often instrumental in motivating the veteran to seek professional services. In addition, family members provide critical social and emotional support for the veteran, and may relieve some stress by taking care of many of the veteran's day-to-day responsibilities (US DoD Task Force on Mental Health 2007, Hirsell 2007).
- PTSD can create a circular momentum where the service member's PTSD increases the stress in the spouse, which puts stress on the relationship, which then intensifies the PTSD symptoms in the soldier.
- The veteran's PTSD impacts the psychological health of other family members and caretakers. This has important implications for the well-being of these individuals, as well as for their ability to support the service member (Galovski and Lyons 2004).

1. Effect of PTSD/TBI on the Family

More than 60 percent of service members are married, and almost 50 percent have children.

For some, returning from deployment is a joyous experience. For others, reintegrating back into the family is difficult. It is not uncommon that at the beginning both the spouse and service member have unrealistic expectations of a rapid return to “normal.” Both partners soon realize that the service member is not the same as when that service member left and that the family also has changed—spouses have become more independent and developed new routines, and children have gotten older. New family roles and routines must be negotiated (American Psychological Association 2007).

This situation is more challenging for service members who return home with PTSD or depression. The natural tension is exacerbated by the service member’s emotional numbness, their apparent disinterest, their reduced ability to solve problems, and their often violent temper. Studies have shown that veterans with psychological injuries are less sure about their role in the household, and are more likely than others to report feeling like a guest in their own home. Those with PTSD are more likely to report that their children acted afraid, or did not act warmly to them (Sayers 2008).

In some cases parents, spouses, and children display symptoms of PTSD because they are upset by the service member’s symptoms—a phenomenon known as *secondary traumatization*.

Children are at risk for *intergenerational transmission of trauma* and addressing the concern can be delicate. For example, research shows the following (Ochberg and Peabody 2008):

- When a family silences a child, or teaches him/her to avoid discussions of events, situations, thoughts, or emotions, the child's anxiety tends to increase. He or she may start to worry about provoking the parent's symptoms. Without understanding the reasons for their parent's symptoms, children may create their own ideas about what the parent experienced, which can be even more horrifying than what actually occurred.
- Overdisclosure can be just as problematic. When children are exposed to graphic details about their parent's traumatic experiences, they can start to experience their own set of PTSD symptoms in response to the horrific images generated.

- Children who live with a traumatized parent may start to identify with the parent and begin to share in his or her symptoms as a way to connect with the parent.
- Children may also be pulled to reenact some aspect of the traumatic experience because the traumatized parent has difficulty separating past experiences from present.

2. *Services for Family Members*

Despite the challenges that families face, they often have difficulty obtaining mental health services. VA provides support for families only through the Vet Centers described in Section 5. These centers provide some psychological health services and support groups. However, the availability of services varies among the different centers. The VA mental health care system may incorporate marital/family interventions when they are focused on improving relationships and reducing veterans' symptoms, but does not offer services targeted at improving the psychological well being of the spouse and children. Marital counseling or family counseling is not readily accessible at many VA facilities.

DoD provides psychological support for families throughout the deployment cycle through MTFs, TRICARE, and several nonmedical programs. However, access to on-base services is limited. Many mental health professionals and chaplains are deployed at the same time that family members need their services. As a result, family members are often referred to the TRICARE network where it may be difficult to find a therapist who is accepting new patients or who has an available appointment time that is not too far in the future. The Army Task Force on Mental Health found that children had particularly constrained access to clinical treatment services, especially adolescents with substance abuse problems (US Army Surgeon General 2008).

Military bases also have nonmedical support services. The armed services vary in what services they offer and how they overlap and coordinate with on base mental health services. Each unit has a Family Readiness Group (FRG), made up of family members, volunteers, and soldiers, that offers family members access to information and social support.

Military OneSource offers confidential resource and referral services that can be accessed 24-hours per day via telephone, the Internet, and e-mail. OneSource provides confidential family and personal counseling services in local communities across the country, at no cost, for up to six sessions per person per problem.

Paradoxically, although the on-base capacity to support psychological health is reduced during deployment in an effort to devote resources to supporting the health of deployed service members, this reduction contributes to the distress of deployed service members who worry about family members at home who cannot obtain needed assistance. Only 21 percent of soldiers serving in Iraq are satisfied with the type of support the military is providing to their families, and only 22 percent think the Family Readiness Group has helped their family. (US Army Surgeon General 2008).

Section 8: Recommendations

The wars in Iraq and Afghanistan are resulting in injuries that are currently disabling for many, and potentially disabling for still more. They are also putting unprecedented strain on families and relationships, strain that can contribute to the severity of the service member's disability over the course of time. NCD concurs with the recommendations of previous Commissions, Task Forces and national organizations that:

1. A comprehensive continuum of care for mental disorders, including PTSD, and for TBI should be readily accessible by all service members and veterans. This requires adequate staffing and adequate funding of VA and DoD health systems.
2. Mechanisms for screening service members for PTSD and TBI should be continuously improved.
3. The current array of mental health and substance abuse services covered by TRICARE should be expanded and brought in line with other similar health plans

It is particularly critical that prevention and early intervention services be robust. Effective early intervention can limit the degree of long term disability and is to the benefit of the service member or veteran, his or her family and society. Therefore NCD recommends:

4. Early intervention services such as marital relationship counseling and short term interventions for early hazardous use of alcohol and other substances should be strengthened and universally accessible in VA and TRICARE.

Consumers play a critical role in improving the rehabilitation process. There are many opportunities for consumers to enhance the services offered to service members and veterans and their families. NCD recommends:

5. DoD and VA should maximize the use of OIF/OEF veterans in rehabilitative roles for which they are qualified including as outreach workers, peer counselors and as members of the professional staff.

6. Consumers should be integrally involved in the development and dissemination of training materials for professionals working with OIF/OEF veterans and service members.
7. Current and potential users of VA, TRICARE and other DoD mental health and TBI services should be periodically surveyed by a competent independent body to assess their perceptions of: a) the barriers to receiving care, including distance, cost, stigma, and availability of information about services offered; and b) the quality, appropriateness to their presenting problems and user-friendliness of the services offered.
8. VA should mandate that an active mental health consumer council be established at every VA medical center, rather than have this be a local option as is currently the case.
9. Congress should mandate a Secretarial level VA Mental Health Advisory Committee and a Secretarial level TBI Advisory Committee with strong representation from consumers and veterans organizations, with a mandate to evaluate and critique VA's efforts to upgrade mental health and TBI services and report their findings to both the Secretary of Veterans Affairs and Congress.

DoD and VA have initiated a number of improvements but as noted by earlier Commissions and Task Forces, gaps continue to exist.

It is imperative that these gaps be filled in a timely manner. Early intervention and treatment is critical to the long-term adjustment and recovery of service members and veterans with PTSD and TBI. NCD recommends:

10. Congress and the agencies responsible for the care of OEF/OIF veterans must redouble the sense of urgency to develop and deploy a complete array of prevention, early intervention and rehabilitation services to meet their needs now.

As this report indicates, the medical and scientific knowledge needed to comprehensively address PTSD and TBI is incomplete. However, many evidence-based practices do exist. Unfortunately, service members and veterans face a number of barriers in accessing these practices including stigma; inadequate information;

insufficient services to support families; limited access to available services, and a shortage of services in some areas. Many studies and commissions have presented detailed recommendations to address these needs. There is an urgent need to implement these recommendations.

Acknowledgement

The National Council on Disability wishes to express its appreciation to Nanette Goodman for her work in researching and drafting this document, and to Richard A. McCormick, PhD., Daniel Mont, PhD., Laura McDonald, and Shelley Carson, PhD, for their comments on earlier versions of the paper.

References

- A Soldier's Mind (2008, May 14). Fort Bliss Center Using "Holistic" Approach To Treat PTSD. Accessed August 15, 2008. <http://soldiersmind.com/2008/05/14/fort-bliss-center-using-holistic-approach-to-treat-ptsd/>
- Artman, L., and Duckworth, K. (2007). Accommodating Service Members and Veterans with PTSD, Job Accommodation Network's Consultants' Corner. Volume 03, Issue 02. Accessed July 28, 2008. <http://www.jan.wvu.edu/corner/vol03iss02.htm>
- American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*. Washington, DC: American Psychiatric Publishing, Inc.
- American Psychological Association, Presidential Task Force on Military Deployment Services for Youth, Families and Service Members (2007, February). *The Psychological Needs of U.S. Military Service Members and Their Families: A Preliminary Report*.
- Anonymous (2006, Nov 30). "PTSD Salad." From the blog *This is Your War II*. Accessed September 15, 2008, <http://thisisyourwarII.blogspot.com/2006/11/ptsd-salad.html>.
- Barrett, D.H., Doebbeling, C.C., Schwartz, D.A., Voelker, M.D., Falter, K.H., Woolson, R.F. and Doebbeling, D.N. (2002). Posttraumatic Stress Disorder and Self-Reported Physical Health Status Among U.S. Military Personnel Serving During the Gulf War Period A Population-Based Study. *Psychosomatics* 43:195–205.
- Batres, A.R. (2007). Vet Centers Hearing before the Subcommittee on Health of the Committee on Veterans' Affairs. U.S. House of Representatives, 110th Congress. First Session. July 19, 2007.
- Belanger, H.G., Vanderploeg, R.D., Curtiss, G., and Warden, D.L. (2007) Recent Neuroimaging Techniques in Mild Traumatic Brain Injury The Journal of Neuropsychiatry and Clinical Neurosciences. 19:5–20.
- Bond, G.R (2004). Supported Employment: Evidence for an Evidence-Based Practice. *Psychiatric Rehabilitation Journal*. 27(4). 345-60.
- Boscarino, J.A. (2005). Post-traumatic stress disorder and mortality among U.S. Army veterans 30 years after military service. *Annals of Epidemiology*. 16, 1-9.
- Brailey K., Vasterling J.J., Proctor, S.P., Constans, J.I., and Friedman, M.J. (2007). PTSD symptoms, life events, and unit cohesion in U.S. soldiers: baseline findings from the neurocognition deployment health study. *J Trauma Stress* 20(4):495-503.
- Bray, R.M., Hourani, L.L., Omsted, K.L.R., Witt, M., Brown, J.M., Pemberton, M.R., Marsden, M.E., Marriott, B., Schellfler, S., Vandermaas-Peeler, R., Weimer, B., Calvin, S., Bradshaw, M., Close, K., and Hayden, D. (2006). 2005 Department of Defense Survey of Health Related Behaviors Among Active Duty Military

Personnel: A Component of the Defense Lifestyle Assessment Program (DLAP).
North Carolina: RTI.

- Brewin, C. (2007). *Posttraumatic Stress Disorder: Malady or Myth?* London: Yale University Press.
- Brewin C.R., Andrews B., and Valentine, J.D. (2000). Meta-analysis of risk factors for posttraumatic stress disorder in trauma exposed adults. *Journal of Consulting and Clinical Psychology* 68, 748–766.
- Bryant, R.A. (2008). Disentangling Mild Traumatic Brain Injury and Stress Reactions. *New England Journal of Medicine*. 358(5):525-527.
- Chartier, M. (2007). *Implementing Mindfulness in Residential PTSD Care for Veterans: Pilot Data and Lessons Learned*. Presentation to the International Society of Traumatic Stress Studies. Baltimore, Maryland November 17, 2008.
- Citizen Soldier Sojack [pseud.] (2007, Oct 26). "The Realities of Deployment and Readjustment." From her blog *Citizen Soldier Sojack in OIF*. Accessed September 15, 2008.
<http://sojack.blogspot.com/2007/10/realities-of-deployment-and.html>
- Cook, J.A., Lehman, A.F., Drake, R., McFarlane, W.R., Gold, P.B., Leff, H.S., Blyler, C., Toprac, M.G., Razzano, L.A., Burke-Miller, J.K., Blankertz, L., Shafer, M., Pickett-Schenk, S.A., Grey, D.D. (2005) Integration of psychiatric and vocational services: a multisite randomized, controlled trial of supported employment. *Am J Psychiatry*. 162: 1948–1956.
- Cross, Gerald M. (2007). Acting Principal Deputy Undersecretary for Health Department of Veterans' Affairs. *Statement presented before the Subcommittee on Health House Committee on Veterans' Affairs*. 110th Cong., sess 1. April 18, 2007.
- Davidson, L., Chinman, M., Kloos, B., Weingarten, R., Stayner, D., and Tebes, J.K. (1999). Peer Support Among Individuals With Severe Mental Illness: A Review of the Evidence. *Clinical Psychology: Science and Practice*. 6(2):165 – 187.
- Davidson, J.R.T., Stein, D.J., Shalev, A.Y., Yehuda, R. (2004). Posttraumatic Stress Disorder: Acquisition, Recognition, Course, and Treatment. *Journal of Neuropsychiatry and Clinical Neuroscience*. 16(2):135-147.
- Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, Accessed January 21, 2009. <http://www.dcoe.health.mil/About.aspx>
- Defense Science Board, Department of Defense (2007). Deployment of Members of the National Guard and Reserve in the Global War on Terrorism. Accessed July 10, 2008. <http://www.acq.osd.mil/dsb/reports/2007-11-NationalGuardandReserveintheGlobalWaronTerrorism.pdf>
- English, J.T (2007). The U.S Department of Veterans Affairs Fiscal Year 2008 Health Budget Testimony to the House Committee on Veterans' Affairs. February 14, 2007.
- Frist, William (2005). Why we must invest in electronic medical records. *San Francisco Chronicle*. July 24.

- Galovski, T. and Lyons, J. (2004). Psychological sequelae of combat violence: A review of the impact of PTSD on the veteran's family and possible interventions. *Aggression and Violent Behavior, Volume 9, Issue 5, August 2004*, Pages 477-501.
- Greenburg, D.L. and Roy, M.J. (2007). In the Shadow of Iraq: Posttraumatic Stress Disorder in 2007. *Journal of General Internal Medicine. 22:888–889.*
- HelpGuide.org (2008). *Post-Traumatic Stress Disorder (PTSD): Symptoms, Help, Treatment*. Accessed January 29, 2008.
<http://www.helpguide.org/mental/post-traumatic-stress-disorder-symptoms-treatment.htm>
- Hirsel, H.L. (2007). The Resiliency and Resources Approach to Post-Deployment Adjustment of OIF/OEF Veterans. Presentation at the 23rd Annual Meeting of the International Society for Traumatic Stress Studies. November 17, 2007: Baltimore, MD.
- Hoge, C.W., McGurk, D., Thomas, J.L., Cox, A.L., Engel, C.C., and Castro, C.A. (2008). Mild Traumatic Brain Injury in U.S. Soldiers Returning from Iraq. *New England Journal of Medicine. 358(5):453-463.*
- Hoge, C.W., Castro, C.A., Messer, S.C., McGurk, D., Thomas, J.L., Cotting, D.I. and Koffman, R.L. (2004) Combat Duty in Iraq and Afghanistan, Mental Health Problems, and Barriers to Care. *New England Journal of Medicine. 351(1): 13-22.*
- Hoge, C.W. (2008, March). Testimony to the House Committee on Veterans Affairs, Washington DC: April 1, 2008.
- Hosek, J., Kavanagh, J., Miller, L. (2006) How Deployments Affect Service Members. Rand Corporation: Santa Monica, CA.
- Hollifield, M., Sinclair-Lian, N., Warner, T.D., and Hammerschlag, R. (2007) Acupuncture for Posttraumatic Stress Disorder: A Randomized Controlled Pilot Trial. *Journal of Nervous & Mental Disease. 195(6):504-513, June 2007.*
- Institute of Medicine and National Research Council (2007). *PTSD and Military Compensation*. Washington DC: National Academies Press.
- Institute of Medicine, Committee on Crossing the Quality Chasm: Adaptation to Mental Health and Addictive Disorders (2006). *Improving the Quality of Health Care for Mental and Substance-Use Conditions: Quality Chasm Series*. Washington DC: National Academies Press.
- Iverson, A. C., Fear, N.T., Ehlers, Hacker Hughes, J., Hull, L, Earnshaw, M., Greenberg N., Ronal, R., Wessely, S., and Hotopf, M. (2008). Risk factors for post-traumatic stress disorder among UK Armed Forces personnel. *Psychological Medicine. 38, 511–522.*
- Johnson, B. (2005). PTSD: What you need to know. *Military.com—Today in the Military*. <http://www.military.com/opinion/0,15202,79791,00.html>

- Koren, D., Doron, N., Cohen, A., Berman, J., Klein, E.M. Increased PTSD Risk With Combat-Related Injury: A Matched Comparison Study of Injured and Uninjured Soldiers Experiencing the Same Combat Events. *American Journal of Psychiatry*. 162:276–282.
- Lejeune, Chris (2008, March 27). "Antidepressant Use In Iraq." From his blog on *The VetVoice Diaries*. Accessed September 15, 2008.
<http://www.vetvoice.com/showDiary.do?diaryId=874>
- Litz, B.T., Engel, C.C., Bryant, R.A., Papa, A. (2007) A randomized, controlled proof-of-concept trial of an Internet-based, therapist-assisted self-management treatment for posttraumatic stress disorder. *American Journal of Psychiatry*. 164(11):1676-83.
- Longman, P. (2007). *Best Care Anywhere: Why VA Health Care is Better Than Yours*. New America Foundation, PoliPointPress: March 2007.
- Martinez, T.E & Burt, M.R. (2006) Impact of Permanent Supportive Housing on the Use of Acute Care Health Services by Homeless Adults. *Psychiatric Services* 57:992-999.
- Maxfield, B. (2006). *Army Demographics: 2006 Army Profile*. Accessed March 20, 2008.
<http://www.2k.Army.mil/downloads/FY06Tri-Fold.pdf>
- McCarroll, J.E., Ursano, R.J., Fullerton, C.S. (1995). Symptoms of PTSD following recovery of war dead: 13-15 month follow-up. *American Journal of Psychiatry*, 152, 939-941.
- McGough, B (2006, May). *Inside my Broken Skull*. Accessed February 15, 2008
http://www.broken-skull.com/2006_05_01_insidewramc_archive.html
- Milliken, C.S., Auchterlonie, J.L., and Hoge, C.W. (2007) Longitudinal Assessment of Mental Health Problems Among Active and Reserve Component Soldiers Returning From the Iraq War. *JAMA*, 298(18):2141-2148.
- Morland, L., Greene, C., Ruzek, J, and Godleski, L. (u.d). PTSD and Telemental Health. National Center for PTSD Fact Sheet. Accessed July 11, 2008.
http://www.ncptsd.va.gov/ncmain/ncdocs/fact_shts/fs_telemental_health.html
- National Council on Disability (2007). *Empowerment for Americans with Disabilities: Breaking Barriers to Careers and Full Employment*. Accessed July 14, 2008
http://www.ncd.gov/newsroom/publications/2007/pdf/ncd94_Employment_20071001.pdf
- National Institute of Neurological Disorders and Stroke (2008). NINDS Traumatic Brain Injury Information Page. Accessed December 15, 2008
<http://www.ninds.nih.gov/disorders/tbi/tbi.htm>
- Norris, F.H. and Alegria, M. (2005). Mental Health Care for Ethnic Minority Individuals and Communities in the Aftermath of Disasters and Mass Violence. *CNS Spectrums—The International Journal of Neuropsychiatric Medicine*. 10(2):132-140

- Nugent S, Westermeyer J, Canive J.(2000) Assessing Barriers to Mental Health Care Seeking among American Indian and Hispanic American Veterans in Minnesota and New Mexico. *Abstr Acad Health Serv Res Health Policy Meet.*
- Ochberg, F. and Peabody, C. (2008) Post Traumatic Stress in the Military. in *Your Connection to Military Friendly Businesses, Resources, Benefits, Information and Advice.* Edited by the Military Family Network. Virginia: Capital Books.
- O'Bryant, J. and Waterhouse, M. (2006) *U.S. Forces in Iraq.* CRS Report for Congress. Order Code RS22449.
- O'Hanlon, M.E. and Campbell, J.H. (2008, December 11). Iraq Index Tracking Variables of Reconstruction & Security in Post-Saddam Iraq. Accessed September 15, 2008 <http://www.brookings.edu/saban/iraq-index.aspx>
- Perl, L. (2007, May 31). *Veterans and Homelessness.* Congressional Research Service: Report to Congress. RL 34024.
- Presidents New Freedom Commission on Mental Health (2003) *Achieving the Promise: Transforming Mental Health Care in America.* Accessed July 14, 2008. <http://www.mentalhealthcommission.gov/reports/reports.htm>
- Riddle JR, Smith TC, Smith B, Corbeil TE, Engel CC, Wells TS, Hoge CW, Adkins J, Zamorski M, Blazer D (2007). Millennium cohort: the 2001–2003 baseline prevalence of mental disorders in the U.S. military. *Journal of Clinical Epidemiology* 60, 192–201.
- Rona R.J., Fear, N.T., Hull, L., Greenberg, N., Earnshaw, M., Hotopf, M., and Wessely, S. (2007). Mental health consequences of overstretch in the UK armed forces: first phase of a cohort study. *BMJ.* 2007 Sep 22;335(7620):571-2.
- Rowan, A. B., and R. L. Campise.(2006) A multisite study of Air Force outpatient behavioral health treatment-seeking patterns and career impact. *Military Medicine.* 171:1123–1127.
- Sammons, M.T. (2005). Psychology in the Public Sector: Addressing the Psychological Effects of Combat in the U.S. Navy. *American Psychologist.* November: 899-909
- Sayers, S. (2008, March 11). Hearing on Services to the families of wounded warriors. Committee on Veterans' Affairs, US. Senate.
- Scurfield, R (2006). *War Trauma: Lessons Unlearned From Vietnam to Iraq.* New York: Algora Publishing.
- Smith, M., Schnurr, P., and Rosenheck, R. (2005). Employment Outcomes and PTSD Symptom Severity. *Mental Health Services Research.* 7(2): 89-101.
- Solomon, P (2004). Peer Support/Peer Provided Services: Underlying Processes, Benefits, and Critical Ingredients. *Psychiatric Rehabilitation Journal.* (27)4: 392-401.
- SPC Freeman [pseud.], (2007, April 14) "The Problem of Perception." From his blog The Calm Before the Sand. Accessed September 15, 2008 http://calmbeforethesand.blogspot.com/2007_04_01_archive.html

- Stathopoulou, G., Powers, M.B., Berry, A.C., Smits, J.A.J., and Otto, M.W. (2006). Michael W. Otto (2006) Exercise Interventions for Mental Health: A Quantitative and Qualitative Review. *Clinical Psychology: Science and Practice*. 13 (2) , 179–193
- Tanielian, T., and Jaycox, L.H. (2008). *Invisible Wounds of War Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery*. Santa Monica, CA: Rand Corporation. Accessed July 1, 2008. <http://www.rand.org/pubs/monographs/MG720/>
- US Army Surgeon General (2008, February). *Mental Health Advisory Team (MHAT) V: Operation Iraqi Freedom 06-08: Iraq Operation Enduring Freedom 8: Afghanistan*. Accessed July 9, 2008. http://www.Armymedicine.Army.mil/reports/mhat/mhat_v/mhat-v.cfm
- US Department of Defense Task Force on Mental Health. (2007). *An achievable vision: Report of the Department of Defense Task Force on Mental Health*. Falls Church, VA: Defense Health Board.
- US Department of Labor. America's Heroes at Work Program. Accessed January 21, 2009. <http://www.americasheroesatwork.gov/>
- US Department of Veterans Affairs, Office of the Inspector General (2007). Healthcare Inspection: Implementing VHA's Mental Health Strategic Plan Initiatives for Suicide Prevention. Washington DC: VA Office of Inspector General. Accessed March 21, 2008. <http://www.va.gov/oig/54/reports/VAOIG-06-03706-126.pdf>
- US Department of Veterans Affairs (2008, February). FY07 VA Information pamphlet. Accessed March 31, 2008. http://www1.va.gov/vetdata/docs/Pamphlet_2-1-08.pdf
- US Department of Veterans Affairs (2008, May). Homeless Programs & Initiatives. Accessed July 15, 2008. <http://www1.va.gov/homeless/page.cfm?pg=2>
- US Army Walter Reed Army Institute of Research, *Battlemind Training: Continuing the Transition Home*. https://www.battlemind.Army.mil/assets/files/battlemind_training_ii.ppt#444 Continuing the Transition Home Training Timeframe: 3-6 months post-deployment.
- US Government Accountability Office (GAO) (2006, May). Post-Traumatic Stress Disorder: DoD Needs to Identify the Factors Its Providers Use to Make Mental Health Evaluation Referrals for Servicemembers. GAO-06-397
- US Government Accountability Office (GAO) (2006, Mar). Military Disability System: Improved Oversight Needed to Ensure Consistent and Timely Outcomes for Reserve and Active Duty. GAO-06-362
- US Government Accountability Office (GAO) (2007, Feb). Military Health: Increased TRICARE Eligibility for Reservists Presents Educational Challenges. GAO-07-195

- US Government Accountability Office (GAO) (2007, Oct). Defense Health Care: DoD Needs to Address the Expected Benefits, Costs, and Risks for Its Newly Approved Medical Command Structure. GAO-08-122
- US Government Accountability Office (GAO) (2008, Feb). VA Health Care: Mild Traumatic Brain Injury Screening and Evaluation Implemented for OEF/OIF Veterans, but Challenges Remain. GAO-08-276
- US Department of Veterans Affairs, Office of Inspector General (2007) Healthcare Inspection Implementing VHA's Mental Health Strategic Plan Initiatives for Suicide Prevention. Report No. 06-03706-126
- US Department of Veterans Affairs and Department of Defense (VA/DoD) (2004) VA/DoD Clinical Practice Guideline for the Management of Post Traumatic Stress. Accessed July 15, 2008.
http://www.guideline.gov/summary/summary.aspx?ss=15&doc_id=5187
- Veterans Affairs Canada (2006). Operational Stress Injury Social Support (OSISS) Program Accessed December 15, 2008 http://www.vac-acc.gc.ca/clients/sub.cfm?source=mhealth/osi_prog
- Veterans for Common Sense (2008), VA Fact Sheet: Impact of Iraq and Afghanistan Wars. Accessed March 25, 2008. <http://veterans.house.gov/Media/File/110/2-7-08/VA-DoDfactsheet.htm>
- US Army Walter Reed Army Institute of Research, *Battlemind Training: Continuing the Transition Home*. Accessed December 15 <https://www.battlemind.army.mil/>
- Waterhouse, M. and O'Bryant, J. (2008). National Guard Personnel and Deployments: Fact Sheet. Congressional Research Service: Order code RS22451. Updated January 17, 2008. Accessed July 10, 2008.
<http://www.fas.org/sqp/crs/natsec/RS22451.pdf>
- Yeager, D. Himmelfarb, N. Cammack, A. and Mintz, J. (2006) DSM-IV Diagnosed Posttraumatic Stress Disorder in Women Veterans With and Without Military Sexual Trauma. *Journal of General Internal Medicine*. 21:S65–69.