

**CONNECTICUT DEPARTMENT OF MENTAL HEALTH  
AND ADDICTION SERVICES**



**Findings on the Aftereffects of Service in  
Operations Enduring Freedom and Iraqi Freedom  
and  
The First 18 Months Performance of the Military Support Program**

**October, 2008**

**Thomas A. Kirk, Jr., Ph.D.  
Commissioner**

**This report was prepared in response to Section 17a-453d  
of the Connecticut General Statutes.**

*Title page photo: Soldiers from the 10<sup>th</sup> Mountain Division patrol Nuristan Province, Afghanistan. This photo appeared on [www.army.mil](http://www.army.mil).*

October 2008

Dear Friends and Colleagues:

I am pleased to present this report that provides cutting-edge research findings and an overview of the Connecticut Military Support Program (MSP). For some combat soldiers and their families, healing from the effects of war is a long journey. Not since WW II have citizen soldiers been mobilized in such large numbers. The reality of multiple deployments is unprecedented; a practice that research suggests will lead to increased numbers of psychiatric casualties.

This report reflects the remarkable work of the Yale Research Team under Dr. Steven Southwick as well as that of the Central Connecticut State University Team. Their extensive and comprehensive review of national research reinforces the findings of a Connecticut study. These findings stress the resilience to stress among our Citizen Soldiers—those in the National Guard and Reserves. This rich body of research was essential in defining the MSP structure and service models making the Connecticut MSP unique—the first of its kind in the nation.

Administered by the Department of Mental Health and Addiction Services (DMHAS), the MSP's strength is also due in large part to the strong collaboration among its many and diverse partners. These partners extend to academia, notably Yale and Central Connecticut State University research teams; the Connecticut National Guard; the VA Healthcare System, the VA Regional Office Veterans' Benefits Division; Veterans' Readjustment and Counseling Service; Connecticut-based Reserve forces of the Army, Air Force, Marines and Navy; Federal and State Departments of Labor, and the Connecticut Department of Veterans' Affairs. New to the partnership are the Connecticut's Departments of Public Safety and Correction and, soon to join, the Judicial Department. In addition, hundreds of clinicians across the state including counselors, doctors, nurses and community service providers lend their services to MSP.

MSP is built upon the DMHAS behavioral healthcare infrastructure already in place. Initially playing off of DMHAS' emergency response to the post 9/11 terrorist attacks, we have pulled into play a number of established initiatives. The DMHAS treatment system offers "next available bed" to MSP soldiers; the existing DMHAS transportation system provides rides or gas vouchers, as needed; and the Jail Diversion program offers appropriate healthcare alternatives to veterans who are arrested due to behavioral issues brought on by Post Traumatic Stress Disorder. This existing Jail Diversion infrastructure and the strong collaboration among many partners were primary factors in our success in winning a \$5 million federal grant award to offer better alternatives to incarceration for veterans.

Issues related to the trauma of war can subside over time with appropriate healthcare interventions and social supports. We, as a grateful nation, have a responsibility to assure the best available healthcare and support to those we sent to service in our name. We must continue to develop structures that harness and support community involvement in helping returning combat veterans to successfully transition to their post-military lives. Working together with solid, research-based programming, I am confident that MSP will continue to be a vital resource for our Citizen Soldiers and their families.

Sincerely,



Commissioner Thomas A. Kirk, Jr., Ph.D.  
Department of Mental Health and Addiction Services

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b>	<b>5</b>
<b>INTRODUCTION</b>	<b>10</b>
<b>SECTION I: Scientific Research on Traumatic Stress</b>	<b>12</b>
<b>SECTION II: Study of the Behavioral Health Concerns of Connecticut OEF/OIF Veterans</b>	<b>36</b>
<b>SECTION III: The Connecticut Military Support Program</b>	<b>42</b>
<b>SECTION IV: Prescription for the Future</b>	<b>62</b>
<b>CONCLUSION</b>	<b>69</b>
<b>GLOSSARY OF TERMS</b>	<b>71</b>
<b>ENDNOTES</b>	<b>74</b>
<b>APPENDIX A: Health and Psychosocial Correlates of PTSD and Partial PTSD in Soldiers Returning From Operations Enduring Freedom and Iraqi Freedom</b>	<b>80</b>
<b>APPENDIX B: Are Stigma and Barriers to Care Associated With Psychopathology in Soldiers Returning From Operations Enduring Freedom and Iraqi Freedom</b>	<b>102</b>
<b>APPENDIX C: Record of Deployment Health Presentations and National Guard Briefings by MSP Staff</b>	<b>121</b>
<b>APPENDIX D: Department of Mental Health &amp; Addiction Services INFO Brief, “Connecticut Military Support Program,” September 22, 2008</b>	<b>124</b>
<b>APPENDIX E: Connecticut Diversion/Trauma Recovery Program for Veterans</b>	<b>126</b>

## EXECUTIVE SUMMARY

### Operations Enduring Freedom/OEF (Afghanistan) and Iraqi Freedom/OIF (Iraq)

- ✘ To date, 1.65 million American military personnel have served in-theater in the Afghanistan and Iraq Wars.
- ✘ Twelve thousand (12,000) of them are Connecticut residents.
- ✘ Approximately 4,500 members of the National Guard and Reserves—Connecticut’s Citizen Soldiers—have been deployed in Operations Enduring Freedom and Iraqi Freedom.
- ✘ Not since World War II have so many reserve component military personnel been mobilized for war. The now well-established practice of multiple deployments is unprecedented.

### Salient findings and recommendations from a comprehensive literature review of the behavioral health needs of OEF/OIF veterans and their families and from studies accomplished by Yale and Central Connecticut research teams:

#### Screening of OEF/OIF veterans

Studies point to the need for consistent and comprehensive screening to identify OEF/OIF veterans who are experiencing substantial trauma-related symptoms and psychosocial challenges (issues related to home, work, relationships, etc.), but do not specifically meet criteria for Post Traumatic Stress Disorder (PTSD), in order to assure their timely access to care.

**Recommendation 1:** *Screening of all OEF/OIF deployed National Guard and reserve personnel to be conducted on an annual basis in order to identify both PTSD and partial PTSD.*

#### Addressing Stigma and Barriers to Care

Findings suggest that symptoms of traumatic stress are so common that they may be viewed as a predictable response to war. In this regard, stigma may best be challenged by open and honest discussion about the prevalence of psychological consequences of war. It is also important that efforts to educate soldiers regarding deployment health matters be informed by the research findings that barriers to care are likely to decrease with: 1) Enhanced unit support; and 2) Provision of accurate information about the nature and efficacy of new evidence-based, trauma-focused therapies.

**Recommendation 2:** *Informed by the literature and study findings, all deployment health education activities may now focus on normalizing, rather than pathologizing, symptoms caused by combat stress, thereby decreasing stigma and barriers to care as well as provide accurate information regarding the nature and efficacy of treatment.*

### **Assisting Veterans to Access the Care They Need**

The study shows that very few soldiers who are assessed as needing psychological care actually engage in treatment through the referral process.

**Recommendation 3:** *The leadership of the CT National Guard, Major General Thad Martin, and the MSP has agreed to implement a major programmatic initiative to better serve Connecticut guard members and their families by providing access to comprehensive resources within the MSP clinical network. This unprecedented action embeds MSP clinicians into deploying National Guard Units making available immediate, on-sight access to support services throughout the deployment cycle.*

### **PTSD and Alcohol**

Data show increased rates of substance abuse (alcohol) and depression among OEF/OIF veterans with PTSD. Due to recognized tendencies among veterans struggling with PTSD to self-medicate with alcohol, the presence of a substance abuse problem may signal underlying trauma-related problems. The research shows, however, that among those identified as having substance abuse problems, very few actually access care.

**Recommendation 4:** *Soldiers, family members and unit leadership to be informed that excess alcohol use, as well as use of other substance, may be related to underlying symptoms of traumatic stress.*

**Recommendation 5:** *Veterans entering substance abuse treatment services in Connecticut to be evaluated for traumatic stress history, co-occurrence of substance use disorder with PTSD or partial PTSD. Subsequent treatment shall be trauma-informed.*

### **Incorporating New Evidence-Based Therapies**

A review of the literature shows that new evidence-based therapies such as Cognitive Processing Therapy (CPT) are highly effective in treating PTSD.

**Recommendation 6:** *MSP to train a cohort of MSP and DMHAS clinicians in Cognitive Processing Therapy.*

## **Addressing the Needs of Family Members**

The review of the literature and the survey of Connecticut OEF/OIF veterans suggest that a significant number of families and children experience deployment-related stress, additional financial strains, general disruption of family structure, and emotional challenges. Families and children could benefit from behavioral health services, as well as other supportive services pre-deployment, during deployment and post deployment.

**Recommendation 7:** *MSP services currently are solely available to citizen soldiers (National Guard and Reserve) component soldiers and their families. Other OEF/OIF veterans are not eligible for MSP services. MSP should be expanded to include all OEF/OIF veterans and their family members.*

## **The Importance of Community in the Reintegration Process**

Veterans with strong social supports are less likely to develop PTSD. Individuals recovering from mental health conditions benefit greatly when strong psychosocial supports—work, home, learning, social relationships, spiritual life—are incorporated in their individual recovery plans. Community is important in veterans' recovery for it is here that social networks find expression through one's livelihood, learning, housing arrangement and spiritual life. Members of the community – citizens - often ask how they might support returning OEF/OIF veterans and their families. Currently, there is no clear organizational structure to facilitate local citizen involvement in supporting veterans.

**Recommendation 8:** *In partnership with key stakeholders, principally the Connecticut National Guard, the federal VA, Vet Centers, and the Department of Veterans' Affairs, MSP to explore ideas and initiate action steps to foster community involvement in addressing the unique needs of soldiers/veterans and their families.*

## Connecticut Military Support Program: The first 18 months

### The Range of MSP's Behavioral Health Services

- ✘ **Outreach** – specifically focused within the National Guard and Reserve communities
- ✘ **Outpatient Counseling Services** – that are free, confidential, locally available and exclusive to National Guard/Reserve personnel and their families
- ✘ **Community Case Management Services** – to assure timely access to appropriate services
- ✘ **Information, Referral and Advocacy** – to secure the right benefits, right away
- ✘ **Deployment Health Education Services** to military personnel/veterans, family members, state and federal agencies, community-based agencies and citizens
- ✘ **Veterans Representative Training Program** - offered to DMHAS clinicians to improve understanding of the unique clinical needs of OEF/OIF veterans
- ✘ **The Connecticut Military Child Initiative** - to assure that children of deployed parents are universally supported in school settings throughout the state.
- ✘ **The MSP Transportation Program** - statewide transportation consisting of both livery services and gas cards
- ✘ **Recovery Support Services** that include access to an array of deployment health educational materials including books and DVD's, and phone cards

### MSP Program: April 2007 to September 2008

- ✘ 600 National Guard/Reserves members, veterans and their family members served
- ✘ 250 received Outpatient Counseling Services
- ✘ Over 100 soldiers/veterans received assistance in connecting to the VA Connecticut Healthcare
- ✘ 350 veterans and family members benefited from Intensive Community Case Management
- ✘ 400 veterans and family members received Information, Referral and Advocacy Services
- ✘ 50 veterans received MSP Transportation Services

### Lessons Learned

Working closely with partners on the State OEF/OIF Coordinating Committee, MSP has come to appreciate several basic concepts:

- ✘ The “road home” from war zone to civilian life has predictable emotional challenges that *every* returning Combat Soldier must navigate.
- ✘ For some, these challenges may find expression in abuse of substances, driving under the influence (DUI) violations, episodes of family violence, divorce and other problems which can lead to homelessness.
- ✘ Many veterans and family members lack insight regarding symptoms associated with war zone stress and the “road home” process.
- ✘ Most military families are unaware of available resources and efficacy of available clinical supports.
- ✘ Stigma associated with behavioral healthcare is a major barrier to treatment for both soldiers and family members.
- ✘ Given the overwhelming preponderance of psychological symptoms, such as depression, anxiety and PTSD, experienced among returning Combat Soldiers, the homecoming process must be normalized through educational activities supported by open and honest discussion.
- ✘ Along with addressing their significant behavioral health symptoms we must also develop capacity to address their psycho-social needs (i.e., a job, a home, and opportunity for educational accomplishment).

***Healing from war is not possible outside the context of community; successful reintegration can be strengthened by active community involvement.***

***The responsibility of a grateful nation is three-fold:***

- 1) Assure good health and well-being of every returning soldier,***
- 2) Support the military family during the deployment cycle, and***
- 3) Develop social structures that may harness and support the involvement of the community in helping returning combat veterans to excellence in their post-military lives.***

## INTRODUCTION

Within the all-volunteer military, so much is currently being asked of so few. To date, 1.65 million service members have been deployed in Operation Enduring Freedom/OEF (Afghanistan) or Operation Iraqi Freedom/OIF (Iraq) – roughly one-half per cent of all Americans (1). Many have experienced multiple deployments. Now, after 7 years of war, over 33,000 service members have been physically wounded (2), and there is growing concern for the number of OEF/OIF veterans who may return with hidden wounds – psychological problems associated with war zone stress, including post traumatic stress disorder, as well as mild-to-moderate traumatic brain injuries (3-8). Also recognized are the predictable emotional and behavioral problems faced by veterans during their transition from soldier to citizen (3, 4).

Not since World War II have so many reserve component U.S. military units been mobilized for deployment in war. During the Afghanistan and Iraq Wars, roughly 38% of America's in-theater fighting forces have been comprised of National Guard and Reserve members (9). In 2005 nearly 50% of U.S. military in Iraq were reserve component personnel, a level that may be surpassed as the wars continue (10, 11, 12). The frequency and extent of Guard/Reserve units' involvement in today's wars represents a paradigm change. No longer are deployments "once and done" assignments. In the absence of a national draft, meeting troop-level requirements has meant the re-deployment of combat veterans to a war zone (13, 14, and 15). Under the Pentagon's *stop loss* policy, many service members who planned to leave the military upon

completion of their enlistment period have been ordered to stay on for the good of the mission (16, 17, 18, 19). Indeed, it is also common for veterans who have been discharged from active duty and are now on *inactive ready reserve (IRR)* status to be ordered to active duty (20, 21, 22). While stop loss and the recall of IRR personnel are uncommon practices, the latitude to exercise them is provided the Commander-in-Chief in every service member's enlistment contract.

***1.65 million service members have been deployed in Operation Enduring Freedom/OEF (Afghanistan) or Operation Iraqi Freedom/OIF (Iraq)***

Additional data reveal how different today's U.S. military has become. One key difference is the average age of the reserve component military combatant – 33 years old (23).

The typical Vietnam Veteran was 19 during his time *in-country*.

During WWII, he was 26 years old. Another major difference is the number of women being deployed in OEF/OIF. Currently, one-

***Not since World War II have so many reserve component U.S. military units been mobilized for deployment in war.***

in-seven soldiers deployed in Operation Iraqi Freedom are women (24).

The majority of deployed soldiers (53%) are married and their children, of course, are affected by their parent(s) absence(s). Over 700,000 children in America have had at least one parent who was, or currently is, deployed (25). Department of Defense policy once discouraged the deployment of a second immediate family member to a war

zone. Today, simultaneous deployment of both parents is quite common.

As of January 2008, nearly 840,000 U.S. military personnel have been issued discharge papers (DD Form 214) and have left the military since the beginning of hostilities in Afghanistan in 2001 (26). The Department of Defense reports that slightly more than 12,000 Connecticut residents were deployed in OEF/OIF, and of this

***The Connecticut General Assembly adopted legislation to provide transitional behavioral health services to Connecticut's reserve component military personnel and their families.***

number, 4,500, or 38%, were reserve component soldiers (27). Nationally, 39% of veterans with service in Afghanistan or Iraq are enrolled in VA Healthcare (26). Here in Connecticut 4,700, out of a total of 12,000 OEF/OIF Veterans, have enrolled in the federal VA Connecticut Healthcare System, but less than 3,000 actually report to VA for healthcare services (28). A large majority of veterans elect to enroll in non-VA healthcare, and many who have enrolled with VA subsequently choose alternative health coverage options in the months and years following their discharge.

The relatively low number of eligible veterans who actually receive healthcare services from VA is significant because non-VA providers do not conduct comprehensive health screenings (e.g. for Traumatic Brain Injuries and Post Traumatic stress Disorder)

routinely accomplished within VA's primary care settings.

The Connecticut General Assembly adopted legislation (Sec. 17a-453d) to provide transitional behavioral health services to Connecticut's reserve component military personnel and their families to assist them prior to, during, and following deployments in OEF/OIF. The Department of Mental Health and Addiction Services (DMHAS) was assigned the responsibility of administering these healthcare services. Additionally, a prominent, internationally recognized, Yale University-based research team led by Steven Southwick, MD, along with another team from the Center for Health Policy at Central Connecticut State University, contributed to the task of assessing the needs of our newest generation of veterans returning from war. What follows is:

- ✘ An overview of the needs of veterans returning from Operations Enduring Freedom and Iraqi Freedom
- ✘ Key clinical insights contained in the extensive and comprehensive research related veterans' behavioral health conditions that served to inform and define the MSP program as well as increase our knowledge base for effective approaches to partial PTSD and PTSD
- ✘ A report of the work of the Connecticut Military Support Program over the past 18 months
- ✘ A prescription for future programs and services

## SECTION I SCIENTIFIC RESEARCH ON TRAUMATIC STRESS

In this section, we have included a brief review of the published literature on traumatic stress that is relevant to Connecticut OEF/OIF veterans. The review focuses on:

- ✘ A description of post-traumatic stress disorder (PTSD);
- ✘ Epidemiology of PTSD;
- ✘ Co-occurring trauma-related disorders including depression and substance use disorders;
- ✘ Suicidal thoughts and behavior;
- ✘ Psychosocial functioning;
- ✘ Neurobiological contributions to PTSD;
- ✘ Risk and protective factors related to trauma-related psychological disorders;
- ✘ Challenges faced by female veterans, differences between OEF/OIF Active Duty and National Guard/Reserve troops;
- ✘ Longitudinal course of trauma-related disorders;
- ✘ Issues for families and children of OEF/OIF soldiers and veterans;
- ✘ Stigma and barriers to receiving mental health care; and treatments for PTSD including psycho-education, pharmacological treatments and trauma-specific psychotherapies.

In this review we have also described data analyzed from a survey of 557 Connecticut OEF/OIF veterans.

The Connecticut Department of Mental Health and Addiction Services, the Connecticut Department of Veterans Affairs, the Center for Health Policy at

Central Connecticut State University, and the Department of Psychiatry at the Yale University School of Medicine have all made important contributions to this survey and its analysis.

### POST-TRAUMATIC STRESS DISORDER (PTSD)

Psychological stress and trauma can cause or exacerbate a host of psychological symptoms and disorders. The best known of these is PTSD. Accounts of PTSD-like reactions to severe trauma have been recorded since biblical times. While the name used to describe these reactions has changed over time, the symptoms have remained essentially the same.

In 1980, PTSD was formally included in the Diagnostic and Statistical Manual of Psychiatric Disorders Third Edition (American Psychiatric Association, 1980). PTSD-like symptoms are not specific to any one culture or region of the world. These symptoms have been reported after traumas in every corner of the globe.

In order to meet criteria for PTSD, the Diagnostic and Statistical Manual for Psychiatric Disorders requires that “the person has been exposed to a traumatic event in which both of the following were present: (1) The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others and (2) The person’s response involved fear, helplessness, or horror” (American Psychiatric & American Psychiatric Association. Task Force on, 1994).

In addition, the trauma survivor with PTSD experiences symptoms from each of three symptom clusters: [Re-experiencing cluster](#) (repetitive re-experiencing of the traumatic event in the form of intrusive and unwanted memories of the trauma, nightmares and/or flashbacks about the trauma); [Arousal symptom cluster](#) (difficulty modulating arousal as evidenced by insomnia, irritability, angry outbursts, hyper-vigilance, difficulty concentrating, and exaggerated startle response); and [Avoidance symptom cluster](#) (avoidance of stimuli associated with the trauma and a general numbing of emotions with a feeling of detachment from others). When these symptoms cause clinically significant distress or impairment in social, occupational or other important areas of functioning for at least one month the individual may meet criteria for PTSD.

Chronic PTSD is diagnosed if the appropriate constellation of symptoms persists for three months or more. PTSD can be a devastating disorder that markedly impairs the trauma survivor's self-esteem; effectiveness at work; relationship with family, friends and co-workers; physical health; life philosophy/world view; ability to regulate emotions; and capacity to experience peace, happiness and joy.

Some trauma survivors develop many of the symptoms characteristic of PTSD but do not quite meet the formal DSM-IV diagnostic criteria. A number of definitions have been proposed for sub-threshold or partial PTSD. In the National Vietnam Veterans Readjustment Study, veterans were classified as having partial PTSD if they met criteria for Cluster B (Re-experiencing) and criteria for either Cluster C (Avoidance) or Cluster D (Arousal) (Kulka, 1990). They were also classified as having partial PTSD if they met criteria for Cluster B and endorsed at least one symptom from Cluster C and one from Cluster D.

Even though a veteran may not quite meet criteria for full PTSD, he or she may nevertheless find their symptoms to be highly distressing, and experience substantial impairment in family, social and occupational functioning. Partial PTSD has been described in both civilian and veteran populations.

***PTSD and Partial PTSD are commonly seen throughout the world after overwhelming traumas.***

***PTSD is characterized by repetitive re-experiencing of the past trauma in the form of intrusive memories, flashbacks, and nightmares; difficulty regulating arousal as displayed by hypervigilance, irritability, insomnia, anger and exaggerated startle response; and by a numbing of emotions, feeling of detachment and avoidance of traumatic reminders.***

***Both PTSD and Partial PTSD can substantially impair the ability to function in nearly every area of life.***

## **EPIDEMIOLOGY OF PTSD**

Rates of PTSD among combat veterans tend to be high. In a landmark study that was conducted 15 years after the end of the Vietnam War, researchers interviewed 1,632 Vietnam theater veterans and found that 31% of men and 27% of women met criteria for PTSD at some point since returning from Vietnam and that 15% and 9%, respectively, still met criteria for PTSD at the time of the interview (Kulka, 1990).

In a recent reanalysis of this data, these rates have been adjusted from 30.9% to 18.7% lifetime, and 15.2% to 9.1% current (Dohrenwend et al., 2006). Reported rates of PTSD among Gulf War veterans have ranged from 6-10% (Southwick, Morgan, & Rosenberg, 2000).

A number of recent investigations have assessed rates of probable PTSD and other mental disorders in Iraq/Afghanistan veterans. In 2004, Hoge and colleagues reported that between 15.6-17.1 % of Iraq War veterans and 11.2 % of Afghanistan veterans met screening criteria for major depression, generalized anxiety or PTSD (Hoge et al., 2004).

In a later study of 2,863 Iraq war veterans, this research group found that 16.6% of the overall group met criteria for PTSD compared with a pre-deployment rate of 5% (Hoge, Auchterlonie, & Milliken, 2006). Soldiers with physical injuries had an even higher rate of PTSD of 31.8%. Finally, in a longitudinal study of 88,235 OEF/OIF veterans that assessed mental health problems (not including substance abuse) at two time points approximately 6 months apart, Milliken and colleagues found that clinicians identified 20.3% of active duty soldiers and 42.4% of reserve component soldiers whom they believed required mental health treatment (Milliken, Auchterlonie, & Hoge, 2007).

Among OEF/OIF veterans in the Connecticut survey, 21.5% met study criteria for probable PTSD (Goldstein et al; Pietrzak et al.) and 22.3% for probable partial PTSD (Pietrzak et al).

*High rates of PTSD are commonly seen among combat veterans.*

*Partial PTSD is also common among combat veterans.*

*In the Connecticut Survey, rates of PTSD were comparable to those reported in several large Department of Defense Studies.*

*The Connecticut Survey also found high rates of Partial PTSD among OEF/OIF veterans.*

## CO-MORBIDITY

Epidemiological studies in both civilian and military traumatized populations have shown that most survivors who meet diagnostic criteria for PTSD also meet criteria for one or more other psychiatric disorders (commonly referred to as co-morbid disorders) such as major depression or a substance abuse disorder. For example, in the National Co-morbidity Study, a community sample that assessed rates of mental disorders in the general population, 79% of women and 88% of men with PTSD also met criteria for at least one other co-morbid mental disorder (Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Similarly, in the National Vietnam Veterans Readjustment Study of over 3,000 veterans living in the community, 99% of those meeting diagnostic criteria for PTSD also met criteria for at least one other psychiatric disorder sometime during their life (Kulka, 1990). Seventy-three percent of veterans with *PTSD had a lifetime history of substance abuse and 26% a lifetime history of major depression.*

In most studies on the longitudinal course of trauma-related symptoms, *PTSD tends to develop before substance abuse and major depression, suggesting that trauma causes PTSD, but that major depression and substance abuse likely develop as a result of living with and attempting to adapt to the overwhelming symptoms of PTSD.* Although alcohol abuse is more commonly diagnosed in males, major depressive disorder tends to occur equally in males and females as co-morbid diagnoses.

These conditions are in the Diagnostic Statistical Manual of Mental Disorders, Fourth Edition in which “major depressive disorder” is defined as: depressed mood or loss of interest or pleasure in nearly all activities for a period of at least two weeks (American Psychiatric Association, 1994). Other symptoms include, insomnia or hypersomnia; slowed and retarded movement or hyperactive movement; fatigue or loss of energy; significant weight gain or weight loss when not dieting; indecisiveness or difficulty thinking and concentrating; excess or inappropriate guilt or feelings of worthlessness; and recurrent thoughts of death.

*PTSD is not the only psychological disorder that follows traumatic stress.*

The co-morbidity that individuals face adds additional challenges and impairments in functioning, physical health, mental health, and relationships (Tanielian et al., 2008). Recommended treatment approaches also differ depending on presence or absence of co-morbid disorders (Friedman & Southwick, 1995).

In the Connecticut survey of 272 veterans, among those with probable PTSD, the rate of moderate depression (not the same as major depression) increased to 68.8%. Thus, there appears to be a strong association between PTSD and screening positive for moderate depression.

*Many combat veterans with PTSD have other co-existing psychological problems and disorders (Connecticut Survey) that add to their distress and further interfere with their ability to function well at work, at home, and in social settings.*

*Treatment approaches for helping individuals with PTSD often need to be modified if the individual also suffers with another co-existing psychological disorder.*

## **SUICIDE**

Suicide has been of great concern for Iraq and Afghanistan veterans. In a study of patient care data available from the Federal VA that assessed 490,346 OEF/OIF veterans, the overall suicide rate varied little by branch of service and was not significantly elevated compared to the U.S. general population (Kang & Bullman, 2008).

However, historically suicide among military personnel has been lower than the general population, so the present rate may be elevated compared to prewar rates (Kang & Bullman, 1996) (Rothberg, Bartone, Holloway, & Marlowe, 1990). Additionally, it appears that there may be vulnerable subgroups, as rates of suicide were significantly elevated among active duty soldiers and VA patients with mental health disorders.

Further, studies of Vietnam veterans suggest that suicide rates may be highest among veterans with severe psychological or physical war-related trauma (Bullman & Kang, 1996). Of note, a recent Institute of Medicine report from 2007 noted evidence

for increased rates of suicide in the early years after deployment among Vietnam veterans with war-related traumas (Kang & Bullman, 2008). Thus, it appears that suicide is an important concern for OEF/OIF veterans, particularly during the first few years post-deployment and among OEF/OIF those who have experienced severe physical and/or psychological traumas.

*Suicide among combat veterans is an important concern. Published reports suggest that rates of suicide among OEF/OIF soldiers/veterans may be elevated.*

*Vulnerability for suicidal behavior may be increased during the first few years post-deployment.*

## SUBSTANCE ABUSE

Substance abuse is also of major concern among Iraq/Afghanistan veterans. In one report of 120 Iraq/Afghanistan veterans six months after return from deployment, 33% reported problematic alcohol drinking levels (Erbes, Westermeyer, Engdahl, & Johnsen, 2007). This rate is much higher than rates found in active duty personnel and in the general population.

In a far larger study of Iraq/Afghanistan veterans, alcohol problems were reported in 11.8% of Active Duty personnel and 15.0% of National Guard /Reservists (Milliken et al., 2007).

Finally, in a prospective longitudinal study of 48,481 Iraq/Afghanistan veterans who completed a baseline pre-deployment baseline assessment and a post deployment assessment 3 years later, Jacobson found high rates of drinking at both time points. For example, *among Reserve or National Guard personnel, post-deployment prevalence was 12.5% for heavy weekly drinking; 53.6% for binge drinking; and 15.2% for alcohol related problems (Jacobson et al., 2008). New onset rates since the pre-deployment baseline were 8.8%, 25.6%, and 7.1% respectively.*

These figures represented a significantly greater increase in new onset heavy weekly drinking, binge drinking and other alcohol problems among National Guard personnel/ Reservists with combat exposure compared to those who had not been deployed.

The greatest risk for alcohol problems was seen among the youngest members of the

cohort; marines; and soldiers who had previous alcohol or mental health problems, including baseline symptoms of PTSD and/or depression. As noted earlier, a number of studies have shown that the rates of substance abuse tend to be even more problematic in military personnel who meet criteria for combat-related PTSD (Kulka, 1990).

Similar concerns have been reported for cigarette smoking where rates tend to increase during overseas deployment. In a study of 556 British Armed Forces personnel who deployed to Iraq, 29% were regular smokers before deployment which increased to 38% during employment (Boos & Croft, 2004). Further, the average number of cigarettes smoked among pre-deployment smokers increased during deployment from an average of 15 to 21 cigarettes per day.

Rates among non-officers (47%) were higher than among officers (32%), and higher among regular Army personnel (42%) than Reservists (32%). These rates are considerably higher than the general population in which 20.6% of adults (aged 18 years and older) were current smokers in 2006 (American Lung Association, 2008).

Respondents, who started smoking for the first time or increased the number of cigarettes they smoked, reported that boredom, social factors, stress, smoking culture in the Army, and the low cost of cigarettes were all reasons for their new smoking behavior.

There are several potential explanations

*...a number of studies have shown that the rates of substance abuse tend to be even more problematic in military personnel who meet criteria for combat-related PTSD.*

(Jacobson et al., 2008) for increased rates of substance use in military personnel with PTSD. One explanation, for which there is considerable evidence, describes the use of substances as a form of self-medication. Individuals with PTSD who live with chronic and distressing symptoms of exaggerated arousal (including hypervigilance, irritability, insomnia, and exaggerated startle response) often find that central nervous system (CNS) depressants such as alcohol, effectively reduce these symptoms.

For a hypervigilant and sleep deprived Iraq/Afghanistan veteran with PTSD, who repetitively monitors the environment for potential danger and sleeps ‘with one eye open,’ the calming and sedating effects of CNS depressants provide some welcome relief (Jacobson et al., 2008) Unfortunately, the chronic use of these substances can lead to a host of new problems.

In the Connecticut survey, 272 OEF/OIF veterans were asked about their pattern of alcohol use. Among those with probable PTSD, the rate of possible alcohol problems was 50.7%. This data suggest a strong

association between PTSD and problems with alcohol use.

***Very high rates of substance abuse, including tobacco, have been reported in combat veterans, particularly among those with PTSD.***

***Research evidence suggests that substance use often serves as a form of ‘self-medication’ to quiet distressing symptoms of PTSD.***

***Substance use disorders co-occurring with PTSD lead to additional problems with functioning and present additional challenges for treatment.***

## FUNCTION

Living with PTSD affects the way one functions in life. By functioning, many trauma researchers are referring to “the ability to complete tasks or fulfill roles successfully (e.g. work functioning), health status, or levels of satisfaction with particular aspects of one’s life” (e.g. social relationships and home life).

In fact, in order to meet diagnostic criteria for PTSD, the symptoms of PTSD must cause “clinically significant distress or impairment in social, occupational, or other important areas of functioning” (American Psychiatric & American Psychiatric Association. Task Force on, 1994). In the National Co-Morbidity Study, which assessed the prevalence of mental disorders in a nationally representative sample, the estimated rate of PTSD in the U.S. population was 3.5%. PTSD accounted for an average of 3.6 days of work impairment per month, which was similar to level of impairment associated with major depressive disorder (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995).

Other community samples in the U.S. have also reported high levels of functional disability among individuals suffering with PTSD and partial PTSD (Breslau, Lucia, & Davis, 2004; Stein, Walker, Hazen, & Forde, 1997).

The association between poor functioning and PTSD among military veterans has been described as ‘dramatic.’ Functioning may be particularly affected among combat veterans with PTSD because combat typically involves multiple, rather than single,

traumas. In the National Vietnam Veterans Readjustment study, PTSD was associated with greater work impairment; poorer physical health; more medical service utilization; higher rates of marital problems and divorce; more legal difficulties; and greater rates of homelessness (Kulka, 1990).

Numerous studies examining military veteran and civilian trauma survivors have also reported a positive association between PTSD and poor physical health (Dirkzwager, van der Velden, Grievink, & Yzermans, 2007; Jankowski, 2007).

Increased problems with physical health among individuals with PTSD have been reported among WW-II, Korean, Vietnam, Gulf War, and OEF/OIF veterans (Barrett et al., 2002; Hoge, Terhakopian, Castro, Messer, & Engel, 2007).

The association between PTSD and poor physical health appears to be greatest for cardiovascular, gastrointestinal, and musculoskeletal disorders. Individuals with PTSD might

be at increased risk for a variety of physical disorders due to chronic increases in subjective, behavioral, hormonal, and nervous system reactions to stressors and potential threatening stimuli (see section on neurobiology).

A number of studies have also reported impairments in psychosocial functioning among trauma survivors with partial PTSD. Studies in civilian and veteran trauma survivors with partial PTSD have found their levels of impaired psychosocial functioning and quality of life to be intermediate between trauma survivors with no PTSD and those with full PTSD.

*The association  
between poor  
functioning and  
PTSD among  
military veterans has  
been described as  
‘dramatic.’*

In the Connecticut survey, a needs assessment was completed by the entire group of OEF/OIF veterans (including those with PTSD and those without PTSD). Veterans reported needs in five domains: work, financial, family relationships, peer relations and school. They also identified problems related to accessing health care (Goldstein et al).

The Connecticut survey further showed that among OEF/OIF veterans, PTSD and partial PTSD were strongly associated with deficits in functioning. Compared to veterans without either partial or full PTSD, those with partial PTSD reported poorer health, a higher rate of screening positive for mild traumatic brain injury, and greater difficulties in family, relationship, work, and financial functioning. For example, compared to the non PTSD group, those in the partial PTSD group were more likely to report having difficulty connecting emotionally with their family; having problems with their spouse/partner; relating better to veterans than civilians; not sharing interests with civilian friends; not getting along with co-workers; being unhappy with their job; and being unsure how to manage and invest money.

Compared to the non PTSD group, the PTSD group endorsed higher rates of screening positive for mild traumatic brain injury; depression and alcohol use problems; and significantly greater difficulties in family, relationship, work and financial functioning. Overall, there was a 'dose-response' relationship between PTSD symptoms and deficits in self-reported health and psychosocial difficulties in this population of OEF/OIF veterans. Thus, the greater the severity of the PTSD symptoms, the greater the reported problems in health and functioning in this cohort of OEF/OIF veterans. Of note, the partial PTSD and full PTSD groups were more likely than the non

PTSD group to want help for work problems.

*PTSD is known to dramatically impair one's ability to function in nearly every area of life.*

*Partial PTSD has also been associated with significant impairments in functioning among civilians and military trauma survivors.*

*Among Connecticut OEF/OIF veterans financial, occupational, and family needs are greatest among veterans with full and partial PTSD.*

## **RISK FACTORS**

Not all soldiers who serve in war zones develop trauma-related psychological problems. A number of risk and protective factors have been identified among veterans from previous wars and among OEF/OIF veterans. Risk factors are typically classified as pre-war, peri-war (e.g. during the war) and post-war factors. The following risk factors for developing PTSD have been identified from previous wars: pre-war risk factors include female gender, younger age, a pre-combat history of child abuse and/or mental illness, and a family history of mental illness; peri-war risk factors include

degree and severity of traumatic exposure, exposure to atrocities, physical injury, tendency to dissociate and/or panic during combat and degree of unit support; post-combat factors include additional traumas, type of homecoming and degree of social support.

Consistent with evidence from previous wars, a number of risk factors for the development of trauma-related psychological disorders, including PTSD, depression and substance use disorders, have been identified among OEF/OIF veterans. These risk factors include female gender (Hoge et al., 2006), younger age (Boos & Croft, 2004), greater combat exposure (Hoge et al., 2004) (Hoge et al., 2006) (Smith et al., 2008), and war-related physical wounds including traumatic brain injury (Hoge et al., 2006; Hoge et al., 2004; Hoge et al., 2008; Hoge et al., 2007).

Other risk factors for PTSD that have been

associated with the wars in Iraq and Afghanistan include intensity of the soldiers' physical and psychological reaction to the trauma; the feeling that one has lost control; injury or death of a close military comrade; how much one felt that his/her life was in danger; and how much support one got upon returning home (Slone & Friedman, 2008).

***Known risk factors for the development PTSD include:***

- 1. Pre-war factors: female gender, younger age, a pre-combat history of child abuse and/or mental illness, and a family history of mental illness;***
- 2. Peri-war factors: degree and severity of traumatic exposure, exposure to atrocities, physical injury, tendency to dissociate and/or panic during combat and degree of unit support;***
- 3. Post-war factors: additional stressors or traumas subsequent to combat, unsupportive homecoming, and degree of social support.***

## **FEMALE VETERANS**

Today, more than ever, women are playing a larger role in the military. About 14% of the U.S. military troops are female (Slone & Friedman, 2008). Presently, while women are still not allowed in “combat” positions, the nature of the OEF/OIF wars often puts women into the extremely dangerous situations. Additionally, women in the military face unique challenges in a traditionally male environment. These stressors include sexual harassment and military sexual trauma; the possible need to undergo more dramatic role changes than most males upon returning home; and facing stereotypes. Additionally, although women in the general population are more likely to seek treatment than men, this is not true for women in the military who often face additional barriers to care than men do. It is possible that some female veterans resist seeking care because of the pressure to appear as emotionally ‘strong’ as male veterans and/or they may view VA hospitals as places for elderly males. There are some special services for female veterans to receive the treatment they may need and that they deserve, including: websites that address concerns; the VA for Women and the Center for Women Veterans which help to ensure equal and quality healthcare for women and; locally, the Connecticut Federal VA houses a comprehensive Women’s Mental Health Clinic. As women’s roles in the military continue to change, the challenges that they face must continue to be addressed.

- ✘ *Approximately 14% of the U.S. military troops are female.*
- ✘ *OEF/OIF Female military personnel are often exposed to extremely dangerous situations.*
- ✘ *Female veterans face a unique set of challenges including sexual harassment and military sexual trauma.*

## UNIT COMPONENT

Since 2003 a large number of National Guard and Reserve personnel have been mobilized and deployed to Iraq and Afghanistan, sometimes for multiple tours. The demographic characteristics, training, and experiences of these men and women tend to differ from Active Duty military personnel in a number of ways. National Guard/Reservists tend to be older, more are married, and more have children. They also tend to be less completely absorbed in military culture, they generally have non-military related jobs, their military training is usually less complete and more intermittent, and they tend to feel less adequately prepared for combat.

Living at home they do not have access to some of the support systems that are typically found on military bases. Their transition from civilian life to military life in Iraq/Afghanistan is often rapid with relatively little time to adjust. The same is often true when returning home from deployment.

*Furthermore according to a 2007 study, while Active Duty soldiers have complete access to health services, National Guard/Reserves personnel face the added challenge of needing to secure healthcare. Under standard procedures, U.S. Department of Defense health insurance expires 6 months after returning from deployment and VA benefits expire 24 months after return to civilian status (Milliken et al., 2007). This increased difficulty securing health care resources may help to explain why National Guard/Reserves personnel have been reported as having lower health care utilization rates.*

A number of studies have compared rates of PTSD and alcohol use in Active Duty versus

National Guard/Reserve. For example, in a study of 88,235 soldiers, 20.3% of Active Duty and 42.4% of Reserves were identified as being in need of a referral or already being in care for mental health problems and alcohol problems were reported in 11.8% of Active Duty personnel and in 15.0% of Guard/National/Reservists (Milliken et al., 2007).

In some studies, referral rates and actual utilization have been extremely low. Furthermore, in Active Duty soldiers, 11.8 % (6669) endorsed alcohol misuse but only 0.2% (134) were referred and only 29 received services within 90 days (Milliken et al., 2007). In a sample of 31, 885 National Guard and Reserve soldiers, 15 % (4787) endorsed alcohol misuse but only 0.6 % (179) were referred for services (Milliken et al., 2007).

*Since 2003 a large number of National Guard/Reserve troops have been deployed to Iraq and Afghanistan.*

*National Guard/Reserve troops face a unique set of challenges related to training, preparation for war, social support, disruption of career and access to health care.*

## TIME COURSE

Combat stress symptoms are commonly experienced at the time of a trauma or shortly afterward. A high percentage of soldiers experience at least some combat stress symptoms but these symptoms generally dissipate over time and most combat veterans do not develop PTSD.

For those who do develop PTSD, onset of the disorder is usually within months following trauma exposure, although it is possible for symptom expression to be delayed for years. The course of PTSD may be relatively brief or it may be chronic.

Once a trauma survivor has met symptom criteria for at least 3 months, the disorder is classified as chronic, which carries a more guarded prognosis. In some cases the symptoms of PTSD remain relatively constant and severe for long periods of time, while in other cases they may intermittently wax and wane.

In the National Co-morbidity Study, an epidemiologic study of U.S. citizens, PTSD was found to resolve for approximately 60% of cases over the course of a 6 year period. Unfortunately, the other 40% of cases continued to suffer with chronic PTSD.

It appears that some symptoms are more likely than others to decrease over time. For example, in a study of Israeli military personnel, symptoms of re-experiencing and intrusive memories decreased over a 2 year period, but avoidance and emotional numbing symptoms increased.

Thus, although some trauma survivors may

no longer meet criteria for PTSD, they nevertheless may continue to experience the debilitating effects of trauma and live avoidant and emotionally restrictive lives.

## FAMILIES AND CHILDREN

During times of war, attention is typically focused on the psychological and physical wounds of the combat veteran. However, it is estimated that fifty percent of U.S. service members are married and forty-three percent have children (Slone & Friedman, 2008).

With such a large population of families and children, it is important to remember that military families are greatly affected by war, and face a host of unique challenges and stressors. These stressors begin with the anxiety about possible deployment, extend through the period of deployment, and continue after the veteran has returned home.

### *Deployment*

In a study of military families with a spouse or parent who was deployed to Iraq or Afghanistan, Cozza and colleagues reported a number of stressors among family members who had been left behind in the United States (Cozza, Chun, & Polo, 2005). These included the stress of separation from the deployed family member, persistent fear of receiving bad news, limited communication as well as inaccuracies and delays in information about safety, injury and possible death, a general disruption of family structure, a reduction in social support for the family, added stress associated with assuming new family, household, and occupational roles, increased

*A high percentage of soldiers experience at least some combat stress symptoms but these symptoms generally dissipate over time and most combat veterans do not develop PTSD.*

financial strains; and increased rates of depression and anxiety among family members, including children.

### ***Injury or Illness***

Physical injury and psychiatric illness greatly impact the veteran's family (Cozza et al., 2005). Initially the family may receive incomplete or inaccurate information which leads to increased anxiety and fear. Then, depending on the nature of the injuries/illness, the family may need to travel to the hospital and children may need to be excused from school in order to visit their injured parent. In some cases, when the veteran returns home, he/she may have significant physical, cognitive and/or emotional limitations that require care from family members, which further disrupts family structure and alters family member responsibilities.

Additionally, the injured veteran may worry that his/her family will view them differently because of their injury/illness.

### ***Death***

Before and during deployment, families worry about potential injury and death of their loved one. These worries are magnified when they read or hear about the injury or death of other service members in Iraq and Afghanistan. Of course, families are deeply affected if the veteran is actually killed. The remaining family members typically report feelings of disbelief, overwhelming loss, intense sadness, grief and sometimes anger.

The psychological consequences are particularly complicated given the intentional and often brutal nature of the death (Cozza et al., 2005). It is not surprising that children who experience war-related death of a parent are at increased risk for developing psychiatric illness or other behavioral or emotional problems. This is especially true if the living spouse becomes psychologically impaired as a result of the veteran's death.

***It is not surprising that children who experience war-related death of a parent are at increased risk for developing psychiatric illness or other behavioral or emotional problems.***

It is well known the magnitude of a child's response to trauma is directly related to the magnitude of his/her parent's response. The more symptomatic the parent becomes, the more symptomatic the child tends to become.

Sometimes the remaining spouse is so distraught that he/she is temporarily unable to care for the child. Further, after death of the veteran, most families will move away from the base to be closer to other living family members. While such a move tends to increase family support, it can also be very disruptive because the living spouse and children leave the life they know, the friends they love and the support of the military community.

### ***Return Home***

Upon returning home, the veteran and his/her family face numerous challenges. After living through combat in another culture and in another area of the world, the veteran may feel 'lost' in American civilian life. He/she may feel like an outsider.

The veteran may experience a numbing of emotions and find it difficult to connect with

family members and friends. This numbing may be experienced as rejection by family members.

Commonly, family members expect the veteran to be the same person they knew before deployment, but the veteran may have changed and have a new set of priorities and world views. Some veterans will be hypervigilant, more easily startled, and overprotective of family members. This may be difficult for family members to understand. Particularly if the veteran has been injured and is unable to work, there may be new financial responsibilities and high medical costs (Fikretoglu, 2008).

Psychological symptoms related to combat stress may place an additional strain on relationships. The National Vietnam Veterans Readjustment Study found that male veterans with PTSD experienced more numerous and severe relationship problems; greater parenting problems; more intimate partner violence and generally poorer family adjustment than veterans without PTSD (Kulka, 1990).

Rates of divorce were twice as high in veterans with PTSD compared to veterans without PTSD. Other research has reported that veterans with PTSD experience higher rates of failed marriages within 6 months of returning from deployment (Fikretoglu, 2008).

Partners of veterans with PTSD also carry a heavy burden that is directly related to the severity of the veteran's PTSD. Partners of veterans with PTSD have been reported to have lower happiness and life satisfaction ratings, as well as higher levels

of demoralization (Fikretoglu, 2008)

### ***Interpersonal conflict and violence***

In the study of 88,235 Iraq returnees, Millikan et al. found that *those on active duty rated prevalence of interpersonal conflict at 3.5% immediately after returning from Iraq and then 6 months later rated interpersonal conflict at 14% (Milliken et al., 2007). Even more alarming rates were reported by National Guard and Reserve members who endorsed interpersonal conflict at 4.2% and then 21.1% at the 6 month reassessment.* In addition, the severity of aggressive behavior in veterans has generally been associated with the severity of PTSD (Monson & Taft, 2005).

### ***Coping and Intervention***

When treatment for PTSD is successful, arousal is decreased which tends to decrease violence and numbing, which, in turn, may lead to increased intimacy (Armstrong, Best, & Domenici, 2006; Slone & Friedman, 2008). Milliken and colleagues note that while stigma deters many soldiers from accessing mental health care, spouses are often more willing to seek care for themselves or for their soldier-partner (Milliken et al., 2007).

Thus, even as spouses are facing numerous challenges, they may be instrumental in helping veterans to access help. However, presently, spouse-initiated mental health treatment is limited. The issues of families needing to access mental health care for themselves and for their partner-veterans are

***Commonly, family members expect the veteran to be the same person they knew before deployment, but the veteran may have changed and have a new set of priorities and world views.***

of concern to the U.S. Department of Defense.

It is important to note that the numbers of parents, siblings, relatives, spouses, children and partners that are affected by war is enormous. For example, over 1 million children in America have had at least one parent who has been or currently is, deployed in Iraq or Afghanistan. The impairments and difficulties that families and children experience during and after war may extend the consequences of combat experience across generations (Tanielian et al., 2008).

*Military families are greatly affected by all stages of war and the burden that they carry is significantly related to the severity of PTSD in their veteran.*

*Additionally, while military families may play a key role in helping veterans to access healthcare, the resources to serve families are highly overburdened.*

## NEUROBIOLOGY

Over the past 30 years it has become clear that PTSD is a neurobiological disorder as well as a psychological disorder. Numerous neurobiological alterations or abnormalities in the brain and peripheral nervous system have been reported in individuals with PTSD. The most extensively studied

alterations have involved the body's primary stress response systems, the hypothalamic-pituitary-adrenal axis (HPA-axis) and the sympathetic nervous system (Yehuda, 2002) (Southwick et al., 1999).

Under conditions of danger, the brain activates numerous brain regions, neurotransmitters and hormone systems that work in parallel to protect the organism.

*...for many traumatized individuals with PTSD, the brain and nervous system appear to be responding as if a potential danger is still present, even though the danger and trauma are in the past.*

This response generates vigilance, fear, and behavioral fight or flight responses. Although the acute neurobiological response to stress protects the individual, if the stress response remains activated for excessive periods of time, it may actually cause damage to the body and brain (Supulsky & McEwen).

In fact, in some cases, the stress response may cause more damage to the individual than the stressor itself. The stress response is most toxic when it is unremitting, and when the individual has difficulty shutting it off.

Among groups of individuals with PTSD, alterations have been reported at multiple levels of the HPA-axis. For example, two separate research teams have found elevated cerebrospinal fluid levels of corticotrophin-releasing factor, the brain's primary trigger for the stress response, in the spinal fluid of

combat veterans with chronic PTSD (Bremner et al., 1997).

Numerous alterations of the sympathetic nervous system have also been reported in combat veterans and civilians with PTSD. These include exaggerated increases in heart rate, blood pressure, adrenalin, and noradrenalin in response to memories of personally experienced traumas that are recalled during laboratory research protocols; elevated 24-hour plasma noradrenalin; and elevated 24-hour urine excretion of adrenalin and noradrenalin (Southwick et al., 1999; Southwick, S.M., Davis, L., Aikins, D.E., Rasmusson, A., Barron, J., & Morgan, C.A., 2007).

Some of these abnormalities, particularly elevated adrenalin and noradrenalin, have been found even many years after combat among WW-II, Korean and Vietnam veterans diagnosed with PTSD.

Taken together, the findings related to exaggerated HPA-axis and SNS functioning in individuals with PTSD suggest that these two major stress response systems may be sensitized in many individuals with PTSD. Systems that are sensitized tend to respond to stress in an exaggerated manner (Southwick et al., 2007).

These findings are consistent with a model of PTSD where the brain's fear circuitry is

responding in an exaggerated manner to potentially threatening stimuli.

In summary, for many traumatized individuals with PTSD, the brain and nervous system appear to be responding as if a potential danger is still present, even though the danger and trauma are in the past.

***It is well known from animal and human research that high levels of uncontrollable stress and trauma are strongly associated with alterations and abnormalities in responsivity of the nervous system, stress hormones and behaviors related to fear. PTSD is in large part a neurobiological disorder related to exaggerated responses to fearful stimuli.***

Although high rates of mental health problems have been reported among soldiers returning from Operations Enduring and Iraqi Freedom (OEF/OIF), stigma and barriers to receiving mental health care appear to be elevated in this population. Of concern is the recent finding that Iraq/Afghanistan veterans who screened positive for a probable mental health condition were twice as likely, compared to those who did not screen positive, to show concerns related to stigma and increased barriers to care.

The problem of stigma and barriers to receiving mental health care is not unique to the military. It has been estimated that approximately 10 million Americans meet criteria for a serious mental illness, but that only 50-60% of these individuals receive treatment.

Failure to seek needed mental health care appears to be greatest among young males. In a study of college students, Davies and colleagues found that men in their study population had been socialized to be independent and often attempted to conceal their vulnerabilities (Davies et al., 2000). Other researchers have reported similar findings among young civilian men noting traditional societal roles that value restricted emotionality, competition, control, a sense of invulnerability or immunity, and power.

A report by the Center for Military Health Policy and Research notes that several barriers to care exist, including: concerns with confidentiality; concerns on future jobs and military career advancement; views of medication therapies as causing unpleasant side effects; views of mental health care as ineffective; and the costs of mental health care (Tanielian et al., 2008).

*The Connecticut survey  
of OEF/OIF veterans,  
sought to better  
understand stigma and  
barriers to mental health  
care.*

The Connecticut survey of OEF/OIF veterans, sought to better understand stigma and barriers to mental health care. First, we attempted to replicate the earlier cited finding that OEF/OIF veterans with PTSD, depression, anxiety and alcohol abuse problems report greater stigma and barriers to mental health care than OEF/OIF veterans without psychiatric disorders. Second, we investigated whether other factors known to be associated with stigma and barriers were also important for OEF/OIF veterans.

Two hundred seventy two Connecticut OEF/OIF veterans completed a questionnaire that assessed symptoms of PTSD, depression, substance use, stigma related to seeking mental health, beliefs about psychotherapy, and beliefs about medication for psychological problems. Compared to veterans who did not meet study criteria for probable PTSD, depression, and/or substance use problems, those who did meet criteria for one of these disorders reported significantly higher barriers to care and stigma, a finding that replicates the earlier report by Hoge and colleagues.

Veterans who screened positive for a probable psychiatric disorder had higher total scores on both the stigma and barriers to care measures, and had higher average scores on nearly all individual items. The items that were most closely related to having a probable psychiatric disorder were: “embarrassment,” “being perceived as weak,” “not knowing where to get help,” and “having difficulty scheduling an appointment.”

These results suggest stigma and barriers to care could be reduced by teaching soldiers, their families, and military leaders that combat stress reactions are usually not signs of psychopathology, but instead they are common and understandable responses to abnormal situations. The results also suggest that more OEF/OIF soldiers would be more likely to seek behavioral health treatment if mental health services were easier to access.

While the Connecticut survey replicated the findings of Hoge et al., it also extended their results. When considered together with other potentially modifiable risk and protective factors, screening positive for PTSD, depression, or an alcohol use problem were no longer independently associated with stigma or barriers to mental health care. *The only significant predictors of stigma and barriers to mental health care were unit support and beliefs about psychotherapy. Veterans with negative beliefs about psychotherapy and poor perceived unit support tended to have elevated scores on measures of stigma and barriers to care.*

*These results suggest stigma and barriers to care could be reduced by teaching soldiers, their families, and military leaders that combat stress reactions are usually not signs of psychopathology, but instead they are common and understandable responses to abnormal situations*

These findings have practical implications because negative beliefs about psychotherapy and unit support are both modifiable risk factors. That is, they can be changed through education and training. Many soldiers tend to see psychotherapy as ineffective and as a sign of weakness. Their understanding about the nature of psychotherapy is often based on stereotypes and inaccurate information. For example, the media often portrays psychotherapy as a time intensive and emotional exploration of the past.

However, recent cognitive-behavioral and exposure therapies, which are highly effective for trauma-related disorders like PTSD, tend to be time limited, highly practical, solution-focused, and based on building new skills. These attributes appeal to young soldiers and veterans who tend to value stoicism, honor and strength.

It is likely that educating military leaders, soldiers, families, and veterans about the practical and skill-building nature of newer trauma-focused psychotherapies would lead to a decrease in stigma and barriers to

*Soldiers who screen positive for mental health problems are more likely to report stigma and barriers to care than veterans who do not screen positive*

*It is likely that barriers to care can be reduced by enhancing unit support and providing accurate information about evidence-based therapies for trauma-related psychological disorders.*

mental health care.

The Connecticut survey also points to the importance of fostering unit support as a mechanism to decrease stigma and barriers to mental health care. It is anticipated that decreasing stigma and barriers to care would increase the rate at which symptomatic soldiers and veterans seek and receive needed therapy, which, in turn, would enhance individual and unit military functioning.

It will be important to teach military leaders about the relationship between good unit support; reduced stigma and barriers to mental health care; improved behavioral health; and optimal unit functioning. It will also be important to teach leaders about strategies designed to enhance unit support.

## **TREATMENT**

### ***Screening***

The military has instituted routine mental health screening of OEF/OIF soldiers immediately after their return from Iraq/Afghanistan and again six months later. These screenings have been very important for determining the extent of behavioral health problems among returning soldiers.

In an earlier cited study of 88,235 soldiers (Milliken et al., 2007), researchers found that rates of mental health problems identified immediately upon return from deployment in Iraq were underestimates, and that rates assessed several months later were far higher. Over the course of six months, overall mental health risk increased from 17.0% to 27.1% among Active Duty soldiers

and from 17.5% to 35.5% among National Guard and Reserve soldiers. Of note, concerns about interpersonal conflicts increased the most, roughly four-fold, from the first to the second mental health screening.

Education about medical and psychological conditions for individuals and families has assumed an increasingly important role in medicine and psychiatry in recent years. Currently, many organizations incorporate education as part of their overall approach to addressing the health needs of their constituents.

The military, Veterans Hospitals, Vet Centers and many other organizations that care for combat veterans have recently begun to recognize the importance of educating soldiers and their families about combat stress reactions and the importance of describing these reactions as often normal responses to abnormal situations, rather than a sign of pathology. It is believed that educating soldiers and their families about combat stress reactions will help to prevent or lessen years of pain and hardship.

It is not uncommon for combat veterans from WWII, the Korean War, or the Vietnam War to present for evaluation and treatment for the first time decades after their combat traumas, having suffered with chronic symptoms of PTSD, depression, substance abuse and related psychosocial problems.

When such veterans and their families finally learn about PTSD, generally through some form of psycho-education, they often begin to see their life differently, as if a light has been turned on. For the first time a

***It is believed that educating soldiers and their families about combat stress reactions will help to prevent or lessen years of pain and hardship.***

spouse might understand that her husband retreats into the basement in order to decrease sensory stimulation rather than to get away from her, or a son might now understand that his mother's alcohol use serves, at least in part, as a method to quiet central nervous system arousal or intolerable memories. And the veteran with PTSD might finally make the long elusive connection between traumatic events and subsequent thoughts, feelings and behaviors.

Usually putting the pieces of this "puzzle" together leads to a combination of strong feelings including relief and gratitude, but also sadness at not having recognized the signs, symptoms and secondary reactions sooner so that the survivor might have received appropriate treatment, and thereby lessened the many years of damage and pain.

***Educating leaders, soldiers/veterans, families and the community about the psychological after affects of war is an important part of the overall approach to addressing the health needs of OEF/OIF veterans.***

***Education plays a role in understanding, recognition, early detection, and treatment of combat-related psychosocial problems.***

Psycho-education may also help to acknowledge trauma survivors, normalize their responses to trauma and tell them, "Your reactions to trauma are not abnormal... Many other survivors experience exactly what you are now experiencing... You are experiencing reactions to trauma that are well characterized and well understood... If your symptoms continue or have already lasted for a substantial period of time, we have very effective treatments to help you. We do not blame you and we will not turn our back and cast you out." Psycho-education can help trauma survivors and their families make sense of a confusing array of thoughts, behaviors and feelings and help them to re-integrate into their families and society.

### ***Psychopharmacology***

PTSD, depression and substance use disorders are all known to have underlying alterations in brain and nervous system function that contribute to clinical symptoms (Barrett et al., 2002). To address these alterations, a number of different pharmacological agents have been used to treat trauma-related disorders. For example, selective serotonin reuptake inhibitors (SSRIs) (e.g. Prozac, Zoloft and Paxil) tricyclic antidepressants (e.g. imipramine, desipramine), monoamine oxidase inhibitors (e.g. paroxetine), mood stabilizers (e.g. lomitil), anticonvulsants (valproate), anti-anxiety agents (e.g. clonazepam) and anti-adrenergic agents (e.g. propranolol) have all been used to treat PTSD.

Many of these medications are helpful for patients with PTSD because they are known to be effective for the treatment of disorders that are commonly co-morbid with PTSD including major depression.

To date, Zoloft and Paxil, both SSRI's, are the only two medications that have Federal Drug Administration (FDA) approval for use in the treatment of PTSD. Serotonin is implicated in PTSD, as well as a variety of other mood and anxiety disorders that are frequently co-occurring with PTSD (e.g., depression, anxiety, impulsivity, substance abuse).

In randomized clinical trials, SSRIs have been shown to be effective in reducing symptoms from all three symptom clusters of PTSD (e.g. re-experiencing, arousal and avoidance symptoms). Medications may also help in treating symptoms associated with PTSD such as impulsivity, depression, suicidal thoughts, obsessive thinking, and substance abuse.

*For some veterans, medications can help to reduce many of the symptoms of PTSD as well as symptoms, such as depression, that are often associated with PTSD.*

### ***Psychotherapy***

Numerous psychotherapeutic approaches have been found to be effective for the treatment of PTSD. The most successful evidence-based treatments for trauma-related disorders are the exposure and cognitive behavioral therapies. Both of these therapies focus on facing the fear that is associated with traumatic memories, and thereby reducing or extinguishing this fear. With exposure therapies, re-exposure to

traumatic memories, or aspects of these memories, may take different forms including viewing pictures reminiscent of the trauma; listening to sounds that accompanied the trauma; intentionally remembering the trauma in vivid detail; experiencing a virtual reality version of the trauma; or recreating physical sensations that were present at the time of the trauma. Success depends on aborting the natural tendency to avoid what is feared, so that the feared stimulus can be actively experienced and thereby reduced.

Cognitive behavioral treatments focus on thoughts and beliefs about the trauma and its cues as well as one's response to the trauma. Most people feel the need to understand why a particular traumatic event has occurred and what meaning the event has in their life. In their attempt to make sense of the trauma, individuals who develop PTSD tend to accept an unrealistic amount of personal responsibility for the traumatic event or its consequences. For example, a squad leader may blame himself for the death of some of his men after they are killed by a roadside bomb. Even though the squad leader had no way of knowing about the roadside bomb, after the explosion he believes that he should have acted like someone who did know about the bomb. He experiences crippling self-blame and guilt even though he acted like a responsible and diligent leader.

One version of cognitive behavioral therapy that is highly effective for the treatment of PTSD is cognitive processing therapy (CPT). In addition to fear, CPT focuses on a wide array of trauma-related emotions, such as sadness, shame, humiliation, guilt and anger. CPT has been shown to have dramatic positive effects on self-blame, shame, guilt, anger, and sadness even many years after a trauma.

Other types of psychotherapy can also be effective in treating combat-related PTSD although there tends to be less scientific research to support the efficacy of these approaches.

***Recent evidence-based psychotherapies for treatment of PTSD focus on building skills to face fear and correct distorted beliefs. These therapies have been shown to be effective for treating both acute and chronic PTSD.***

## **REFERRAL AND UTILIZATION**

While it is clear that a large number of OEF/OIF veterans have unmet needs and are experiencing war-related psychological symptoms, as well as a host of psychosocial challenges, not all of these veterans are being referred for treatment or have been seen in treatment.

### ***Mental Health Problems and PTSD***

In a study by Hoge and colleagues it was reported that of the OEF/OIF veterans who screened positive for a mental health disorder, only 23 to 40% sought mental health care (Hoge et al., 2004). In a later study, the Hoge research team found that 35% of veterans returning from Iraq and Afghanistan accessed mental health services in the first year after returning home. (Hoge et al., 2006). Additionally, more than 50% of those referred for a mental health visit were documented as receiving follow-up care; however, less than

10% of all service members who received mental health care were referred through the military screening procedures. Additionally, the RAND report by the Center for Military Health Policy Research states that about 53% of those who met the criteria for current PTSD or major depression had sought help from a physician or mental health provider in the past year (Tanielian et al., 2008).

### ***Substance Abuse***

OEF/OIF veterans who reported alcohol abuse had much lower rates of service utilization with only 3% receiving substance abuse treatment and 18% receiving mental health treatment (compared with 48% to 56% of individuals who received care for PTSD after referral for a mental health problem) (Erbes et al., 2007). It is likely that a lack of confidentiality plays a role in explaining why risky drinkers have such a low rate of service utilization (Milliken et al., 2007).

Veterans' utilization of healthcare is of concern and should be continually addressed to ensure that the veterans receive the services they need.

***Although large numbers of OEF/OIF veterans screen positive for psychological problems, not all of these veterans are referred for treatment and, of those who are referred, many do not actually utilize services.***

## SUMMARY

In reviewing the published literature on the behavioral health after effects of military service in Afghanistan and Iraq *one is struck by the enormity of the burden placed on OEF/OIF veterans and their families.* As in previous wars, *high rates of PTSD, and now partial PTSD, are being reported* in these veterans. *Other psychological problems, such as depression and substance abuse, are also common, and in many cases may be secondary to living with symptoms of PTSD. It is important to remember that these trauma-related psychological symptoms are known to impair the ability to function in nearly every area of life.*

*Families and children are also greatly impacted by war.* Common stressors include anxiety about possible deployment; the *stress of separation* from the deployed family member; *persistent fear of hearing bad news;* a general *disruption of family structure;* a *reduction in social support;* added stress associated with *assuming new family, household and occupational roles;* *increased financial strains;* possible injury or death of the deployed loved one; increased rates of depression and anxiety among family members including children; and the impact of caring for a veteran who may be suffering with a trauma-related disorder.

*One of the great challenges for our society* is to *reduce the stigma associated with psychological disorders such as PTSD.* Unfortunately, these barriers tend to be highest in those who have the most severe symptoms. *Psychoeducation that*

*normalizes combat stress reactions;* accurately portrays options for behavioral health care, and that *emphasizes the importance of unit, family and community support, is at the heart of reducing stigma and barriers to care.*

In addition to psychoeducation, effective psychological screening and referral mechanisms, sufficient behavioral health resources, a focus on building resilience through enhanced social support, and the use of evidence-based trauma-related treatments are all important components in the overall approach to addressing the behavioral health needs of OEF/OIF veterans and their families. These veterans and their families have given much to our country. They deserve the best resources and care that we can offer.

## SECTION II

### STUDY OF THE BEHAVIORAL HEALTH CONCERNS OF CONNECTICUT OEF/OIF VETERANS

We here report progress on findings related to the behavioral after affects of service in Afghanistan and Iraq on Connecticut OEF/OIF veterans. Thus far, the combined research teams from Yale University School of Medicine (Steven Southwick, M.D., Robert Pietrzak, Ph.D., M.P.H., and Douglas Johnson, Ph.D.) and Central Connecticut State University (Marc Goldstein, Ph.D. and James Malley, Ph.D.) have submitted two manuscripts for publication in peer-reviewed scientific journals and two additional manuscripts are in preparation for submission. Data for these publications were gathered in a survey that was developed by the combined research team. Identification of veterans, their addresses, and the actual mailing of the survey to the veterans was conducted by the Connecticut Department of Veterans Affairs. Surveys were then mailed back to Central Connecticut State University.

In this section, we also describe a second related survey of Connecticut OEF/OIF veterans that is being conducted at VA Connecticut titled 'Mental Health and Resilience: Veterans Perceptions about Psychotherapy, Medication and Barriers to Care.' The purpose of this survey is to assess the relationship between stigma and barriers to care and actual utilization of behavioral health services. Data collection for this survey is in progress.

#### **Assessment of Needs:**

We now present a brief synopsis of findings about concerns of Connecticut OEF/OIF veterans in five domains including finances, family relationships, peer relationships, school

issues and help seeking behaviors. This assessment of needs was headed by the Central Connecticut research team, in collaboration with the Yale team, and more detailed results related to these concerns are presented in a report by the Center for Public Policy and Social Research, Central Connecticut State University to the Commissioner of Veterans Affairs of the State of Connecticut.

*Among the 557 Connecticut  
OEF/OIF veterans who  
returned surveys, 15.5 %  
reported that they would like  
help with work-related  
problems, 12.4% that they  
would like help with financial  
concerns, 10.2 % that they  
would like help with family  
problems...*

Among the 557 Connecticut OEF/OIF veterans who returned surveys, 15.5 % reported that they would like help with work-related problems, 12.4% that they would like help with financial concerns, 10.2 % that they would like help with family problems, 13.1% (of respondents who were in school) that they would like help with school problems, 9.2% that they would like help with non-military peer relationships. Issues related to where veterans go to obtain health care, how often they have sought healthcare, and ease of access to healthcare are also discussed in the report to the Connecticut Commissioner of Veterans Affairs.

**Prevalence and Psychosocial Correlates of Full and Partial PTSD** (See discussion of PTSD, Epidemiology, and Function in Section One of this report)

The *first manuscript* (see Appendix A) focused primarily on the prevalence and psychosocial correlates of full and partial PTSD in Connecticut OEF/OIF veterans. Partial PTSD is identified when an individual reports a substantial number of PTSD-related symptoms but does not quite meet DSM-IV criteria for PTSD. Data from the Connecticut Survey showed that 21.5% of veterans who completed the survey met study criteria for probable PTSD

(Goldstein et al, Pietrzak et al, under review) and 22.3% for probable partial PTSD (Pietrzak et al, under review). The rate of PTSD is comparable to other large studies sponsored by the U. S. Department of Defense. The findings on probable partial PTSD constitute the first known study to examine rates and functional correlates of partial PTSD in OEF/OIF veterans.

Among OEF/OIF veterans from the State of Connecticut, PTSD and partial PTSD were strongly associated with deficits in psychosocial functioning.

Compared to veterans without either partial or full PTSD, those with partial PTSD reported poorer health, a higher rate of screening positive for possible mild traumatic brain injury (MTBI), and greater difficulties in family, relationship, work and financial functioning. For example, compared to the no PTSD group, veterans in the partial PTSD group were more likely to report having difficulty connecting emotionally with their family, having problems with their spouse/partner, relating better to veterans than civilians, not sharing interests with civilian friends, not getting along with co-workers, being unhappy with their job, and being unsure how to manage/ invest money. Compared to the no PTSD group, the PTSD group endorsed higher rates of screening positive for MTBI, depression and alcohol use problems and significantly greater difficulties in family, relationship, work and financial functioning.

Overall, there was a ‘dose-response’ relationship between PTSD symptoms and deficits in self-reported health and psychosocial difficulties in this population of OEF/OIF veterans. Thus, the greater the severity of the PTSD symptoms, the greater were the reported problems in health and functioning in this cohort of OEF/OIF veterans.

*...those [veterans] with partial PTSD reported poorer health, a higher rate of screening positive for possible mild traumatic brain injury (MTBI), and greater difficulties in family, relationship, work and financial functioning.*

Of note, the partial PTSD and full PTSD groups were more likely than the no PTSD group to want help for work problems.

These findings are important because they describe the extent and types of functional impairment experienced by veterans with PTSD, and they identify [a large group of veterans with partial PTSD \(22.3% of respondents\) who also experience functional impairment but who are often ignored in clinical and research settings and may not be eligible for treatment in a PTSD specialty clinic, for health insurance reimbursement, or for medical-legal compensation despite high levels of distress and psychosocial impairment.](#)

**Barriers to receiving mental health care:** (See discussion of Stigma and Barriers to Care in Section 1 of this report.)

The *second manuscript* (Appendix B) addresses another pressing issue identified by the literature review in Section 1: stigma and barriers to receiving mental health care. Two hundred seventy-two (272) Connecticut OEF/OIF veterans completed questionnaires that assessed symptoms of PTSD, depression, substance use, stigma related to seeking mental health, beliefs about psychotherapy, and beliefs about medication for psychological problems. Compared to veterans who did not meet study criteria PTSD, depression, and/or substance use problems, those who did meet criteria for one of these disorders reported significantly higher barriers to care and stigma, a finding that replicates an earlier report by Hoge and colleagues.

Veterans who screened positive for a psychiatric disorder had higher total scores on both the

stigma and barriers to care measures, and had higher average scores on nearly all individual items. The items most closely related to having a psychiatric disorder were “embarrassment;” “being perceived as weak;” “not knowing where to get help;” and “having difficulty scheduling an appointment.” These results suggest that stigma and barriers to care could be reduced by teaching soldiers, their families, and military leaders that combat stress reactions are very common and often not signs of psychopathology, but instead understandable responses to abnormal situations. The results also suggest that more OEF/OIF soldiers would be more likely to seek behavioral health treatment if mental health services were easier to access.

While these data replicated the findings of Hoge et. al., they also extended their results by suggesting that, when considered together with other potentially modifiable risk and protective factors, screening positive for PTSD, depression, or an alcohol use problem was no longer independently associated with stigma or barriers to mental health care. [The only significant predictors of increased stigma and barriers to mental health care were negative beliefs about psychotherapy and decreased military unit support.](#) These findings have practical implications because negative beliefs about psychotherapy and unit support are both modifiable risk factors. That is, they can be changed through education and training. Many soldiers tend to see psychotherapy as ineffective and as a sign of weakness. Their understanding about the nature of psychotherapy is often based on stereotypes and inaccurate information. For example, the media often portrays psychotherapy as a time intensive and emotional exploration of the past. However, recent cognitive-behavioral and exposure therapies, which are highly effective for trauma-related disorders like PTSD, tend to be time limited, highly practical, solution

*The Connecticut survey data also points to the importance of fostering unit support as a mechanism to decrease stigma and barriers to mental health care.*

focused, and based on building new skills. These attributes may appeal to young soldiers and veterans who tend to value stoicism, honor, and strength. Results of this study suggest that educating military leaders, soldiers, families and veterans about the practical and skill-building nature of newer trauma-focused psychotherapies may help decrease stigma and barriers to mental health care in this population.

The Connecticut survey data also point to the importance of fostering military unit support as a mechanism to decrease stigma and barriers to mental health care. It is anticipated that decreasing stigma and barriers to care would increase the rate at which symptomatic soldiers and veterans seek and receive needed therapy, which, in turn, would enhance individual and unit military functioning. Thus, these results underscore the importance of teaching active duty, National Guard and Reserve military leaders, who are ultimately responsible for their military unit, about the relationship between good unit support, reduced stigma and barriers to mental health care, improved behavioral health, and optimal unit functioning. Furthermore, they suggest that educating leaders about strategies to enhance unit support may help reduce stigma and barriers to mental healthcare.

#### Ongoing Veterans Administration Survey of Barriers to Care and Utilization

*The Yale University researchers also initiated a study to examine traumatic stress-related psychological disorders, resilience, stigma, barriers to mental health care, and service utilization among OEF/OIF military personnel/veterans who present to the VA Connecticut Healthcare System.* A number of the research scales that were used in the Connecticut Survey are also being used in this

study. While it is important to assess perceived barriers to care in order to understand theoretical obstacles to accessing needed mental health care,

*A large number of OEF/OIF Veterans are returning from their deployments with psychiatric conditions that impair psychosocial functioning and quality of life*

little is currently known about whether, to what degree, or how these perceived barriers actually influence treatment-seeking behaviors.

*The intent of the Barriers to Care Utilization Study is to identify predictors of VA health care utilization among Connecticut OEF/OIF veterans and thereby generate important information for the mental health treatment community that will assist in, 1) tailoring treatment outreach programs for veterans who are 'at risk' for treatment avoidance, resistance, or non-compliance, 2) incorporating veteran treatment preferences and beliefs into treatment planning in order to enhance treatment outcome, and 3) identifying resilience factors (e.g. unit support, post-deployment support) that can be integrated with current treatment strategies.*

This Barriers to Care Study has two primary objectives:

*Objective 1:* a) Compare and contrast psychologically symptomatic veterans who do utilize mental health services with symptomatic veterans who do not utilize mental health services (e.g. differences in symptom severity, beliefs and perceived barriers to care, psychological resilience); b) Evaluate the link between subjective barriers to mental healthcare and actual utilization of behavioral health services in veterans who have returned from Iraq and Afghanistan.

*Objective 2:* Determine the relationship between resilience to stress (psychological resilience, unit support and post-deployment social support) and use of mental health services.

A total of 165 veterans have enrolled in the study thus far. These veterans have completed research scales related to combat experiences, PTSD symptoms, psychological resilience, unit support, family cohesion, post-deployment social support, stigma and barriers to care, fear of loss of vigilance, and beliefs about psychotropic medication and psychotherapy.

*We are continuing to enroll more OEF/OIF veterans in this survey. We plan to conduct preliminary data analysis in January 2009.*

### **Resilience to Stress:**

The *third manuscript*, focused on resilience as it relates to traumatic stress and PTSD, is currently in preparation. The following is excerpted from a preliminary draft of the manuscript.

A large number of OEF/OIF Veterans are returning from their deployments with psychiatric conditions that impair psychosocial functioning and quality of life (Hoge et al., Pietrzak et al., under review). While a number of studies have examined the prevalence and correlates of psychiatric conditions in this population, little is known about protective factors that may be associated with traumatic stress symptoms.

*...these findings suggest that increased psychological resilience and perceived social support may help protect against the deleterious effects of traumatic stress.*

Psychological resilience (King et al., 1998) and social support (Charuvastra & Cloitre, 2008) may protect against the development of traumatic stress symptoms. Resilience and related psychological constructs such as hardiness are defined as intrinsic psychological and biological characteristics that enable an individual to adapt positively to adversity and that confer protection against the development of psychopathology (Hoge et al., 2007). Hardiness has been shown to protect against the development of PTSD following combat in Vietnam veterans (King et al., 1998; Waysman et al., 2001) and Army Reserve soldiers (Bartone, 1999). Higher perceived social support, which is operationalized as an individual's perception or experience of helpful and unhelpful social interactions, is also negatively associated with PTSD symptoms (Brewin et al., 2000; Ozer et al., 2003). Higher perceived social support is related to lower risk of PTSD in Vietnam veterans (King et al., 1998), prisoners of war (Engdahl et al., 1997), and United Nations soldiers (Kaspersen et al., 2003). Taken together, these findings suggest that increased psychological resilience and perceived social support may help protect against the deleterious effects of traumatic stress.

While previous research in Vietnam veterans has suggested that higher levels of resilience and social support are associated with lower severity of traumatic stress symptoms and higher levels of psychosocial functioning among trauma survivors, *to date no known study has examined resilience to stress in OEF/OIF veterans.* The examination of resilience, and its components, is important because it will provide insight into psychological, behavioral, and spiritual factors that may protect military personnel when they are exposed to trauma, and may inform training strategies to enhance resilience.

*These results suggest that bolstering resilience and post-deployment social support may help reduce the severity of traumatic stress symptoms in OEF/OIF veterans.*

The purpose of this Resilience to Stress Study is to, 1) provide a descriptive analysis of aspects of resilience items endorsed by OEF/OIF veterans, 2) compare endorsements of various aspects of resilience between OEF/OIF veterans with and without PTSD, and 3) examine whether resilience is protective against traumatic stress symptoms. We hypothesized that OEF/OIF veterans would report relatively high levels of resilience, that veterans with PTSD would score lower on resilience, and that resilience would be negatively associated with traumatic stress symptoms.

To measure resilience, we used the Connor-Davidson Resilience Scale (CD-RISC; 15). The CD-RISC is a 25-item self-report assessment of psychological resilience. A total score and the following 5 subscales are computed: 1) personal competence, 2) tolerance of negative affect and stress-related growth, 3) acceptance of changes, 4) personal control, and 5) spiritual orientation to the future.

Preliminary analyses revealed that this sample of OEF/OIF veterans was rather resilient, with the mean score on the Connor-Davidson Resilience Scale in the full sample comparable to that observed in civilian outpatient primary care patients. Respondents with PTSD, however, scored significantly lower on this measure, with their scores consistent with those observed in civilian patients with PTSD.

*A hierarchical regression analysis suggested that resilience (specifically, a higher degree of personal control and positive acceptance of change) and post-deployment social support were negatively associated with traumatic stress symptoms, even after controlling for demographic characteristics and combat exposure severity. These results suggest that*

*bolstering resilience and post-deployment social support may help reduce the severity of traumatic stress symptoms in OEF/OIF veterans.*

function in life and could provide insights into treatment recommendations.

**Additional research:**

Results for a *fourth manuscript* are currently in preparation. This study will analyze data from the Connecticut Survey to examine the relationship between possible traumatic brain injury and psychosocial functioning, as well as the relationship between possible traumatic brain injury, PTSD, and psychosocial functioning. Results of this study may help elucidate the relative impact of possible traumatic brain injury and PTSD on OEF/OIF veterans' capacity to

**SECTION III**  
**THE CONNECTICUT MILITARY SUPPORT PROGRAM**

**Section 17a-453d. Transitional behavioral health services available to certain reservists and their families.** The Department of Mental Health and Addiction Services, in collaboration with the Department of Children and Families, shall provide behavioral health services, on a transitional basis, for dependents and any member of any reserve component of the armed forces of the United States who has been called to active service in the armed forces of this state or the United States for Operation Enduring Freedom or Operation Iraqi Freedom. Such transitional services shall be provided when no U. S. Department of Defense coverage for such services is available or such member is not eligible for such services through the U.S. Department of Defense, until an approved application is received from the Department of Veterans Affairs and coverage is available to such member and such member's dependents.

**A. THE CONNECTICUT  
MILITARY SUPPORT PROGRAM**

The Military Support Program (MSP) was established by the Connecticut General Assembly to address the behavioral health needs of National Guard and Reserve personnel affected by deployment in Operation Enduring Freedom (Afghanistan) and Operation Iraqi Freedom (Iraq). It was officially implemented by the Department of Mental Health and Addiction Services (DMHAS) in March 2007. The program is unique in that Connecticut is the first state in the nation to offer a range of behavioral health services to its Citizen Soldiers and their families.

**MSP BUDGET/AGENCY STAFF**

Funding for the program came from monies set-aside during the sale of the state-owned Fairfield Hills Hospital in Newtown, CT. A total of \$1.4 million was set aside for OEF/OIF activities, of which \$530,000 was directed to researchers at Yale University to study the needs of OEF/OIF Soldiers, and \$891,000 to the Military Support Program.

Upon receipt of the \$891,000 allocation, DMHAS committed two (2) in-kind full-time staff to the program – a Program Director and a Community Clinician. The allocations are non-lapsing. A report of performance is included in this report and will be updated and submitted to the Connecticut General Assembly in early 2009.

## BEHAVIORAL HEALTH SERVICES OFFERED BY MSP

- ✘ **OUTREACH** specifically focused within the National Guard and Reserve Communities
- ✘ **OUTPATIENT COUNSELING SERVICES** that are free, confidential, locally available and exclusive to National Guard/Reserve personnel and their families
- ✘ **COMMUNITY CASE MANAGEMENT SERVICES** to assure timely access to appropriate services
- ✘ **INFORMATION, REFERRAL AND ADVOCACY** to secure the right benefits, right away
- ✘ **DEPLOYMENT HEALTH EDUCATION SERVICES** to military personnel/veterans, family members, state and federal agencies, community-based agencies, and citizens
- ✘ **VETERANS REPRESENTATIVE TRAINING PROGRAM** offered to DMHAS clinicians to improve understanding of the unique clinical needs of OEF/OIF veterans
- ✘ **CONNECTICUT MILITARY CHILD INITIATIVE** to assure that children of deployed parents are universally supported in school settings throughout the State
- ✘ **MSP TRANSPORTATION PROGRAM** statewide transportation consisting of both livery services and gas cards
- ✘ **RECOVERY SUPPORT SERVICES** that include access to an array of deployment health educational materials including books, DVDs and phone cards
- ✘ **ADDITIONALLY**, as a result of lessons learned and experiences from MSP, DMHAS was one of six states from across the U.S. to be awarded a federal Substance Abuse and Mental Health Services (SAMHSA) grant to establish Jail Diversion/Trauma Recovery services for veterans.

### OUTREACH

As defined by statute, MSP services are available solely to Connecticut's Reserve Component Soldiers and their family members and significant others. Approximately 2,800 National Guard members and 1,700 Reservists who reside in Connecticut have been deployed in OEF/OIF (1). Currently, MSP may not serve veterans of active duty service. In that members and veterans of the Guard and Reserves comprise such a small percentage of all veterans who served in the Afghanistan and Iraq Wars (there are 3 times more veterans of active duty service), MSP is

actively outreaching to Citizen Soldiers and their families. Consequently, referrals to MSP have overwhelmingly come from within the Connecticut National Guard and Reserves communities.

To assure that every *eligible* soldier and family member is armed with deployment health information and is aware of the services available through the program, MSP routinely participates in Guard units' pre- and post-deployment briefings and drills. MSP staff members present at Military Family Conferences held prior to a unit's deployment and homecoming, at all unit

de-mobilizations, 30-day and 60-day drills, and at all 90-day Post Deployment Health Re-Assessments (PDHRA's). [MSP staff members have also developed close working relationships with Reserve units throughout the state as well as their respective family assistance programs.](#)

## **OUTPATIENT COUNSELING SERVICES**

MSP offers free, confidential, locally available outpatient counseling services to National Guard/Reserve members, their families and their significant others. The central feature of the program is a statewide panel of over 225 licensed clinicians, organized by DMHAS, who stand ready to provide confidential counseling services that include marriage and family counseling, help for children struggling with adjustment issues, as well as counseling for stress related to deployment, service in a war zone, and homecoming.

### ***The MSP Clinical Network***

Represented among clinicians within [the MSP panel is a rich and diverse array of clinical specialties.](#) The MSP clinical network includes Advanced Practice Registered Nurses (APRN), Licensed Alcohol and Drug Counselors (LADC), Clinical Social Workers (LCSW), Marriage and Family Therapists (LMFT), Physicians (MD), Professional Counselors (LPC) and Clinical Psychologists. Clinical specialties include affective disorders (i.e., major depressive, anxiety and bipolar disorders), child and adolescent issues, dissociative disorders, impulse control disorders, marriage and family relational

issues, panic disorders, PTSD, sexual disorders and substance use disorders. [MSP has organized and trained a statewide cadre of civilian-based licensed clinicians who stand ready to serve and support Citizen Soldiers and their families through the provision of locally-accessed outpatient counseling services at over 300 locations.](#)

MSP clinicians received immersion training in military organizational structure and culture, and in the unique clinical needs of veterans and military families. Officers from the Connecticut National Guard provided valuable insight into the demands of unit training and preparation for mobilization and deployment.

***MSP has organized and trained a cadre of civilian-based licensed clinicians who stand ready to serve and support Citizen Soldiers and their families at over 300 locations.***

Leaders and counselors from the *National Guard Family Program* informed MSP clinicians about deployment health-related issues, including a comprehensive discussion of stress experienced by families during the deployment cycle. Clinicians from the VA Connecticut Healthcare System (VA) provided training on combat operational stress as well as evidenced-based therapies for treating PTSD.

VA experts also provided overview of veterans' eligibility criteria and provided clear information on how veterans may access VA care. Additionally, VA informed MSP clinicians of the need to recognize mild traumatic brain injuries among OEF/OIF veterans, and to promptly refer them to the VA healthcare system for evaluation and treatment.

MSP outpatient counseling services are accessed through a **24/7 call center** that is managed by Advanced Behavioral Health, Inc., an administrative service organization contracted by DMHAS. Callers to the Center, following a brief intake and initial assessment, are provided the names and contact information for **three clinicians in their area from which they may choose**. An MSP Community Clinician is notified of every call made to the Center and follows up with each caller to support their connection to outpatient counseling. If a call is of an emergent nature, an MSP Community Clinician is immediately notified to assist the ABH clinician in the evaluation and determination of appropriate response. MSP Community Clinicians continue to provide intensive case management support, especially during the period of a caller's first few outpatient visits. Soldiers and veterans determined to have complex or long-term care needs are assisted in connecting with the VA

Connecticut Healthcare System.

***Serving Connecticut's Citizen Soldiers and Their Families.*** MSP's outpatient behavioral health program has achieved remarkable success in its first year, and has proven to be a valuable resource for Connecticut's Citizen Soldiers and their families. In its first 17 months, ***MSP clinicians served 600 individuals, over 40% of whom received outpatient counseling services averaging 6.2 visits per person.*** Four hundred military personnel, veterans and family members who connected with the MSP Call Center received assistance in accessing non-clinical benefits and services (described in the *Information, Referral and Advocacy* section below), and 344 received case management support as they entered clinical services with either the MSP panel, the federal VA or the Vet Center (TABLE 1).

**TABLE 1**

**NUMBER OF INDIVIDUALS SERVED**

<b>Total number of calls to MSP Call Center</b>	<b>600</b>
<b>Individuals who received MSP Case Management Services</b>	<b>344</b>
<b>Individuals who received outpatient Counseling with MSP clinicians</b>	<b>248</b>
<b>Total Outpatient Counseling Sessions</b>	<b>1,538</b>
<b>Direct Clinical Referrals to VA or Vet Center</b>	<b>117</b>
<b>Information, Referral and Advocacy Services</b>	<b>400</b>
<b>Recovery Support Services (Transportation)</b>	<b>48</b>

*Reporting period April 1, 2007 to September 30, 2008*

Approximately 60% (150) of all persons participating in outpatient counseling services are current members of the National Guard/Reserves, or are veterans of reserve component service who were deployed in the Afghanistan and/or Iraq Wars. Females comprise 18.7% (28) of all military personnel served in outpatient counseling. Males comprise the majority among all persons served, and the average age of an MSP participant is 32 years (TABLE 2).

Nearly 40% of soldiers/veterans and family members participating in outpatient counseling received a primary diagnosis of depression, and,

consistent with U. S. Department of Defense and federal VA studies, over 20% of military personnel and veterans received counseling support for Post Traumatic Stress Disorder. One-in-six participated in marriage and family counseling, and 7% received assistance with substance abuse issues. Individuals requiring treatment for substance abuse were assisted by MSP Community Clinicians in accessing services within the DMHAS state-operated system, at a DMHAS-funded agency, or within the VA Connecticut Healthcare System depending upon eligibility and level-of-care required. (TABLE 3).

**TABLE 2**

**CHARACTERISTICS OF 248 INDIVIDUALS SERVED IN OUTPATIENT**

	Number	% of Individuals Served
Military Personnel/Veterans Served in Outpatient Counseling	150	60.5%
Males	122	81.3%
Females	28	18.7%
Family Members Served	98	39.5%
Males	16	16.3%
Females	82	83.7%
Average age of persons served	32 years	
Age Range of persons served	4 to 72 years	

*Reporting period April 1, 2007 to September 30, 2008*

**TABLE 3**

**TYPE OF COUNSELING SERVICES PROVIDED**

Marriage and Family Counseling	14.2%
Substance Abuse	6.8%
Depression	36.5%
Anxiety	9.5%
Post Traumatic Stress Disorder	23.0%
Other Issues	3.4%
Diagnosis Not Specified	21.0%

*Reporting Period April 1, 2007 to September 30, 2008*

**COMMUNITY CASE MANAGEMENT SERVICES**

MSP provides intensive community case management services to National Guard/Reserve members, veterans and their families to support each individual’s initial connection with MSP clinical services and to assure that all their needs are met. The MSP Community Clinician assists in the assessment of service and/or clinical needs and in determining the type and level of care required. *The Community Clinician assures that the MSP provider clinician completes a service (treatment) plan within each participant’s first three visits. Thereafter, the MSP Community Clinician maintains regular contact with each program participant and encourages each individual to call on them if needed.*

*The Community Clinician routinely conducts follow-up with VA, Vet Center or DMHAS clinicians to assure that each referred program participant is appropriately connected, and to support*

*them in the treatment process* (in each instance, participants’ written consent is secured prior to such follow-up activity). Similarly, MSP staff may convene and/or participate in treatment team meetings with DMHAS, VA, Vet Center or MSP clinicians. Such inter-agency treatment team meetings occur frequently, with MSP Community Clinicians often being called upon for case management support. Such intensive case management services enable each MSP participant to receive timely support through their recovery process, as well as appropriate interventions during moments of crisis.

MSP’s focused outreach to Guard and Reserve units, along with the ongoing provision of deployment health education to soldiers and family members throughout Connecticut, has resulted in 117 OEF/OIF veterans being successfully connected with assistance from MSP clinicians to VA clinical services. These are soldiers/veterans who engaged MSP for outpatient clinical services but with the assistance of MSP

clinicians have determined that their clinical needs are better served within the VA Connecticut Healthcare System. Veterans referred to VA typically present with complex care needs beyond the scope of the MSP program. With the veteran's consent, the MSP Community Clinician will:

- ✦ Contact appropriate VA clinical personnel to alert them of the referral
- ✦ Arrange an appointment for a mental health screening
- ✦ *Assist a veteran in accessing emergency care at the VA Psychiatric Emergency Room (or local ER) when emergency care is required*
- ✦ Provide follow-up case management support to assure each veteran's safe connection to treatment services with VA.

### **INFORMATION, REFERRAL AND ADVOCACY**

Sixty-four percent of all callers to the MSP call center benefited from information, referral and advocacy services. Such services include, but are not limited to, information and referral regarding state and federal veterans benefits and services, including medical, mental health and substance abuse services, as well as state and federal entitlement programs, community-based recovery supports, peer support opportunities, National Guard and Reserves Family Programs, financial counseling, direct assistance programs, housing, employment and training, and

educational activities and programs. *Referral for advocacy support is routinely made to national veterans service organizations (NSO's) and to the Connecticut Department of Veterans Affairs Office of Advocacy and Assistance for advocacy representation in VA claims matters.* MSP also refers participants to local attorneys willing to provide pro bono assistance, and to court personnel, including DMHAS Jail Diversion staff when necessary.

***Over 7,500 soldiers/veterans, family members and citizens have learned about the challenges and hardships faced by returning veterans and their families through MSP.***

### **DEPLOYMENT HEALTH EDUCATION SERVICES**

MSP staff routinely facilitates workshops in deployment health issues for reserve component military personnel, veterans and their family members as a *partner in the National Guard's Yellow Ribbon Reintegration Program.* Workshops are provided at all pre- and post-mobilization sessions, family conferences, and 30- and 60-day post-deployment unit drills. Additionally, *MSP has conducted extensive outreach and educational activities among state agencies, community providers, the business community, within academia, and among key elements of the community.*

To date, over 7,500 soldiers/veterans, family members and citizens have learned about the challenges and hardships faced by returning veterans and their families through MSP deployment health education activities (see Appendix C).

The objectives of deployment health education are to:

- ✘ Inform citizens of the predictable emotional challenges facing soldiers/veterans during their transition from combat to civilian life
- ✘ Provide information regarding the unique needs of veterans and families throughout the deployment cycle
- ✘ Encourage community involvement in supporting veterans and their families.

MSP, often joined by partners from the federal VA, the Vet Centers and/or the Connecticut Military Department, has facilitated workshops and conducted in-service training for the:

- ✘ Chief State's Attorneys' Office (annual 2-day conference)
- ✘ State Public Defenders' Office
- ✘ DMHAS statewide Jail Diversion staff
- ✘ Clinicians at VA Connecticut Healthcare System's West Haven and Newington campuses
- ✘ New London-area *Wounds of War* clinical consortium
- ✘ 2007 annual ad litem attorneys' conference
- ✘ Faith-based community
- ✘ Educators with the local and higher education communities
- ✘ Members of the business community
- ✘ Multiple and varied community-based healthcare, social services and advocacy organizations.

*Additionally, MSP has joined the faculty of the Connecticut Alliance Benefiting*

*Law Enforcement (CABLE, Inc.) and routinely presents during week-long Crisis Intervention Training sessions that are offered to police officers and other first responders throughout the state.*

### **VETERANS REPRESENTATIVE TRAINING PROGRAM**

*In addition to its 225-member clinical panel, MSP has led the way in elevating Connecticut clinicians' knowledge and expertise in serving our newest veterans. With assistance from the DMHAS Education and Training Division, MSP offers a 2-day Veterans Representative Training Program, twice per year, for DMHAS clinicians (from both state-operated and state-funded agencies*

*Having a primary caretaker deployed to a war zone for an indeterminate period is among the more stressful events a child can experience.*

### **THE CONNECTICUT MILITARY CHILD INITIATIVE**

A 2007 report on the needs of military families described the stress of deployment succinctly: At present, 700,000 children in America (the number is now over 1 million) have at least one parent deployed. Having a primary caretaker deployed to a war zone for an indeterminate period is among the more stressful events a child can experience. Adults in the midst of their own distress are often anxious and uncertain about how to respond to their children's emotional needs. The strain of separation can weigh heavily on both the deployed parent and the caretakers left behind (2).

Veterans Affairs Canada recently conducted a literature search on the impact of veterans'

PTSD on families; conclusions drilled down to the following:

- ✘ Increased mental health problems among spouses
- ✘ Increased caregiver burden among spouses
- ✘ Problems in marital adjustment
- ✘ Increased divorced rates
- ✘ Increased physical and verbal aggression against partners
- ✘ Adverse impacts on their children's behavioral and psychological adjustment (3).

Military families, MSP clinicians and others expressed concern that school-based support for children of deployed military personnel is sporadic and uneven around the state. In response, *MSP has partnered with the Connecticut Military Department to work on a statewide initiative* to assure that school-based clinicians are:

- ✘ Aware of the unique needs of children of a deployed parent
- ✘ Armed with practical ideas on how to support children in the classroom
- ✘ Equipped with information regarding clinical services available to children and their parents.

The central goal of the Child Initiative is to educate school-based clinicians regarding the prevalent adjustment issues experienced by children of deployed parent(s) so that they may apprise teachers of “best practice” classroom methods, and serve as a locally available, year-round resource for parents and teachers. A key partner in this initiative will be the National Guard and Reserves Family Programs. Prior to deployments, the family program staff is made aware of the numbers and locations of families that will be affected. The plan is that family program staff (with parental involvement and consent) will notify local school-based clinician(s) when a child in their system is

about to be affected by a parent's deployment. *The school-based clinician may then (with parental consent) consult with the child's teacher and thereafter serve as a clinical resource for both teacher and parents.*

Research and development of materials to support this effort, along with the task of

***The goal is to educate school-based clinicians regarding adjustment issues experienced by children of deployed parent(s) so that they may apprise teachers of “best practice” classroom methods, and serve as a locally available, year-round resource for parents and teachers.***

disseminating the materials statewide, will be accomplished by a clinician who has been selected from the MSP clinical panel. The materials developed will be disseminated to school psychologists and counselors, school-based clinics, and to child guidance clinics. The MSP clinician will provide psychoeducation services to school-based clinicians throughout the current school year.

*The Connecticut National Guard Family Program has, since the early days of the War in Afghanistan, worked diligently to support families throughout the deployment cycle.* Through a statewide organization of *Family Readiness Groups (FRG's)*, the program has provided structure for families to come together, and a mechanism for the incubation of creative problem-solving and

supportive service initiatives. DMHAS, through the MSP, is privileged to partner with them by providing outpatient counseling services to the families of our Citizen Soldiers.

### **SAMHSA JAIL DIVERSION/TRAUMA RECOVERY GRANT**

In October 2008, DMHAS was awarded a \$2 million, 5-year grant from the Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Mental Health services (CMHS) to provide jail diversion and trauma recovery services to veterans. The grant requires the first-year piloting of jail diversion efforts in one region of the state, with state-wide replication to follow. In that the southeast region is home to the Groton Submarine Base, Camp Rell, the Stone Ranch Training Facility, two Vet Centers and a VA community-based outpatient clinic (CBOC), DMHAS will initiate jail diversion services for veterans in the New London-Norwich area.

DMHAS' selection for this major SAMHSA award is due, in no small measure, to Connecticut's demonstrated commitment to veterans as evidenced by the MSP and the strong partnership with the Departments of Veterans Affairs; Social Services; Correction and Judicial; as well as the Connecticut National Guard/Reserve and the Chief State's Attorney. (See Appendix E for details.)

### **THE MSP TRANSPORTATION PROGRAM**

Recognizing that many OEF/OIF Soldiers are at risk of dropping out of treatment, or are failing to access treatment, due to transportation needs/costs, DMHAS established a transportation assistance

program to assure access and continuity of treatment. *Transportation for individuals without ability to drive is provided by an existing DMHAS-funded transportation initiative, Road 2 Recovery, operated by the Columbus House, Inc.*

In addition to livery services, gas cards are provided to veterans and family members who find themselves at risk of dropping out of treatment due to high fuel costs. MSP-eligible veterans and family members must be participating in outpatient counseling services with VA, a Vet Center, or with an MSP clinician and they must be referred for

***DMHAS was awarded a \$2 million, 5-year federal grant to provide jail diversion and trauma recovery services to veterans.***

transportation assistance by their treating clinician. Now reserve component soldiers and their family members need never miss a clinical appointment due to transportation issues.

### **RECOVERY SUPPORT SERVICES**

Recovery support services include phone cards for participants who lack adequate means to stay connected with family members or their treatment team, books such as "Courage After Fire" which demystifies the process of transition from soldier to civilian, CD-ROM's and DVD's such as the Sesame Street Spanish/English "Talk, Listen, Connect" children's series which includes guidance on issues relating to deployment, homecoming and a parent's war wounds. These materials serve to:

- ✦ Inform soldiers and military families regarding deployment health matters

- ✦ Normalize the emotional hardships experienced by nearly everyone directly affected by deployment
- ✦ Bring soldiers and military families together by building common understanding of the adjustment and growth processes involved throughout the deployment process.

### **MSP - A RESOURCE TO OTHER STATE AGENCIES**

*MSP, with support from the clinicians from the VA Connecticut Healthcare System's PTSD/Anxiety Clinic, has assisted both the Department of Public Safety's Connecticut State Police and the Department of Correction by developing and facilitating 1/2 day conferences on the prevalent psychological problems experienced by Combat Soldiers during the "road home" process. Both departments have taken steps to establish organizational capacity to support soldiers and families throughout the military deployment cycle, as well as veterans returning to, or entering, state service following their experience in war. The State Police conference was held at the State Veterans' Home in Rocky Hill.*

*The new Connecticut State Police S.T.O.P.S. program (State troopers Offering Peer Support), which DMHAS has been privileged to assist during its development, has established its own Military Support Program under the S.T.O.P.S. The initiative has been warmly supported by Commissioner Danaher, and already has resulted in the introduction of substantive policies and procedures to support more than 70 troopers and families affected by OEF/OIF deployment.*

*The Department of Correction is setting up a similar veterans support effort led by their Crisis Intervention Stress Management team.*

### **MSP SERVING VETERANS/FAMILIES WHO ARE DMHAS EMPLOYEES**

Inspired by the work of the Departments of Public Safety and Correction, DMHAS has begun a similar effort within DMHAS. A focus group meeting was organized for DMHAS employees directly affected by OEF/OIF deployment in order to assist the Agency in determining ways to recognize, honor and support OEF/OIF Veterans and their families. Recommendations from that meeting will be reviewed in a follow-up meeting scheduled in October 2008. Once approved by participants they will be forwarded to Commissioner Kirk for review.

### **MSP NATIONALLY RECOGNIZED**

Connecticut was one of three states invited to present at the *National Behavioral Health Conference and Policy Academy on Returning Veterans*, convened in Bethesda, MD by the federal Substance Abuse and Mental Health Services Administration (SAMHSA), the U. S. Department of Defense (DoD) and the U. S. Department of Veterans Affairs (VA) during August 11-13, 2008. The plenary session presentation was entitled: *Strategies for Linking Systems and Implementing Models That Work*. Ten states continue to participate in a policy academy following the conference. It is anticipated that the *three states selected to present at the conference will continue to be available for technical assistance to the ten states currently participating in the policy academy.*

## B. SUPPORTING THE MILITARY THROUGH COMMUNITY PARTNERSHIPS

### CONNECTICUT OEF/OIF COORDINATING COMMITTEE

The Coordinating Committee is a partnership among several key state and federal agencies that provide services that directly benefit current military personnel and veterans. The central purpose of the Committee is to support soldiers, veterans and family members who are affected by OEF/OIF deployment.

In 2005 the U.S. Department of Veterans Affairs Hartford Regional Office and the Connecticut Military Department invited federal and state agencies to organize around a unifying memorandum of understanding (MOU). Initial signatories to the MOU were the VA Hartford Regional Office, the Connecticut Military Department, the VA Connecticut Healthcare System, the Veterans Readjustment and Counseling Service's three Connecticut Vet Centers, and the state and federal Departments of Labor. Additional members now include The Soldiers' Sailors' and Marines' Fund, the Departments of Mental Health and Addiction Services (DMHAS), Veterans Affairs (DVA), Public Safety (DPS), and Correction (DOC).

MSP has developed a close working alliance with the Connecticut Army-Air National Guard, the federal VA and the Vet Centers.

*We are to each an extension of the other.*

The National Guard is a primary source of referrals of soldiers and family members to the MSP program. MSP regularly *refers soldiers and veterans with complex, long-term care needs to the federal VA*. Conversely, VA refers family members to MSP. MSP Community Clinicians **follow-up on every call that is placed to the MSP 24/7 call center**, and provide intensive community case management support to individuals referred to outpatient counseling, as well as for veterans referred to VA for complex care. Given the unique clinical needs of combat soldiers and veterans, such intensive follow-up is critical to their success.

*MSP has developed a close working alliance with the Connecticut Army-Air National Guard, the federal VA and the Vet Centers.*

Brigadier General Dan McHale (ret.), Connecticut's Transition Assistance

Advisor, provides leadership concerning all activities relating to deployments and homecomings of National Guard and Reserves units.

Although one of the newest members of the Coordinating Committee, as of 2007 MSP has assumed a prominent role through the provision of deployment health psycho-education services, as well as outpatient counseling services, to citizen soldiers and their family members.

#### **Mobilization/Demobilization Briefings**

A central focus of the Coordinating Committee's work is the planning,

development and delivery of educational, health screening and health services in support of soldiers, marines, airmen and sailors affected by OEF/OIF deployment(s). Under the direction of Gen. McHale, members participate in National Guard/Reserves pre-mobilization briefings, family conferences conducted prior to a unit's deployment and again before their return, de-mobilization briefings, and 90-day post deployment health re-assessments (PDHRA's).

*Through these activities, military personnel and their families are informed of state and federal benefits, as well as health services available to them through the VA Healthcare or DMHAS' MSP program.*

***The Yellow Ribbon Reintegration Program (YRRP)*** was authorized in the 2008 Defense Authorization Act. Prior to the legislation's passage, a "90-day hands off" policy prevented commanders from conducting weekend drills during the first 3 months following a Guard or Reserve unit's return from deployment.

With growing evidence that many Guard personnel were experiencing significant psychological problems (depression, anxiety, irritability, anger, substance abuse and problems sleeping) and related behavioral issues (suicidal risk, DUI's, family violence, erratic and extreme speeding, breach of peace and firearms violations) during their first 90 days home, the Minnesota National

Guard was granted a waiver by the Department of Defense to summon soldiers and their families at the 30-day and 60-day periods.

*YRRP* was developed by Minnesota Guard LTC (Chaplain) John Morris. His template for engaging soldiers and their family members at the 30- and 60-day intervals after each unit's homecoming has become the model now employed throughout the country.

At the 30-day drill soldiers and family members have opportunity to spend as much time as they need talking with representatives from an array of federal, state, local and nonprofit agencies – community resources which they are encouraged to access.

During the 60-day drill soldiers and families, including children, participate in a series of deployment health workshops designed to inform them of the common challenges associated with

***Soldiers and families, including children, participate in a series of deployment health workshops designed to inform them of the common challenges associated with the homecoming transition process, and to guide them to supportive services as needs arise.***

the homecoming transition process, and to guide them to supportive services as needs arise.

MSP staff members, as well as selected clinicians from the statewide MSP clinical panel, now *actively participate in Connecticut's YRRP program by facilitating workshops for soldiers and their families on topics such as Anger Management, War Zone Stress and Substance Abuse.*

### ***Connecticut National Guard Front Line Leaders Course***

In August 2008 MSP was asked to assist in the planning and implementation of a special training program in deployment health for front line leaders within the National Guard. Recognizing that some soldiers were exhibiting uncharacteristic behaviors, *senior Guard leadership determined to arm officers and non-commissioned officers (NCO's) with information to help them recognize typical homecoming adjustment problems as well as symptoms relating to PTSD.* A series of deployment health workshops were held at the Company-level for front line leaders of the 102<sup>nd</sup> Infantry Battalion. Clinicians from the VA's PTSD/Anxiety Clinic provided a comprehensive overview of psychological problems experienced by many soldiers during their transition from war zone to civilian.

VA clinicians also provided insight into how soldiers' symptoms may influence

behaviors that tend to disrupt their lives (e.g., risk behaviors, increased substance abuse, family violence). MSP provided detailed information regarding clinical and non-clinical services that are available to Guard members and their families, as well as routes of access to treatment within the VA, Vet center and DMHAS systems. The very real influence of stigma and how it militates against timely access to care was also discussed at length.

Through partnerships with OEF/OIF Coordinating Committee member organizations, other state agencies, and an array of community-based organizations whose day-to-day work may benefit veterans and their families,

MSP receives valuable input that supports the development of new program initiatives in response to identified needs.

Input received from our partners - principally from leadership within the National Guard, clinicians within the VA Connecticut Healthcare System and the Vet Centers, as well as from the National

Guard Family Program – prompted MSP to establish the popular *MSP Transportation Program* and the *Connecticut Military Child Initiative*. Similarly, comments from several clinicians within the DMHAS state-funded and provider networks encouraged MSP to put together the *Veterans Representative Training Program*.

***...much about  
military culture  
serves to  
prevent Soldiers  
from seeking  
treatment.***

## C. LESSONS LEARNED

### ACKNOWLEDGING PSYCHOLOGICAL (HIDDEN) WOUNDS

Since the inception of MSP in March 2007, important studies have revealed the extent to which the newest generation of veterans is affected by its experiences in war. A comprehensive critique of the U. S. Department of Defense (DoD) mental healthcare system, as well as a clear description of the challenge facing DoD and VA in meeting the needs of returning combat personnel, was provided in the June 2007 *Final Report of the DoD Task Force on Mental Health*. Among the report's most salient findings were the observations that there was a severe shortage of mental health clinicians within DoD, and that much about military culture serves to prevent soldiers from seeking treatment. In effect, the report observed that even if there were a sufficient number of clinicians within the DoD system, it would not matter because stigma militates so successfully against soldiers' access to care (4).

A 2004 study reported in the *New England Journal of Medicine (NEJM)* found that soldiers were reluctant to seek treatment because they felt that their leaders would look down on them, their fellow soldiers would deride them, and they would see themselves as being weak. The research found that, among the soldiers determined during post-deployment health screenings as needing

mental health care, few actually followed through on referrals to treatment (5).

In February 2008, the U.S. Army Office of the Surgeon General released its fifth comprehensive report on the mental health of military personnel deployed in Iraq and Afghanistan. Among the Mental Health Advisory Team (MHAT V) Report findings were that 55.6% of soldiers felt that their unit would treat them differently if they sought mental health care and 56.7% felt they'd be seen as weak (6).

These findings were reinforced by a June 2008 Survey that was conducted by Harris International for the American Psychiatric Association. The survey reported that "six in ten military members (61%) thought that seeking help for mental health concerns would have at least some negative impact on their career". About half of military members (53%) believed that others would think less of them if they sought help for mental health concerns (7). In addition to confirming the influence of stigma among military personnel, the survey revealed an alarming lack of insight among both soldiers and military spouses concerning the prevalent emotional problems associated with war zone service, as well as the effects of stress on the families left behind. Moreover, a large majority of both soldiers and military spouses were unaware of the availability and

*Nearly half of reserve  
component soldiers  
self-report  
experiencing  
psychological  
problems within the  
first 6 months  
following their return  
from deployment in  
Iraq or Afghanistan.*

effectiveness of clinical services in place to help them (7).

While stigma around help seeking for mental health concerns remains a huge barrier to care, studies are showing that large numbers of soldiers are in immediate need of treatment. Analyses of routine Post Deployment Health Assessments, conducted during the first 6 months following soldiers' return from deployment, reveal that many soldiers could benefit from mental health care.

Two studies released in 2007 and 2008 found that nearly half of reserve component soldiers self-report experiencing psychological problems within the first 6 months following their return from deployment in Iraq or Afghanistan. While 20%-38% of active duty soldiers reported having problems, the percentage was 42% - 49% for reserve component soldiers (4, 8). Prevalent symptoms reported by soldiers include depression, anxiety, irritability, anger, difficulty sleeping and increased substance use.

Another type of "hidden wound" is all too common among soldiers returning from Operations Enduring Freedom and Iraqi Freedom. Much has been written about the improvised explosive device (IED), how it has been the "signature weapon" of insurgents in Afghanistan and Iraq, and traumatic brain injury (TBI) its signature consequence. Neurologists affiliated with the U.S. military have estimated that up to 30%

of troops who have served for 4 months or longer in Iraq or Afghanistan are at risk of some form of disabling neurological damage (9, 10). According to the Defense and Veterans Brain Injury Center, a research and treatment agency run by DoD and VA, 64% of injured troops have suffered brain injuries (11).

In April of this year, the Rand Corporation reported that as many as 300,000 combat personnel (18.5%) would return with psychological problems, principally depression, anxiety and post traumatic stress disorder, and that as many as 320,000 may have suffered mild traumatic brain injury (12).

***The Rand Corporation reported that as many as 300,000 combat personnel (18.5%) would return with psychological problems, principally depression, anxiety and post traumatic stress disorder.***

Another recently published study affirmed what National Guard and Reserve unit commanders have known for quite some time - that many OEF/OIF veterans now struggle with substance use disorders. The August 2008 study found that "Reserve and National Guard personnel and younger service members who deploy with reported combat exposures are at

increased risk of new-onset heavy weekly drinking (9.0%), binge drinking (53.6%), and alcohol-related problems (15.2%)." (13). *One of the reasons that MSP established its transportation program is because several National Guard Soldiers had lost their licenses secondary to multiple DUI (driving under the influence) charges.*

## **RESPONSE FROM DEPARTMENT OF DEFENSE LEADERSHIP**

The prevalence of stigma as a significant barrier to care has been widely discussed within the military during the past two years, and defeating its negative influence has been a prominent theme in DoD leadership's discussion of the matter.

### ***The Final Report of the DoD Task Force on Mental Health***

It was a call to action. It encouraged timely recognition and aggressive treatment of soldiers' psychological wounds, and instructed that they be addressed no differently than physical combat wounds. A world-wide "chain teaching" program was implemented to assure uniform compliance through all command levels. Nationally, the Guard's ability to engage, educate and encourage soldiers' access to necessary treatment was strengthened through the *Yellow Ribbon Reintegration Program*, introduced in the 2008 Defense Authorization Act.

On May 1, 2008, at the Army Sergeants Major Academy at Fort Bliss, TX, Department of Defense Secretary Robert M. Gates called on senior NCO's - "the backbone of the military" - for help in getting soldiers who may have hesitated in the past to step forward to now get the care they need (14).

***Secretary Gates,  
joined by Admiral  
Mike Mullen,  
Chairman of the Joint  
Chiefs of Staff,  
reiterated that senior  
officers should  
proactively encourage  
service members who  
are suffering war-  
related psychological  
problems to get help.***

At a press conference the same day, Secretary Gates, joined by Admiral Mike Mullen, Chairman of the Joint Chiefs of Staff, reiterated that senior officers should proactively encourage service members who are suffering war-related psychological problems to get help. "All of you have a special role in encouraging troops to seek help for the unseen scars of war – to let them know that doing so is a sign of strength and maturity," Gates told the group. "I urge you all to talk with those below you to find out where we can continue to improve. As I have said before, there is no higher priority for the U. S. Department of Defense, after war itself, than caring for our wounded warriors" (15). Boldly underscoring leadership's resolve in removing stigma from the military, Secretary Gates also announced the removal of Question 21 from the application for U.S. Security Clearance. No longer should soldiers' receiving mental healthcare for deployment-related psychological problems be held against them.

The U.S. Department of Veterans Affairs is taking steps to combat stigma as well. At the August 2008 *Returning Veterans* conference in Bethesda, MD, Dr. Ira Katz, VA's Deputy Chief for Mental Health, announced that the National Centers for Psychological Health and TBI will begin a national anti-stigma campaign in November 2008.

***Helping Soldiers Whose Behaviors Lead to Problems With Law Enforcement.***

Too often soldiers exhibit risk behaviors that may be directly attributed to the psychological problems they're struggling with, particularly during the homecoming transition process. And too often evidence of these behaviors surface in the criminal justice system. The Connecticut National Guard reports that many OEF/OIF veterans in units throughout the state have been arrested for Driving Under the Influence (DUI), and that several soldiers have accumulated multiple DUI charges. Others have been arrested for other motor vehicle violations such as extreme speeding or reckless driving. Still others, too many, are brought in on family violence or breach of peace charges. And some have been charged with firearms violations.

Beginning in November 2007, DMHAS, VA, DVA and the Connecticut Military Department held a series of meetings to:

- ✘ Define the scope of the problem
- ✘ Determine levels of care available across systems
- ✘ Assure treatment capacities and timely access to care, and
- ✘ Plan intervention strategies.

Several separate discussions took place between OEF/OIF Coordinating Committee partners and the Chief State's Attorneys' Office and the Public Defenders' Office to explore jail diversion, alternative sentencing and conditional release strategies. MSP staff also conducted in-service trainings for staff of the DMHAS statewide Jail Diversion program.

It is important to note that DMHAS has joined VA in prioritizing healthcare services to OEF/OIF Veterans. *A "next available bed" policy has been established for veterans who are eligible for DMHAS services and who require residential rehabilitation services.*

Additionally, DMHAS has been awarded a \$2 million Jail Diversion/Trauma Recovery grant through the Substance Abuse and Mental Health Services Administration (SAMHSA), Center for Mental Health Services (CMHS). Following guidelines established by CMHS, services will be piloted in the New London/Norwich area during the first year of the 5-year grant and will be implemented statewide beginning in year two.

*As many as 19% of in-theater veterans may have sustained mild-to-moderate traumatic brain injuries (TBI)*

***The Importance of Community Involvement in the Reintegration Process***

LTC (Chaplain) John Morris of the Minnesota Army National Guard eloquently describes the job of supporting returning soldiers and their families as having three basic elements:

- ✘ Assure the good health and well-being of every returning soldier
- ✘ Support the military family throughout the deployment cycle
- ✘ Develop social structures that may harness and support the involvement of the community in helping veterans and families to excellence in their lives following their experience in war (16).

During the past few years, studies have been published that portend very significant numbers of psychological problems - principally depression, anxiety and PTSD - among returning soldiers (4, 5, 8, 12, 17). Also reported is that as many as 19% of in-theater veterans may have sustained mild-to-moderate traumatic brain injuries (TBI) (12).

Research has highlighted the need to assure that we have in place a national clinical capacity to respond to soldiers' treatment needs in a timely, appropriate and effective manner. The first element of Col. Morris' 3-part admonishment seems well-understood.

Not as well understood, it seems, is the critically important role of community among Morris' three elements. It is one thing to assure that soldiers' clinical needs are appropriately met, but the VA is not what Col. Morris means when he talks about community.

While VA may have terrific evidence-based therapies available to treat PTSD,

for instance, its role is chiefly clinical. Successful reintegration, by definition, requires social context – something into which a person may reintegrate.

It may be argued that the task of *assuring the health* of a returning veteran is impossible without the involvement of community. Community is also important in veterans' recovery for it is here that psychosocial health finds expression through one's livelihood, learning, housing arrangement, social networks and spiritual life. All of these domains of life exist within the *community*.

LTC David Rabb, who currently serves as VA Military Liaison for the Army's Western Regional Medical Command, describes the importance of community as a central element in the healing process. He observes that trauma has a way of significantly altering the natural trajectory of one's life, and that being in community, like gravity, has a way of grounding us and supporting us where we land after we experience traumatic change (18).

### **Working closely with partners on the State OEF/OIF Coordinating Committee, MSP has come to appreciate several basic concepts:**

- ✘ The “road home” from war zone to civilian life has predictable emotional challenges that *every* returning Combat Soldier must navigate.
- ✘ Many veterans and family members lack insight regarding symptoms associated with war zone stress and the “road home” process.
- ✘ For some, these challenges may find expression in abuse of substances, driving under the influence (DUI) violations, episodes of family violence, divorce and other problems which can lead to homelessness and involvement with the criminal justice system.
- ✘ Most military families are unaware of available resources and efficacy of available clinical supports.
- ✘ Stigma associated with behavioral healthcare is a major barrier to treatment for both soldiers and family members.

✘ Given the overwhelming preponderance of psychological symptoms experienced among returning Combat Soldiers, the homecoming process must be normalized through education supported by open and honest discussion.

✘ Along with addressing their significant behavioral health symptoms we must also develop capacity to address their psycho-social needs (i.e., a job, a home, and opportunity for educational accomplishment).

***Healing from war is not possible outside the context of community; successful reintegration can be strengthened by active community involvement.***

***The responsibility of a grateful nation is three-fold:***

- 1) To assure the good health and well-being of every returning soldier,***
- 2) To support the military family during the deployment cycle, and***
- 3) To develop social structures that may harness and support the involvement of the community in helping returning combat veterans to excellence in their post-military lives.***

## SECTION IV

### PRESCRIPTION FOR THE FUTURE

In several important ways, the studies conducted by the Yale and Central Connecticut research teams have served to validate both the early decisions made by DMHAS to establish a 24/7 call center along with statewide outpatient counseling services, as well as later decisions to add a clinical staff training component, deployment health education services, school-based services for children affected by deployment, and a statewide transportation program. Taken together, *the range of behavioral health programs and services established through MSP represent an operation that is already reflective of many of the findings of the study. But the study findings do much more than simply grade and affirm MSP's early performance.*

The manuscript that discusses the prevalence of *partial PTSD* encourages behavioral health clinicians to identify and address symptoms that, while not of sufficient quantity to meet a diagnosis of PTSD, nonetheless affect veterans' functional abilities. The findings illuminate *the previously overlooked mental health needs of 20% - 25% of returning soldiers – soldiers who do not meet criteria for PTSD but who are struggling with many trauma-related symptoms* and the impairment in functioning that accompanies these symptoms. What emerges from the study is a greater appreciation for the extent to which returning soldiers exhibit traumatic stress symptoms that contribute to psychosocial challenge related to work, home, learning, social relationships, spiritual life, etc. Previous research in OEF/OIF Veterans has focused on PTSD and has found rates of 17-20 % of probable PTSD. The present study

finds that an additional group, with approximately the same number of soldiers, is also experiencing PTSD symptoms that disrupt their life.

The second research manuscript on *stigma* and *barriers to care* provides insight into two principle dynamics at work within the stigma phenomenon – soldiers' negative perceptions regarding their military units' support for their decision to access behavioral health services and their misperceptions about what to expect if they were to actually see a behavioral health clinician. Both of these components militate against access to care, but now that they've been identified it will be important to address them through military unit-level deployment health education activities.

The team's research on resilience traces a pathway that demonstrates that individuals who have strong social supports tend to be more resilient, that resilient individuals tend to attract greater social support, and that individuals who are more resilient are less likely to develop PTSD. The study also found that individuals who have a greater sense of personal control (such as that which may be achieved through unit training and preparation) are more resilient, and that this extends to therapy as well. Veterans with PTSD can, through cognitive therapy, learn strategies to achieve control over thoughts and memories that elicit symptoms.

Based on the already completed studies as well as the continuing research by the research teams the following recommendations are offered:

### ***FINDING***

Study findings point to the need for consistent and comprehensive screening to identify OEF/OIF veterans who are experiencing substantial trauma-related symptoms and psychosocial challenges, but do not specifically meet criteria for PTSD, in order to assure their timely access to care.

### ***RECOMMENDATION 1***

Screening of all OEF/OIF deployed National Guard and reserve personnel to be conducted on an annual basis in order to identify both PTSD and partial PTSD.

### ***ACTION ITEMS:***

- ✘ MSP explore opportunities with the Connecticut Military Department to administer a screening instrument, such as the 17-item PTSD Symptom Checklist (PCL), that is capable of detecting both PTSD and partial PTSD.
- ✘ The current Memorandum of Understanding between the Connecticut Military Department, the VA Connecticut Healthcare System and others to be reviewed and modified in order to accommodate this recommendation.

### ***FINDING***

Study data make it clear that traumatic stress symptoms are not rare, but common. In the past there has been a great tendency to pathologize traumatic stress symptoms. However, these and other recent findings suggest that symptoms of traumatic stress are so common that they may be viewed as a predictable response to war. In this regard, stigma may best be challenged by open and honest discussion about the prevalence of psychological consequences of war. In addition to the challenge of normalizing symptoms caused by combat stress, it is also important that efforts to educate soldiers regarding deployment health matters be informed by the research findings that barriers to care are likely to decrease with: 1) enhanced military unit support; and 2) provision of accurate information about the nature and efficacy of new evidence-based trauma focused therapies.

### ***RECOMMENDATION 2***

Informed by the findings of the studies, all deployment health education activities may now focus on normalizing, rather than pathologizing, symptoms caused by combat stress, thereby decreasing stigma and barriers to care as well as provide accurate information regarding the nature and efficacy of treatment.

### ***ACTION ITEMS***

- ✘ MSP continue to work with the National Guard to improve the delivery of deployment health education through the Yellow Ribbon Reintegration Program (YRRP) and the training of local unit leaders.
- ✘ Select MSP clinicians to present at YRRP-related activities, including the 60-day drill, and at local leaders trainings.
- ✘ MSP to partner with CT Military Department and CT-based Reserve units to incorporate study findings in all activities relating to deployment health (i.e. Military Family Conferences held prior to a unit's deployment and homecoming at all unit de-mobilizations, 30-day and 60-day drills, and at all 90-day Post Deployment Health Re-Assessments).
- ✘ MSP, VA CT Healthcare System and other members of OEF/OIF Coordinating Committee take steps to inform the following systems of the prevalence and predictability of trauma related symptoms among returning veterans: 1) VA and non-VA clinical communities; 2) Criminal justice system; and 3) Appropriate local, state and federal agencies.

### ***FINDING***

Review of the literature suggests that actual utilization of treatment following referral to care among OEF/OIF veterans is a problem that requires attention. Research shows that very few soldiers who are assessed as needing psychological care actually engage in treatment through the referral process.

### ***RECOMMENDATION 3***

The leadership of the CT National Guard, Major General Thad Martin, and the MSP has agreed to implement a major programmatic initiative to better serve Connecticut guard members and their families by providing access to comprehensive resources within the MSP clinical network. This unprecedented action embeds MSP clinicians into deploying National Guard Units making available immediate, on-sight access to support services throughout the deployment cycle.

### ***ACTION ITEMS***

- ✘ Designing and implementing a process for ding MSP clinicians within National Guard Units.
- ✘ MSP meet with Connecticut National Guard leadership to determine steps to improve guard members access to comprehensive resources within the MSP clinical network.

### ***FINDING***

Review of the literature and research data show increased rates of substance abuse (alcohol) and depression among OEF/OIF veterans with PTSD. Due to recognized tendencies among veterans struggling with PTSD to self-medicate with alcohol, the presence of a substance abuse problem may signal underlying trauma-related problems. The research shows, however, that among those identified as having substance abuse problems, very few actually access care.

### ***RECOMMENDATION 4***

Soldiers, family members and unit leadership should be informed that excess alcohol use, as well as use of other substances, may be related to underlying symptoms of traumatic stress.

### ***RECOMMENDATION 5***

Veterans entering substance abuse treatment services in Connecticut to be evaluated for traumatic stress history, co-occurrence of substance use disorder with PTSD or partial PTSD. Subsequent treatment shall be trauma-informed.

### ***ACTION ITEMS***

- ✘ Deployment health education activities to include discussion of the strong relationship between PTSD and increased use of substances.
- ✘ VA Connecticut Healthcare System and DMHAS to provide leadership in educating Connecticut substance abuse treatment providers about the importance of trauma-informed assessment and treatment for veterans presenting with substance use disorders.

***FINDING***

A review of the literature shows that new evidence-based therapies, such as Cognitive Processing Therapy are highly effective in treating PTSD.

***RECOMMENDATION 6***

MSP to train a cohort of MSP and DMHAS clinicians in Cognitive Processing Therapy.

***ACTION ITEM***

DMHAS to identify possible avenues to train selected Connecticut clinicians in the new evidence-based treatments such as Cognitive Processing Therapy.

***FINDING***

Review of the literature and the survey of the Connecticut OEF/OIF veterans suggest that a significant number of families and children experience deployment-related stress, additional financial strains, general disruption of family structure, and emotional challenges and could benefit from behavioral health services, as well as other supportive services, both during deployment and post-deployment.

***RECOMMENDATION 7***

MSP services currently are solely available to citizen soldiers (National Guard and Reserve) component soldiers and their families. Other OEF/OIF veterans are not eligible for MSP services. MSP should be expanded to include all OEF/OIF veterans and their family members.

***ACTION ITEM***

MSP, along with partners on OEF/OIF Committee, to investigate possible gaps in service for all OEF/OIF veterans and their families and work together in addressing identified needs.

***FINDING***

Review of the literature and work of the research team shows that veterans with strong social supports are less likely to develop PTSD. The literature also suggests that individuals recovering from mental health conditions benefit greatly when strong psychosocial supports (related to work, home, learning, social relationships, spiritual life, etc.) are incorporated in their individual recovery plans. Social support is typically provided by family members, friends, co-workers and community. Community is important in veterans' recovery for it is here that social networks find expression through one's livelihood, learning, housing arrangement and spiritual life.

Since the spring of 2008, MSP has been providing deployment health education services to soldiers, veterans, military families, state and federal agencies, community-based agencies and within the business, academic and faith communities. Consistently, citizens ask how they might support returning OEF/OIF veterans and their families. Currently, there is no clear organizational structure to facilitate local citizen involvement in supporting veterans.

### **RECOMMENDATION 8**

In partnership with key stakeholders, principally the Connecticut National Guard, the federal VA, Vet Centers, and the Department of Veterans' Affairs, MSP to explore ideas and initiate action steps to foster community involvement in addressing the unique needs of soldiers/veterans and their families.

### **ACTION ITEM**

Leadership in addressing this challenge to be accessed through the Connecticut OEF/OIF Coordinating Committee. Potential community initiatives may include the development of *Regional Veterans' Intra-Community Councils* as well as an organizational structure to encourage *Connecticut Employers' support for Veterans and Military Families*.

## **MSP TO CONTINUE WHAT WORKS**

As the Connecticut Guard and Reserves enter a new deployment cycle, the number of Citizen Soldiers and family members accessing MSP outpatient behavioral health counseling services is expected to increase. This projection is based on several factors:

- ✘ The military, in general, has become increasingly proactive during the past 2 years in its efforts to recognize and treat what is now referred to as the "hidden wounds of war" – the psychological problems identified at 90-day PDHRA's (principally depression, anxiety, irritability, anger, trouble sleeping and increased substance use) as well as mild traumatic brain injuries,
- ✘ The *Yellow Ribbon Reintegration Program*, established nationally by the 2008 Defense Re-authorization Act, requires the provision of deployment health education activities for military personnel and their families, and
- ✘ Research points to increased behavioral health problems among

soldiers facing repeated deployments.

### **OUTPATIENT BEHAVIORAL HEALTH SERVICES**

The MSP will continue to provide transitional outpatient counseling services to Connecticut's Citizen Soldiers and their family members. The response to MSP's free, confidential, locally available counseling has been extremely positive. MSP will strive to strengthen its statewide panel of clinicians, and will provide leadership in encouraging cooperation and collaboration across federal and state healthcare systems to assure continuity of care for soldiers and their families. Additionally, MSP will continue to provide intensive community case management, and information/referral and advocacy services to eligible veterans and their families.

## **DEPLOYMENT HEALTH EDUCATION SERVICES**

MSP will continue to place great emphasis on deployment health education service matters to soldiers and families affected by deployment in OEF/OIF, as well as to members of the community.

- ✘ It is recognized that stigma surrounding behavioral health issues is best defeated through open and honest discussion about the emotional problems that affect every combat soldier returning from war.
- ✘ MSP will continue its work to normalize psychological health issues relating to the deployment cycle so that soldiers and family members may recognize symptoms quickly and seek timely support.

## **VETERANS REPRESENTATIVE TRAINING PROGRAM**

MSP has led the way in elevating Connecticut clinicians' knowledge and expertise in serving our newest veterans. With assistance from the DMHAS Education and Training Division, MSP will continue to offer the 2-day Veterans Representative Training Program, twice per year, for DMHAS clinicians (from both state-operated and state-funded agencies). The training informs clinicians about the prevalent behavioral health issues faced by returning Iraq and Afghanistan War Veterans, as well as the range of benefits and services available to them.

Clinicians trained are recognized as *DMHAS Veterans Resource Representatives* within their employment organization, the "go to" persons for answers regarding Veterans affairs. Thirty-seven (37) DMHAS clinicians

participated in the first 2-day training held in April 2008. Future training sessions are scheduled for October 2008 and May 2009.

## **CONNECTICUT MILITARY CHILD INITIATIVE**

DMHAS, through MSP, will continue efforts to assure that every child who is affected by deployment will be appropriately and universally supported throughout the State. The Connecticut Military Child Initiative will research, prepare and disseminate materials to assist school-based clinicians to:

- ✘ Support children in military families
- ✘ Recognize common deployment-related adjustment issues, and
- ✘ Know where to refer and link families for support.

## **MSP TRANSPORTATION PROGRAM**

With fuels costs expected to remain high, the need for the MSP Transportation Program will continue to grow. MSP is committed to assuring that no eligible veteran or family member face the choice of dropping out of treatment due to lack of transportation.

## **JAIL DIVERSION AND TRAUMA RECOVERY SERVICES FOR VETERANS**

DMHAS, in collaboration with the Connecticut Department of Veterans Affairs, VA Connecticut Healthcare System, the Department of Correction, the Department of Social Services and the Judicial Branch, will conduct a strategic planning process to develop a comprehensive continuum of trauma-

integrated diversion programming for veterans with PTSD/trauma-related disorders who are involved in the criminal justice system. The goal of this effort will be to develop the expertise and infrastructure to sustain a jail diversion/trauma recovery program in Southeast Connecticut region (New London/Norwich first year pilot), and to generate and document evidence to support its replication across all 20 Jail Diversion and Crisis Intervention Teams (CIT Programs) across Connecticut.

**AND FINALLY,**

MSP will continue to work closely with current and future partners who, like us, are committed to the health and well-being of soldiers/veterans and their families. Our expectation is one of hope, that together we may learn, plan, design and build new programs and services – new initiatives – that may truly serve to assist veterans and military families to excellence in their lives following their experience in war.

## CONCLUSION

Recent Army post deployment health assessment data reveal that almost one-half of reserve component combat soldiers return from war with complaints of psychological problems (1). The RAND Study suggests that as many as one-in-five OEF/OIF Veterans will struggle with post traumatic stress disorder (PTSD), major depression, mild traumatic brain injury (MTBI), or a combination thereof (2).

Given what we now know about the percentages of soldiers who are, or will be, affected by hidden wounds associated with service in Iraq and Afghanistan, the emphasis currently placed on clinical preparedness to serve veterans (i.e., establishing centers of excellence for PTSD and TBI treatment; increasing clinical capacity; expanding evidence-based therapies; introducing outreach, referral and deployment health education activities) is appropriate and critically important.

But taking care of families throughout the deployment cycle is also important. And it is our challenge, a challenge for the collective “US”, to find ways to involve all facets of the community as we endeavor to assist our veterans and their families to excellence in their lives.

We end our report as we began it, by acknowledging the military service and sacrifice of the men and women who have, and continue, to serve so

honorably in our name. 1.65 million have served in Afghanistan and/or Iraq, slightly over one-half percent of our country’s population (3).

We ask so much of so few. We are mindful of the ultimate sacrifice that has been made by so many of our sons and daughters, wives and husbands, sisters and brothers. Today, we chart our loss at nearly 4,800 dead, our wounded at over 33,000 (4).

DMHAS is privileged to have drawn the assignment of providing transitional outpatient and other behavioral healthcare services to Connecticut’s Citizen Soldiers and their families. And we are hopeful that what has been accomplished by the Military Support Program and its many partners, will be viewed as simply a modest beginning. In Connecticut, through the wisdom and leadership of its elected officials, we are appropriately focused on the work that stands before us, and there is so much yet to be done.

*We know too much not to get it right this time. Among the things we know....*

- ✘ We know that there has been a paradigm change regarding military service in America, that it is no longer a “once and done” commitment fueled by a military draft.
- ✘ We know that in today’s all volunteer military, reserve component soldiers have been called to action in large numbers, and everyone in uniform now faces the possibility of multiple deployments.
- ✘ We know that at least one-in-five active duty OEF/OIF soldiers experience psychological problems during the first 6 months following their return from war, and that nearly 50% of

reserve component soldiers report having problems (1).

- ✘ We now know about PTSD, of predictable co-occurring substance use and mental health disorders, and enormous social sequelae (5, 6, 7).
- ✘ We know that the vast majority of soldiers and veterans struggling with the emotional and behavioral baggage they've carried home from war do not understand why they are experiencing such difficulty in reintegration back into their home environment.

- ✘ We know of new, hugely effective evidence-based therapies in treating PTSD that are now available at VA's around the country.
- ✘ We know that early connection to treatment will result in more favorable outcomes.

## GLOSSARY OF TERMS

Citizen Soldiers	Reserve component military personnel who typically drill one weekend per month and serve 2 full weeks training during the summer. Another term – “suddenly soldiers” –is sometimes used when units are mobilized with little or no notice.
Connecticut OEF/OIF Coordinating Committee	The Coordinating Committee is a partnership among several key state and federal agencies. The central purpose of the Committee is to support soldiers, veterans and family members throughout the OEF/OIF deployment cycle.
De-mobilization	Term used to describe the process reserve component units undergo as they stand down from deployment in war and are processed for discharge from active duty service.
DMHAS Veterans Resource Representatives	A title given to DMHAS clinicians to designate their successful completion of Veterans Resource Representative Training and to acknowledged them as “go to” persons in their respective work areas and agencies in matters relating to veterans.
Hidden Wounds of War	The prevalent psychological problems - principally depression, anxiety and Post Traumatic Stress Disorder – that are experienced by many returning OEF/OIF service personnel. Among the hidden wounds are mild traumatic brain injuries caused by exposure to bomb blast.
IED	Improvised Explosive Device, which has come to be known as the signature weapon of insurgents in both Afghanistan and Iraq.
Inactive Ready Reserve	A manpower pool consisting of individuals who have served previously in the Active Component or in the Selected Reserve, and have some period of their <i>military service obligation</i> remaining. All military personnel have a statutory eight-year military service obligation (MSO), established at the time of entry into military service. Traditional enlistment terms are three, four, five and six years. Terms of service for active duty are from 2-6 years.
MHAT V Report	Report of a team of Army behavioral-health professionals who were dispatched by the Army Surgeon General to southwest Asia to survey the mental health needs of Soldiers. Five Mental Health Advisory Teams (MHAT) have been dispatched since 2003. The

latest, Team V, conducted their work during October and November 2007

Military Family Conferences	Conferences held for family members at various intervals during the deployment cycle by the National Guard/Reserve Family Programs with assistance from the Transitional Assistance Advisor and the OEF/OIF Coordinating Committee.
MSP Eligible	Reserve component soldiers and their families and significant others. Eligible family members include spouse, parent, sibling, grandparents and cousins.
Operation Enduring Freedom	The official name used by the U.S. Government for the War in Afghanistan
Operation Iraqi Freedom	The official name used by the U.S. Government for the War in Iraq
Post Deployment Health Re-Assessment (PDHRA)	A program mandated by the Assistant Secretary of Defense for Health Affairs designed to identify and address health concerns, with specific emphasis on mental health, that have emerged over time since deployment. The PDHRA follows the “wheels down” Post Deployment Health Assessment (PDHA), and is conducted 90-180 days following a unit’s return from deployment.
Post-Traumatic Stress Disorder (PTSD)	PTSD is an anxiety disorder that can develop after exposure to a terrifying event or ordeal in which grave physical harm occurred or was threatened. Traumatic events that may trigger PTSD include violent personal assaults, natural or human-caused disasters, accidents, or military combat. Not every traumatized person develops full-blown PTSD or even partial PTSD. Symptoms usually begin within 3 months of the incident but occasionally emerge years afterward. They must last more than a month to be considered PTSD. The course of the illness varies. Some people recover within 6 months, while others have symptoms that last much longer. PTSD symptoms may include: flashbacks, or re-living the traumatic event; shame or guilt; nightmares, difficulty sleeping; feeling emotionally numb; irritability or anger; increased use of substances; feeling hopeless; trouble concentrating; loss of interest; or being easily startled or frightened.
Question 21	Refers to the question contained in the application for U.S. security clearance which formally inquired of mental health history. Defense

Secretary Gates has ruled that mental health treatment for trauma-related problems will not be a factor in decisions regarding national security clearance.

Reserve Component  
Military

Members of the National Guard and the Reserve forces of the Marines, Army, Navy, Air Force and Coast Guard

Sesame Street Children's  
Series

DVD children's series with Spanish and English versions entitled "Talk, Listen, Connect" which includes guidance on issues relating to deployment, homecoming and a parent's war wounds.

Stop Loss

Under the policy, soldiers who normally would leave when their enlistment commitments expire may receive orders to remain in the military, starting 90 days before their unit is scheduled to depart, through the end of their deployment and up to another 90 days after returning to their home base. With yearlong tours in Iraq and Afghanistan, some soldiers can be forced to stay in the military an extra 18 months.

Transition Assistance  
Advisor

The Transition Assistance Advisor is the statewide point of contact and coordinator whose principal role is to assist National Guard and Reserves members in accessing the full range of U.S. Department of Veterans Affairs benefits and healthcare services, TriCare entitlements, state benefits and services, and community resources.

Vet Centers

Community-based, often storefront, counseling centers located in cities throughout the country. The Vet Centers are operated by the VA Readjustment and Counseling Service. There are currently 232 Vet Centers in the country, 3 in Connecticut – Rocky Hill, West Haven and Norwich. A 4<sup>th</sup> office will soon open in Fairfield.

Yellow Ribbon  
Reintegration Program

The Secretary of Defense initiated the Yellow Ribbon Reintegration Program (YRRP) which provides information, services, referral, and proactive outreach programs to National Guard and Reserve members and their Families through all phases of the deployment cycle. The goal of the YRRP is to prepare Soldiers and Families for mobilization, sustain Families during mobilization, and reintegrate Soldiers with their Families, communities, and employers upon redeployment. .

## ENDNOTES

### INTRODUCTION

1. Department of Defense, Defense Manpower Data Center, Contingency Tracking System. [www.portfolio.com/images/site/editorial/pdf/Pentagon\\_Troops.pdf](http://www.portfolio.com/images/site/editorial/pdf/Pentagon_Troops.pdf)
2. Department of Defense Casualty Reports. [www.defenselink.mil/news/casualty.pdf](http://www.defenselink.mil/news/casualty.pdf)
3. Tanielian T, Jaycox LH et al, "Invisible Wounds of War: Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery". RAND Center for Military Health Policy Research, RAND Corporation. April 2008.
4. Milliken CS, Auchterlonie JL, Hoge CW, "Longitudinal Assessment of Mental Health Problems Among Active and Reserve Component Soldiers Returning From the Iraq War". JAMA. 2007. (Nov 14); Vol 298, No 18. <http://jama.ama-assn.org/cgi/content/abstract/298/18/2141>.
5. Hoge CW et al, "Mental Health Problems, Use of Mental Health Services, and Attrition From Military Service After Returning From Deployment to Iraq or Afghanistan". JAMA. 2006. (March 1); Vol 295, No 9.
6. Hoge CW et al, "Combat Duty in Iraq and Afghanistan, Mental Health Problems, and Barriers to Care". NEJM.2004. (July 1); Vol 351:13-22, No 1.
7. Department of Defense Task Force on Mental Health, "An Achievable Vision: Final Report of the Department of Defense Task Force on Mental Health". DoD. June 2007.
8. Department of Defense, Medical Surveillance Monthly Report, "Mental Health Encounters and Diagnoses Following Deployment to Iraq and/or Afghanistan, U.S. Armed Forces, 2001-2006". Armed Forces Health Surveillance Center. 2007 (July); Vol 14, No 4.
9. U.S. Department of Defense, Office of the Assistant Secretary of Defense for Reserve Affairs. "Introduction to the Office of the Assistant Secretary of Defense for Reserve Affairs." Power Point presentation. February 1, 2006; Page 2.2 OASD(RA) Agenda, Who We Are. [www.defenselink.mil/ra/documents/IntrotoRAFY06.pdf](http://www.defenselink.mil/ra/documents/IntrotoRAFY06.pdf)
10. Scott-Tyson A, "Possible Iraq Deployments Would Stretch Reserve Force." *Washington Post*. November 5, 2006.
11. Associated Press, "Death Toll Rises for Reservists in Iraq." NewsMax.com. Wires. Washington. October 11, 2005.
12. Kelly J, "Guard, Reserve showing strains; Experts predict serious problems." *U.S. News*. (first appeared in the *Pittsburg Post-Gazette*) December 18, 2004.
13. Spec. Seaman App. Two Bulls RJ, Navy NewsStand, "Campaign Stars Established to Recognize Multiple Deployments." Naval Media Center Public Affairs. Washington. June 5, 2008. Story No. NNS080605-12. [www.globalsecurity.org/military/library/news/2008/06/mil-080605-nns02.htm](http://www.globalsecurity.org/military/library/news/2008/06/mil-080605-nns02.htm)
14. Gilmore GJ, "Army Deploys Prevention Programs to Combat Soldier Suicides." American Forces Press Services. Washington. May 29, 2008.
15. Shanker T, "Long, Multiple Deployments are Alarming Army Leaders." *The Seattle Times* (originally printed in the *New York Times*). April 6, 2008.
16. Barnes JE, "Army 'Stop-Loss' Orders Up Dramatically Over Last Year." *Los Angeles Times*. May 9, 2008.
17. Jelinek P, "General: Army Needs 'Stop-Loss' Until Late 2009." *The Huffington Post*. April 21, 2008.
18. Regan T, "Stop-Loss Used to Retain 50,000 U.S. Troops." *The Christian Science Monitor*. January 31, 2006.

19. Squitieri T, "Army Expanding 'Stop-Loss' Order to Keep Soldiers From Leaving." USA Today. January 1, 2004.
20. Miles D, "Marines Express Little Surprise About IRR Call-Ups." American Forces Press. Camp Pendleton, CA. August 24, 2006.
21. Mitchell R, "'Back-Door Draft' Raises Questions." CBS News. June 27, 2004.
22. Burns R, "Army Will Order Thousands in IRR to Muster." The Associated Press. June 16, 2007.
23. Rizzo R, "With More Older Troops on Battlefield, Army Sees Rise in Noncombat Ailments." Stars and Stripes. (European Edition). March 13, 2005.
24. Wertheimer L, "Wounded in War: The Women Serving in Iraq." All Things Considered. National Public Radio. September 8, 2008.
25. Presidential Task Force on Military Deployment Services for Youth, Families and service Members, "The Psychological Needs of U.S. Military Service Members and Their Families: A Preliminary Report", Amer Psych Assoc, 2007 (February).
26. Kang H, "Analysis of VA Health Care Utilization Among US Global War on Terror (GWOT) Veterans: Operation Enduring Freedom, Operation Iraqi Freedom (OEF/OIF)". VA Environmental Epidemiology Service. Jan 2008.
27. Contingency Tracking System Deployment File, "Record of Personnel Ever Deployed (Sep 01 – Mar 08)". Defense Manpower Data Center. U.S. Department of Defense. April 18, 2008.
28. VA Connecticut Healthcare System, Combat Vet OEF/OIF Report. July 14, 2008.

## SECTION I: LITERATURE REVIEW ON TRAUMATIC STRESS

- Substance Abuse and Mental Health Services Administration(SAMHSA),(2003). Family psychoeducation: In evidence-based practices: Shaping mental health services toward recovery. *News XI*.
- American Psychiatric, A., & American Psychiatric Association. Task Force on, D.-I. (1994). *Diagnostic and statistical manual of mental disorders : DSM-IV*. Washington, DC: American Psychiatric Association.
- American Psychiatric Association. Task Force on, N., Statistics, & American Psychiatric Association. Committee on, N. (1980). *Diagnostic and statistical manual of mental disorders*. Washington, D.C.: American Psychiatric Association.
- Armstrong, K., Best, S., & Domenici, P. (2006). *Courage after fire : coping strategies for troops returning from Iraq and Afghanistan and their families*. Berkeley, CA: Ulysses : Distributed by Publishers Group West.
- Barrett, D. H., Doebbeling, C. C., Schwartz, D. A., Voelker, M. D., Falter, K. H., Woolson, R. F., et al. (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(3), 195-205.
- Boos, C. J., & Croft, A. M. (2004). Smoking rates in the staff of a military field hospital before and after wartime deployment. *J R Soc Med*, 97(1), 20-22.
- Bremner, J. D., Licinio, J., Darnell, A., Krystal, J. H., Owens, M. J., Southwick, S. M., et al. (1997). Elevated CSF corticotropin-releasing factor concentrations in posttraumatic stress disorder. *Am J Psychiatry*, 154(5), 624-629.
- Breslau, N., Lucia, V. C., & Davis, G. C. (2004). Partial PTSD versus full PTSD: an empirical examination of associated impairment. *Psychol Med*, 34(7), 1205-1214.

- Bullman, T. A., & Kang, H. K. (1996). The risk of suicide among wounded Vietnam veterans. *Am J Public Health, 86*(5), 662-667.
- Cozza, S. J., Chun, R. S., & Polo, J. A. (2005). Military families and children during operation Iraqi freedom. *Psychiatr Q, 76*(4), 371-378.
- Davies, J., McCrae, B. P., Frank, J., Dochnahl, A., Pickering, T., Harrison, B., et al. (2000). Identifying male college students' perceived health needs, barriers to seeking help, and recommendations to help men adopt healthier lifestyles. *J Am Coll Health, 48*(6), 259-267.
- Dirkzwager, A. J., van der Velden, P. G., Grievink, L., & Yzermans, C. J. (2007). Disaster-related posttraumatic stress disorder and physical health. *Psychosom Med, 69*(5), 435-440.
- Dohrenwend, B. P., Turner, J. B., Turse, N. A., Adams, B. G., Koenen, K. C., & Marshall, R. (2006). The psychological risks of Vietnam for U.S. veterans: a revisit with new data and methods. *Science, 313*(5789), 979-982.
- Erbes, C., Westermeyer, J., Engdahl, B., & Johnsen, E. (2007). Post-traumatic stress disorder and service utilization in a sample of service members from Iraq and Afghanistan. *Mil Med, 172*(4), 359-363.
- Fikretoglu, D. (2008). *The Impact of Operational Stress Injuries on Veterans' Families: A Review of the Existing Research*. Unpublished Research Doctorate, Canada.
- Friedman, M. J., & Southwick, S. M. (1995). *Towards pharmacotherapy for post-traumatic stress disorder*.
- Hoge, C. W., Auchterlonie, J. L., & Milliken, C. S. (2006). Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. *JAMA, 295*(9), 1023-1032.
- Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *N Engl J Med, 351*(1), 13-22.
- Hoge, C. W., McGurk, D., Thomas, J. L., Cox, A. L., Engel, C. C., & Castro, C. A. (2008). Mild traumatic brain injury in U.S. Soldiers returning from Iraq. *N Engl J Med, 358*(5), 453-463.
- Hoge, C. W., Terhakopian, A., Castro, C. A., Messer, S. C., & Engel, C. C. (2007). Association of posttraumatic stress disorder with somatic symptoms, health care visits, and absenteeism among Iraq war veterans. *Am J Psychiatry, 164*(1), 150-153.
- Jacobson, I. G., Ryan, M. A., Hooper, T. I., Smith, T. C., Amoroso, P. J., Boyko, E. J., et al. (2008). Alcohol use and alcohol-related problems before and after military combat deployment. *JAMA, 300*(6), 663-675.
- Jankowski, K. (2007). PTSD and Physical Health *National Center for PTSD: Fact Sheet*
- Kang, H. K., & Bullman, T. A. (1996). Mortality among U.S. veterans of the Persian Gulf War. *N Engl J Med, 335*(20), 1498-1504.
- Kang, H. K., & Bullman, T. A. (2008). Risk of suicide among US veterans after returning from the Iraq or Afghanistan war zones. *JAMA, 300*(6), 652-653.
- Kessler, R. C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry, 62*(6), 617-627.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Arch Gen Psychiatry, 52*(12), 1048-1060.
- Kulka, R. A. (1990). *Trauma and the Vietnam War generation : report of findings from the National Vietnam veterans readjustment study*. New York: Brunner/Mazel.

- Milliken, C. S., Auchterlonie, J. L., & 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.
- Monson, C. M., & Taft, C. E. (2005). PTSD and Intimate Relationships. *PTSD Research Quarterly*, 16, 1-8.
- Rasmusson, A. M., Vythilingam, M., & Morgan, C. A., 3rd. (2003). The neuroendocrinology of posttraumatic stress disorder: new directions. *CNS Spectr*, 8(9), 651-656, 665-657.
- Rothberg, J. M., Bartone, P. T., Holloway, H. C., & Marlowe, D. H. (1990). Life and death in the US Army. In *Corpore sano*. *JAMA*, 264(17), 2241-2244.
- Seal, K. H., Bertenthal, D., Maguen, S., Gima, K., Chu, A., & Marmar, C. R. (2008). Getting beyond "Don't ask; don't tell": an evaluation of US Veterans Administration postdeployment mental health screening of veterans returning from Iraq and Afghanistan. *Am J Public Health*, 98(4), 714-720.
- Slone, L. B., & Friedman, M. J. (2008). *After the war zone : a practical guide for returning troops and their families*. Cambridge, Mass.: Da Capo Lifelong.
- Smith, T. C., Ryan, M. A., Wingard, D. L., Slymen, D. J., Sallis, J. F., & Kritz-Silverstein, D. (2008). New onset and persistent symptoms of post-traumatic stress disorder self reported after deployment and combat exposures: prospective population based US military cohort study. *BMJ*, 336(7640), 366-371.
- Southwick, S. M., Bremner, J. D., Rasmusson, A., Morgan, C. A., 3rd, Arnsten, A., & Charney, D. S. (1999). Role of norepinephrine in the pathophysiology and treatment of posttraumatic stress disorder. *Biol Psychiatry*, 46(9), 1192-1204.
- Southwick, S. M., Davis, L., Aikins, D.E., Rasmusson, A., Barron, J., & Morgan, C.A. . (2007). Neurobiological alterations associated with PTSD. In M. J. Friedman, Keane, M.J., & Resick, P.A. (Ed.), *Handbook of PTSD: Science and Practice* (pp. 166-189): The Guilford Press
- Southwick, S. M., Morgan, C. A., 3rd, & Rosenberg, R. (2000). Social sharing of Gulf War experiences: association with trauma-related psychological symptoms. *J Nerv Ment Dis*, 188(10), 695-700.
- Southwick, S. M., Vythilingam, M., & Charney, D.S. . (2005). The psychobiology of depression and resilience to stress: Implications for prevention and treatment *Annual Reviews of Clinical Psychology* 1, 255-291.
- Stein, M. B., Walker, J. R., Hazen, A. L., & Forde, D. R. (1997). Full and partial posttraumatic stress disorder: findings from a community survey. *Am J Psychiatry*, 154(8), 1114-1119.
- Tanielian, T. L., Jaycox, L., Rand, C., California Community, F., Health, R., & Rand Corporation. National Security Research, D. (2008). *Invisible wounds of war : psychological and cognitive injuries, their consequences, and services to assist recovery*. Santa Monica, CA: RAND Center for Military Health Policy Research.
- Yehuda, R. (2002). Current status of cortisol findings in post-traumatic stress disorder. *Psychiatr Clin North Am*, 25(2), 341-368, vii.

### **SECTION III: CONNECTICUT MILITARY SUPPORT PROGRAM**

1. Contingency Tracking System Deployment File, "Record of Personnel Ever Deployed (Sep 01 – Mar 08)". Defense Manpower Data Center. U.S. Department of Defense. April 18, 2008.
2. Presidential Task Force on Military Deployment Services for Youth, Families and Service Members, "The Psychological Needs of U.S. Military Service Members and Their Families: A Preliminary Report", Amer Psych Assoc, 2007 (February).

3. Fikretoglu D, "The Impact of Operational Stress Injuries on Veterans' Families: A Review of the Existing Research," Veterans Affairs Canada. Research Directorate. 2008 (May 2).
4. Department of Defense Task Force on Mental Health, "An Achievable Vision: Final Report of the Department of Defense Task Force on Mental Health". DoD. June 2007.
5. Hoge CW et al, "Combat Duty in Iraq and Afghanistan, Mental Health Problems, and Barriers to Care". NEJM.2004. (July 1); Vol 351:13-22, No 1.
6. U.S. Army Medical Department, Office of the Surgeon General, "Mental Health Advisory Team (MHAT) V Report: Operation Iraqi Freedom 06-08: Iraq, Operation Enduring Freedom 8: Afghanistan". 2007. (February 14).
7. Harris Interactive, "The Military Mental Health Survey". American Psychiatric association. 2008. (June 30).
8. Milliken CS, Auchterlonie JL, Hoge CW, "Longitudinal Assessment of Mental Health Problems Among Active and Reserve Component Soldiers Returning From the Iraq War". JAMA. 2007. (Nov 14); Vol 298, No 18.  
<http://jama.ama-assn.org/cgi/content/abstract/298/18/2141>.
9. Glasser R, "A Shock Wave of Brain Injuries", The Washington Post. 2007. (April 8).
10. "Traumatic Brain Injury on the Front Line", Neurophilosophy. 2007. (May 14).  
<http://neurophilosophy.wordpress.com/2007/05/14/traumatic-brain-injury-on-the-front-line/>
11. Kennedy K, "Traumatic Brain Injury: Common Wound of War", Army Times. 2007 (August 28).  
[www.armytimes.com/news/2007/08/marine-brainmain\\_070828/](http://www.armytimes.com/news/2007/08/marine-brainmain_070828/)
12. Tanielian T, Jaycox LH et al, "Invisible Wounds of War: Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery". RAND Center for Military Health Policy Research, RAND Corporation. April 2008.
13. Jacobson IG, Ryan MAK et al, "Alcohol Use and Alcohol-Related Problems Before and After Military Combat deployment". JAMA. 2008. (August 13); Vol 300, No 6.
14. Miles D, "Defense Secretary Encourages Treatment", Armed Forces Press Service. 2008. (May 5).
15. Associated Press, "Military Officers May Use YouTube, MySpace to Reduce Troop Stigma on Mental Health Therapy", Psychology in the News. APA ONLINE. 2008. (May 1).
16. Morris J (LTC) "Transitioning to Civilian Life". 6<sup>th</sup> Annual Connecticut Army-Air National Guard Medical Conference. Camp Rell, Niantic, CT. January 12, 2008
17. Hoge CW et al, "Mental Health Problems, Use of Mental Health Services, and Attrition From Military Service After Returning From Deployment to Iraq or Afghanistan". JAMA. 2006. (March 1); Vol 295, No 9.
18. Rabb D (LTC), "Community and Healing". Speech delivered at California Collaborative for Service Members, Veterans and Families 1<sup>st</sup> Anniversary dinner. Moffett Field, CA. July 9, 2008.

## CONCLUSION

1. Milliken CS, Auchterlonie JL, Hoge CW, "Longitudinal Assessment of Mental Health Problems Among Active and Reserve Component Soldiers Returning From the Iraq War". JAMA. 2007. (Nov 14); Vol 298, No 18.  
<http://jama.ama-assn.org/cgi/content/abstract/298/18/2141>.
2. Tanielian T, Jaycox LH et al, "Invisible Wounds of War: Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery". RAND Center for Military Health Policy Research, RAND Corporation. April 2008.
3. Department of Defense, Defense Manpower Data Center, Contingency Tracking System.  
[www.portfolio.com/images/site/editorial/pdf/Pentagon\\_Troops.pdf](http://www.portfolio.com/images/site/editorial/pdf/Pentagon_Troops.pdf)

4. Department of Defense Casualty Reports. [www.defenselink.mil/news/casualty.pdf](http://www.defenselink.mil/news/casualty.pdf)
5. Kessler RC, Heeringa S et al, "Individual and Societal Effects of Mental Disorders on Earnings in the United States: Results from the National Comorbidity Survey Replication", Am J Psychiatry. 2008. (June);Vol 165.
6. McFall M, "PTSD and Health Risk Behavior", The National Center for Post-Traumatic Stress Disorder. PTSD Research Quarterly. 2006. (Fall); Vol 17, No 4.
7. Meisler AW, "Trauma, PTSD, and Substance Abuse", The National Center for Post-Traumatic Stress Disorder. PTSD Research Quarterly.1996. (Fall); Vol 7, No 4.

## **APPENDIX A**

### **Health and Psychosocial Correlates of PTSD and Partial PTSD in Soldiers Returning From Operations Enduring Freedom and Iraqi Freedom**

Please do not cite without permission as this manuscript is currently under review for publication.

**Partial and full PTSD are associated with psychosocial and health difficulties in soldiers returning from Operations Enduring Freedom and Iraqi Freedom**

Robert H. Pietrzak<sup>1,2</sup>, Marc B. Goldstein<sup>3</sup>, James C. Malley<sup>4</sup>, Douglas C. Johnson<sup>5</sup>,  
Steven M. Southwick<sup>1,2</sup>

<sup>1</sup>Department of Psychiatry, Yale University School of Medicine, New Haven, CT, USA

<sup>2</sup>National Center for Posttraumatic Stress Disorder, VA Connecticut Healthcare System,  
West Haven, CT, USA

<sup>3</sup>Department of Psychology, Central Connecticut State University, New Britain, CT, USA

<sup>4</sup>Department of Counseling and Family Therapy, Central Connecticut State University, New  
Britain, CT, USA

<sup>5</sup>Department of Psychiatry, University of California San Diego School of Medicine, and VA San  
Diego Healthcare System, San Diego, CA, USA

Running Title: PTSD and Psychosocial Functioning

Word count (including references and tables): 5,739

Acknowledgements: We thank the veterans who participated in this survey. We appreciate the assistance of the *Center for Public Policy and Social Research* at Central Connecticut State University, the Connecticut Department of Veterans' Affairs, and the Connecticut Department of Mental Health and Addiction Services in conducting this research. This work was supported by a grant from the State of Connecticut. .

Corresponding author: Robert H. Pietrzak, VA Connecticut Healthcare System, 950 Campbell Avenue / 151E, West Haven, CT 06510, USA; Phone: 860-638-7467; Fax: 203-937-3481;

E-mail: [rhpietrzak@gmail.com](mailto:rhpietrzak@gmail.com)

## ABSTRACT

This study examined psychosocial and health correlates of partial and full PTSD and in soldiers returning from Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF). 557 OEF/OIF veterans in Connecticut completed a needs assessment survey. A total 21.5% of the sample met screening criteria for full PTSD and 22.3% for partial PTSD. Compared to controls, partial PTSD was associated with poorer self-reported health, mild traumatic brain injury (MTBI), and increased psychosocial difficulties. Full PTSD was associated with more severe psychosocial difficulties, as well as MTBI, depression, and alcohol use problems. A “dose-response” relationship between PTSD status and psychosocial difficulties was observed. While not meeting criteria for full PTSD, OEF/OIF veterans with partial PTSD reported significant psychosocial and health problems.

Recent mental health surveys of Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) veterans have found high rates of trauma-related psychopathology within months of returning from combat duty. Hoge and colleagues (2004) administered anonymous surveys to a large number of soldiers either before their deployment to Iraq or three to four months after their return from Iraq or Afghanistan. The percentage of soldiers who met screening criteria for depression, generalized anxiety disorder or PTSD after deployment to Iraq (15.6-17.1%) or Afghanistan (11.2%) was significantly higher than the percentage before deployment to Iraq (9.3%). In a larger population-based study of Army soldiers and Marines, the Hoge research team reported that 19.1% of 222,620 Iraq veterans and 11.3% of 16,318 Afghanistan veterans endorsed mental health problems on a mental health survey mandated for all U.S. service members returning from overseas deployment (Hoge et al., 2006). Most recently, a study by the RAND Corporation found that 13.8% of 1,965 OEF/OIF veterans screened positive for PTSD, 13.7% for major depression, and 16.5% for traumatic brain injury (Tanielian & Jaycox, 2008).

It is well known that PTSD is associated with impairments in psychosocial functioning and quality of life. Substantial deficits in these areas have been reported among survivors with PTSD secondary to combat, community and intimate partner violence, major physical injuries, toxic chemical exposure, and disasters (Jordan, Marmar, Fairbank, Schlenger, Kulka, Hough, & Weiss, 1992; Laffaye, Kennedy, & Stein, 2003; Marshall, Olfson, Hellman, Blanco, Guardino, & Struening, 2001; Kessler, 2000; Kulka, Schlenger, Fairbank, Hough, Jordan, Marmar, & Weiss, 1990; North, Nixon, Shariat, Mallonee, McMillen, Spitznagel, & Smith, 1999; Rapaport, Clary, Fayyad, & Endicott, 2005; Schnurr, Lunney, & Sengupta, 2004; Zatzick, Jurkovich, Gentilello, Wisner, & Rivara, 2002;). For example, PTSD has been associated with work impairment, role impairment, and suicide attempts in the National U.S. Comorbidity Survey (Kessler, 2000; Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Increased work impairment, more utilization of medical services, higher rates of marital problems and divorce, more arrests for criminal activity, increased rates of homelessness, and poorer physical health have also been observed in the National Vietnam Veterans Readjustment Study (Kulka et al., 1990). More recently, disruption of family, work, and social life has been noted in World Trade Center workers (Boscarino, Adams, & Figley, 2006; Stellman, Smith, Katz, Sharma, Charney, Gerbert, Moline, Luft, Markowitz, Udiasin, Harrison, Baron, Landrigan, Levin, & Southwick, 2008). While the recent Hoge et al. studies (2004; 2006) and RAND report (Tanielian & Jaycox, 2008) on returning OIF/OEF veterans examined demographic and deployment-related correlates of PTSD, these studies did not specifically address psychosocial functioning.

Individuals meeting criteria for PTSD are not the only trauma survivors who suffer with substantial deficits in functioning and quality of life. Trauma survivors with subthreshold or partial PTSD (i.e. symptoms below the threshold for DSM-based diagnosis of PTSD) also experience impairment in social, work, interpersonal, and physical functioning. Although partial PTSD is not a formal DSM-IV diagnosis, it has been used in research to characterize survivors who report clinically significant trauma-related symptoms but who do not meet full diagnostic criteria for PTSD (Mylle & Maes, 2004). A number of definitions have been proposed for partial PTSD. In the NVVRS (Kulka et al., 1990), veterans were classified as having partial PTSD if they met criteria for Cluster B (Re-experiencing) and criteria for either Cluster C (Avoidance) or Cluster D (Arousal). They were also classified as having partial PTSD if they met criteria for Cluster B and endorsed at least one symptom from Cluster C and one from Cluster D. Studies of

partial PTSD in civilian (e.g., Breslau, Lucia, & Davis, 2004; Marshall et al., 2001; Schützwohl & Maercker, 1999; Stein, Walker, Hazen, & Forde, 1997; Zlotnick, Franklin, & Zimmerman, 2002) and veteran (Grubaugh, Magruder, Waldrop, Elhai, Knapp, & Frueh, 2005; Kulka et al., 1990; Schnurr, Ford, Friedman, Green, Dain, & Sengupta, 2000;) populations have found intermediate levels of psychosocial impairment and quality of life relative to no PTSD and full PTSD.

Although there are published reports on partial PTSD in Vietnam veterans (Kulka et al., 1990; Schnurr et al., 2000; Schnurr et al., 2004; Friedman, Ashcraft, Beals, Keane, Manson, & Marsella, 1997), ambulance workers (Berger, Figueria, Maurat, Bucassio, Vieira, Jardim, Coutinho, Mari, & Medlowicz, 2007), and survivors of toxic chemical exposure, disasters, and other traumas (e.g., Adams, Boscarino, & Galea, 2006; Breslau et al., 2004; Hashemian, Khoshnood, Desai, Falahati, Kasl, & Southwick, 2006; Lai, Chang, Connor, Lee, & Davidson, 2004; Schnurr et al., 2000; Stellman et al., 2008), we are not aware of any studies to date, that have examined psychosocial functioning among OIF/OEF veterans with partial PTSD. In the one study of OIF/OEF veterans that has assessed partial PTSD, Jakupcak and colleagues (2004) found that partial PTSD was associated with greater anger and hostility than non-PTSD, but less anger and hostility compared to full PTSD in a sample of 108 OEF/OIF veterans. Both the partial and full PTSD groups endorsed more aggression than the non-PTSD group, but the differences between the partial and full PTSD groups were not significant.

This study sought to extend the above published findings in OIF/OEF veterans by examining areas of health and psychosocial functioning among veterans with partial and full PTSD. Specifically, we examined perceived health ratings and psychosocial functioning in family, relationship, work, financial, and school domains, as well as rates of MTBI, depression, and alcohol use problems. We included partial PTSD, in addition to full PTSD, because survivors with partial PTSD often suffer disabling symptoms but tend to be ignored in research and clinical settings. We hypothesized that there would be a “dose-response” relationship between PTSD severity and associated health and psychosocial difficulties, with veterans meeting study criteria for partial PTSD reporting greater symptoms than veterans without partial PTSD, but less symptoms than veterans with full PTSD.

## METHOD

### *Sample*

Participants in this study (N=557) were drawn from the Connecticut OEF/OIF Veterans Needs Assessment Survey of Connecticut, which sought to identify salient medical, psychosocial, and economic needs of this population, and to provide recommendations for public policy and legislative initiatives to improve Connecticut veterans' readjustment for civilian life. Two waves of survey data were collected. The first wave of the survey was mailed in July 2007. A total of 1,050 veterans who served between January 1, 2003 and March 1, 2007 were identified from a review of copies of discharge papers (DD-214s) by the Connecticut Department of Veterans Affairs. To maintain confidentiality of the veterans' names and addresses, the surveys were addressed and mailed by the Connecticut Department of Veterans Affairs. No personal identifying information was made available to the authors. Veterans were mailed a 205-question survey containing questions pertaining to various needs and concerns related to military service and readjustment to civilian life. A reminder postcard was sent to all veterans one week after the surveys were initially mailed. After 4 weeks, a second letter was sent to all veterans who had not returned the survey. As of September 24, 2007, 229 completed surveys (22%) were returned; 10% were returned as undeliverable. Because of this relatively low response rate, a second wave of the survey (shorter than the first survey: 116 vs. 205 questions) was mailed in October 2007 to a new sample of 1,000 veterans who had served between January 1, 2003 and March 1, 2007; efforts were made to update mailing addresses on those returned as undeliverable using phone directories and a statewide voter registration list. As of February 2008, 272 Wave I surveys and 285 Wave II surveys were returned for an overall return rate of 28.6%.

Time between return from deployment and survey completion was 26.9 months (SEM=0.7), and did not differ by PTSD status,  $F(2,544)=1.26$ ,  $p=0.29$ . The majority of the sample (87.4%) was in the Army, 9.1% were from the Marine Corps, 2.2% from the Air Force, and 1.3% from multiple branches; PTSD status (no PTSD, partial PTSD, full PTSD; see below) was not associated with branch of service,  $\chi^2(3)=0.58$ ,  $p=0.90$ .

## *Assessments*

Demographic and General Health Assessment. A demographic questionnaire was administered to assess age, sex, race/ethnicity, education, and marital status. This questionnaire also contained questions pertaining to self-reported general health (“How would you rate your overall health in the past month?” rated “Excellent,” “Very Good,” “Good,” “Fair,” and “Poor”; responses on this variable were combined to “Excellent/Very Good/Good” and “Fair/Poor” for analyses) and self-reported general health compared to before deployment (“Compared to your health *before* your last deployment, how would you rate your health now?” rated “Better,” “Same,” or “Worse”).

Posttraumatic Stress Disorder Checklist-Military Version (PCL-M; Weathers, Huska, & Keane, 1991). The PCL-M is a 17-item screening instrument based on DSM-IV criteria for PTSD. It was developed by the National Center for PTSD and contains items relevant to stressful military experiences. Scores on this instrument range from 17-85. Full PTSD was identified by total PCL-M scores  $\geq 50$  and endorsement of each of three DSM-IV criteria required for a diagnosis of PTSD (cluster B: intrusive; cluster C: avoidance/numbing; and cluster D: hyperarousal). Partial PTSD was identified if a participant met criterion B and either the C or D criterion or if cluster B was met and at least one symptom from the C criterion and one symptom from the D criterion was endorsed (Friedman et al., 1997; Schnurr et al., 2000). In this sample, Cronbach’s  $\alpha$  on PCL-M items was 0.96.

The CAGE Questionnaire (Ewing, 1984) is a 4-item instrument used to identify individuals with a possible alcohol problem. Despite its brevity, it has been shown to have good validity in screening large populations. A score  $\geq 2$  was indicative of a possible alcohol problem. Only Wave 1 respondents (N=272) completed this measure.

Patient Health Questionnaire-9 (PHQ-9; Kroenke & Spitzer, 2002) is a 9-item, patient self-report screening instrument for depression derived from the clinician-administered Primary Care Evaluation of Mental Disorders; Scores  $\geq 10$  are indicative of moderate depression. The PHQ-9 is based on the nine DSM-IV signs and symptoms of major depression and has demonstrated reliability, validity, sensitivity, and specificity as an assessment tool for the diagnosis of major depressive disorder. In this sample, Cronbach’s  $\alpha$  on PHQ-9 items was 0.92. Only Wave 1 respondents completed this measure.

Mild Traumatic Brain Injury Screen (Schwab, Baker, Ivins, Sluss-Tiller, Lux, & Warden, 2006; Government Accountability Office, 2008). This screening questionnaire contains four questions used by the Department of Defense to identify those veterans who should undergo further screening for possible MTBI: (1) Experience blast/explosion, vehicular accident/crash, fragment/bullet wound, and/or fall?; (2) Experience symptoms immediately afterwards: loss of consciousness, dazed/confused, not remembering event?; (3) Begun to experience problems such as memory lapses, balance problems, irritability, and/or headaches?; (4) Experience problems such as memory lapses, balance problems, irritability, and/or headaches in the past week? A positive endorsement to each of these four questions was required for a positive screen for possible MTBI. Only Wave 1 respondents completed this measure.

Psychosocial Difficulties Scale (PDS). The PDS is 23-item questionnaire developed by two of the authors (M. B. G., J. C. M.) that assesses psychosocial functioning in areas such as family and peer relationships (e.g., “have difficulty connecting emotionally with family and/or friends”), and work, school, and financial functioning (e.g., “have difficulty finding employment;” “have difficulty paying bills;” “have difficulty seeking employment because do not have discharge papers (DD-214s).” Ratings on these items are “Not a concern,” “A slight concern,” “A moderate concern,” and “A major concern.” Ratings of “moderate concern” or “major concern” were combined for analysis. Higher scores indicate greater psychosocial difficulties. In this sample, Cronbach’s  $\alpha$  on PDS items was 0.89.

### Data analysis

Non-normally distributed data were transformed using logarithmic base 10 transformations. Demographic, health, and psychosocial variables across no PTSD, partial PTSD, and full PTSD groups were compared using  $\chi^2$  tests and univariate analyses of variance (ANOVAs). When PTSD status was significantly associated with a demographic or outcome variable, subsequent  $\chi^2$  and post-hoc tests were conducted to compare no PTSD vs. partial PTSD, no PTSD vs. full PTSD, and partial PTSD vs. full PTSD groups. Demographic variables that differed among the groups were entered as covariates in analyses of health and psychosocial variables. Clinical variables that differed by PTSD status (e.g., depression) were not entered as covariates because only Wave 1 respondents completed these measures and because this was an initial, exploratory study of psychosocial correlates of partial PTSD in OEF/OIF veterans.

Simple correlations were computed to examine relationships between PCL-M and PDS scores. Logistic regression analyses adjusting for demographic variables that differed by PTSD status were also conducted to examine the relationship between PTSD level and psychosocial and health variables.

## RESULTS

In the current sample (N=557), 313 (56.2%) of veterans did not meet criteria for partial or full PTSD, 124 (22.3%) were identified as having partial PTSD, and 120 (21.5%) met criteria for full PTSD. Demographic characteristics of the groups by PTSD status are shown in Table 1. Compared to the no PTSD group, the partial and full PTSD groups were younger and less likely to be in a relationship (married/living with partner); sex, race/ethnicity, education, and service duty (active duty vs. National Guard/reserves) did not differ by PTSD status. The partial and full PTSD groups did not differ on any demographic variables. In logistic regression models adjusting for age, relationship status, and duty type, both the partial and full PTSD groups were more likely than the no PTSD group to rate their health as “fair” or “poor,” rate their post-deployment health as worse than before deployment, and screen positive for mild traumatic brain injury. The full PTSD group was more likely than the no PTSD group to screen positive for depression and alcohol problems.

SEE TABLE 1 ON PAGE 97

PCL-M scores correlated significantly with total scores on the PDS ( $r = 0.62$ ,  $p < 0.001$ ; large effect size), as well as the PDS subscales ( $r$ 's = 0.40 to 0.62, all  $p$ 's  $< 0.001$ ; large effect size). Table 2 shows psychosocial functioning variables by PTSD status. Total severity scores and scores on the family, work, financial, relationship, but not school subscales, differed by PTSD status (no PTSD  $<$  partial PTSD  $<$  full PTSD), even after controlling age, relationship status, and duty type.

Compared to the no PTSD group, the partial PTSD group was more likely to report concern about problems with their spouse/partner (OR=2.38, 95%CI=1.26-4.51), difficulty

connecting emotionally with their family (OR=3.67, 95%CI=1.91-7.06), being unhappy with their job (OR=2.27, 95%CI=1.35-3.82), not getting along with coworkers (OR=3.03, 95%CI=1.41-6.51), being unsure how to manage/invest money (OR=3.06, 95%CI=1.57-5.95), relating better to veterans than civilians (OR=3.86, 95%CI=2.24-6.66), civilian friends not understanding them (OR=4.08, 95%CI=2.40-6.93), and not sharing interests with civilian friends (OR=3.18, 95%CI=1.81-5.59). They were also more likely to have sought help for family and relationship problems, and to want help for work-related problems (see Table 2). Compared to the no PTSD group, the full PTSD group was more likely to report concern about all of the psychosocial areas assessed (ORs=1.93-23.31) except having difficulty seeking employment because they did not have DD-214s and paying school fees. They were more likely to have sought and to want help for all of the functional domains assessed except for school-related problems (see Table 2). Compared to the partial PTSD group, the full PTSD group was more likely to report concern about connecting emotionally with family, arranging daycare, bills piling up while away, and not sharing interests with civilian friends; these groups did not differ with respect to whether they sought or wanted help for any of the psychosocial domains assessed.

SEE TABLE 2 ON PAGE 100

## DISCUSSION

The is the first study, to our knowledge, to examine psychosocial functioning and self-reported health in OEF/OIF veterans with partial PTSD. Overall, the relationship between PCL-M scores and scores on the Psychosocial Difficulties Scale were large in magnitude, suggesting a “dose-response” relationship between PTSD symptom severity and psychosocial difficulties. Consistent with previously published data (Jordan et al., 1992; Kessler, 2000; Kulka et al., 1990; Laffaye et al., 2003; North et al., 1999; Rapaport et al., 2005; Schnurr et al., 2004; Walker, Katon, Russo, Ciechanowski, Newman, & Wagner, 2003; Zatzick et al., 2002), full PTSD was associated with a broad range of psychosocial impairments, with the partial PTSD group reporting intermediate levels of psychosocial difficulties compared to the group with no PTSD and the group with full PTSD. Compared to no PTSD, partial PTSD was also associated with a

higher rate of MTBI, while full PTSD was associated with higher rate of MTBI, and positive screens for depression and alcohol problems.

In the present sample, prevalence rates of partial and full PTSD are consistent with, but slightly higher than those noted in previous studies of OIF/OEF veterans (e.g., Erbes, Westermeyer, Engdahl, & Johnsen, 2007; Felker, Hawkins, Dobie, Gutierrez, & McFall, 2008; Hoge et al., 2004; Hoge et al., 2006; Seal, Bertenthal, Miner, Sen, & Marmar, 2007). One possible explanation for this finding is that the 29% of veterans who returned the survey were more symptomatic and in greater need of help, on average, than the group of veterans who did not return the survey. Another possibility is that the current sample consisted predominantly of National Guard/Reserve soldiers, who have been shown in previous studies to have higher rates of PTSD and other trauma-related disorders than active duty soldiers (e.g., Milliken, Auchterlonie, & Hoge, 2007). Classification rates may also vary by methods used to identify partial and full PTSD, although the method used in this study is one of the most conservative. Finally, the survey was anonymous and mailed by a Connecticut State University, making it possible that respondents felt less threatened, less concerned about personal repercussions, and more comfortable to answer questions honestly compared to earlier reports conducted by their employer, the military.

Compared to the no PTSD group, the partial PTSD group was more likely to rate their health as “fair” or “poor,” have positive screens for mild traumatic brain injury, and report increased family, work, financial, and relationship difficulties. Veterans with partial PTSD were also more likely to have sought help for family and relationship problems, and to want help for work problems. While partial PTSD was associated with increased positive screenings for possible alcohol problems in bivariate analyses, this finding was no longer significant in multivariate analyses adjusting for age, relationship status, and duty type. Taken together, these findings are consistent with previous studies in military and civilian populations, which found that partial PTSD is generally associated with psychosocial impairment of intermediate magnitude compared to no PTSD and full PTSD (Breslau et al., 2004; Grubaugh et al., 2005; Kulka et al., 1990, Marshall et al., 2001; Schnurr et al., 2000; Schützwohl et al., 1999; Stein et al., 1997; Zlotnick et al., 2002). The finding that veterans with partial PTSD were more than four times as likely to screen positive for mild traumatic brain injury and had elevated rates of

alcohol problems compared to veterans with no PTSD underscores the need for more research on the comorbidity and treatment of these conditions in this population.

In comparison with the no PTSD group, the full PTSD group was more likely to rate their health as “fair” or “poor,” rate their post-deployment health as worse than before deployment, have positive depression, alcohol use disorder, and MTBI screens, and report greater psychosocial impairment than both the no PTSD and partial PTSD groups. These results are consistent with a growing body of literature suggesting that PTSD is associated with increased health and psychosocial morbidity (Hoge et al., 2006; Milliken et al., 2007), and depression, alcohol use disorder, and MTBI (Seal, Bertenthal, Maguen, Gima, Chu, & Marmar, 2008; Hoge, McGurk, Thomas, Cox, Engel, & Castro, 2008) in OEF/OIF veterans. The finding that both full and partial PTSD were associated with higher rates of MTBI suggests that there may be common causes (e.g., increased combat exposure) underlying the development of these conditions in OEF/OIF soldiers; these results are consistent with a recent epidemiologic study, which found that the strongest predictors of PTSD were multiple injury mechanisms and combat-related MTBI, and the strongest predictor of postconcussive symptoms was PTSD, even after overlapping symptoms were removed from the computation of PTSD scores (Schneiderman et al., 2008).

Methodological limitations of this study must be noted. First, the response rate to the survey employed in this study was relatively low. Thus, the prevalence and correlates of partial and full PTSD may be under- or overestimated, though some studies suggest that attempts to increase response rates may be counterproductive (Tate, Jones, Hull, Fear, Rona, Wessely, & Hotopf, 2007). Second, the sample consisted predominantly of Caucasian men in the National Guard/Reserves who reside in Connecticut. More research is needed to examine whether these results generalize to more diverse samples in other U.S. states, as well as in nationally representative samples of OEF/OIF veterans. Third, while this study employed a widely used method of classifying partial PTSD in veterans (Friedman et al., 1997; Schnurr et al., 2000), health and psychosocial correlates of partial PTSD may differ when other classification methods are used.

The present findings have a number of clinical and public health implications. First, because OIF/OEF veterans who met screening criteria for full PTSD also tended to have

substantial impairments in a broad range of psychosocial and health domains, clinicians and public health officials should direct their attention and resources to more than PTSD alone. Problems related to finances, personal relationships, occupation/education, medical health, and co-morbid mood, anxiety and substance use disorders are of great immediate concern and can be disabling for many veterans with PTSD. Second, even though an OIF/OEF veteran does not meet criteria for full PTSD, he or she may nevertheless experience substantial impairment in functioning and deserves to be offered appropriate resources and treatment when indicated. Third, OEF/OIF veterans with partial and full PTSD reported that they wanted help with problems related to psychosocial functioning. Symptomatic OIF/OEF veterans who do not meet full criteria for PTSD or another trauma-related DSM-IV psychiatric diagnosis may not be eligible for treatment in a PTSD specialty clinic, for health insurance reimbursement, or for medical-legal compensation despite high levels of psychosocial impairment following their service in Iraq or Afghanistan. Results of this study suggest that OEF/OIF veterans with full PTSD and subthreshold partial PTSD experience significant psychosocial dysfunction in a number of domains. Current diagnostic criteria for PTSD may be too restrictive for the purposes of public health, resource allocation, clinical intervention, medicolegal claims, and personal well-being. More research is needed to examine the prevalence and health and psychosocial correlates of partial and full PTSD in other samples of OEF/OIF veterans, and to evaluate preventive and clinical interventions for these conditions in this population.

## REFERENCES

- Adams, R. E., Boscarino, J. A., & Galea, S (2006). Alcohol use, mental health status and psychological well-being 2 years after the World Trade Center attacks in New York City. *American Journal of Drug and Alcohol Abuse*, 32, 203-224.
- Berger, W., Figueira, I., Maurat, A. M., Bucassio, E. P., Vieira, I., Jardim, S. R., Coutinho, E. S., Mari, J. J., & Mendlowicz, M. V. (2007). Partial and full PTSD in Brazilian ambulance workers: Prevalence and impact on health and on quality of life. *Journal of Traumatic Stress*, 20, 637-642.
- Boscarino, J. A., Adams, R. E., & Figley, C. R. (2006). Worker productivity and outpatient service use after the September 11th attacks: results from the New York City terrorism outcome study. *American Journal of Industrial Medicine*, 49, 670-682.

- Breslau, N., Lucia, V. C., & Davis, G. C. (2004). Partial PTSD versus full PTSD: An empirical examination of associated impairment. *Psychological Medicine, 34*, 1205-1214.
- Erbes, C., Westermeyer, J., Engdahl, B., Johnsen, E. (2007). Post-traumatic stress disorder and service utilization in a sample of service members from Iraq and Afghanistan. *Military Medicine, 172*, 359-363.
- Ewing, J. A. (1984). 'Detecting Alcoholism: The CAGE Questionnaire. *Journal of the American Medical Association, 252*, 1905-1907.
- Felker, B., Hawkins, E., Dobie, D., Gutierrez, J., & McFall, M. (2008). Characteristics of deployed Operation Iraqi Freedom military personnel who seek mental health care. *Military Medicine, 173*, 155-158.
- Friedman, M. J., Ashcraft, M. L., Beals, J. L., Keane, T. M., Manson, S. M., & Marsella, A. J. (1997). *Matsunaga Vietnam Veterans Project*. White River Junction, VT: Veterans Affairs National Center for Posttraumatic Stress Disorder.
- Government Accountability Office (2008). *Mild traumatic brain injury screening and evaluation implemented for OEF/OIF veterans, but challenges remain*. United States Government Accountability Office Report to Congressional Requesters. Report GAO-08-276, February 2008.
- Grubaugh, A. L., Magruder, K. M., Waldrop, A. E., Elhai, J. D., Knapp, R. G., & Frueh, B. C. (2005). Subthreshold PTSD in primary care: Prevalence, psychiatric disorders, healthcare use, and functional status. *Journal of Nervous and Mental Disease, 193*, 658-664.
- Hashemian, F., Khoshnood, K., Desai, M. M., Falahati, F., Kasl, S., & Southwick, S. (2006). Anxiety, depression, and posttraumatic stress in Iranian survivors of chemical warfare. *Journal of the American Medical Association, 296*, 560-566.
- Hoge, C. W., Auchterlonie, J. L., Milliken, C. S. (2006). Mental health problems, use of mental health services, and attrition from military service after returning from deployment to Iraq or Afghanistan. *Journal of the American Medical Association, 295*, 1023-1032.
- Hoge, C. W., Castro, C. A., Messer, S. C., McGurk, D., Cotting, D. I., & Koffman, R. L. (2004). Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. *New England Journal of Medicine, 351*, 13-22.
- Hoge, C. W., McGurk, D., Thomas, J. L., Cox, A. L., Engel, C. C., & Castro, C. A. (2008). Mild traumatic brain injury in U.S. Soldiers returning from Iraq. *New England Journal of Medicine, 358*, 453-463.
- Jakupcak, M., Conybeare, D., Phelps, L., Hunt, S., Holmes, H. A., Felker, B., Klevens, M., & McFall, M. E. (2004). Anger, hostility, and aggression among Iraq and Afghanistan War veterans reporting PTSD and subthreshold PTSD. *Journal of Traumatic Stress, 20*, 945-954.
- Jordan, B. K., Marmar, C. R., Fairbank, J. A., Schlenger, W. E., Kulka, R. A., Hough, R. L., & Weiss, D. S. (1992). Problems in families of male Vietnam veterans with posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology, 60*, 916-926.

- Kessler, R. C. (2000). Posttraumatic stress disorder: the burden to the individual and to society. *Journal of Clinical Psychiatry*, *61*, 4-12.
- Kessler, R. C., Chiu, W. T., Demler, O., Merikangas, K. R., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of 12-month DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*, 617-627.
- Kroenke, K., & Spitzer, R. L. (2002). The PHQ-9: a new depression diagnostic and severity measure. *Psychiatric Annals*, *32*, 509-521.
- Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., & Weiss, D. S. (1990). *Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study*. New York: Brunner/Mazel.
- Laffaye, C., Kennedy, C., & Stein, M. B. (2003). Post-traumatic stress disorder and health-related quality of life in female victims of intimate partner violence. *Violence and Victims*, *18*, 227-238.
- Lai, T. J., Chang, C. M., Connor, K. M., Lee, L. C., & Davidson, J. R. (2004). Full and partial PTSD among earthquake survivors in rural Taiwan. *Journal of Psychiatric Research*, *38*, 313-322.
- Marshall, R. D., Olfson, M., Hellman, F., Blanco, C., Guardino, M., & Struening, E. L. (2001). Comorbidity, impairment, and suicidality in subthreshold PTSD. *American Journal of Psychiatry*, *158*, 1467-1473.
- Milliken, C. S., Auchterlonie, J. L., & Hoge, C. W. (2007). Longitudinal assessment of mental health problems among active and reserve component soldiers returning from the Iraq war. *Journal of the American Medical Association*, *298*, 2141-2148.
- Mylle, J., & Maes, M. (2004). Partial posttraumatic stress disorder revisited. *Journal of Affective Disorders*, *78*, 37-48.
- North, C. S., Nixon, S. J., Shariat, S., Mallonee, S., McMillen, J. C., Spitznagel, E. L., & Smith, E. M. (1999). Psychiatric disorders among survivors of the Oklahoma City bombing. *Journal of the American Medical Association*, *282*, 755-762.
- Rapaport, M. H., Clary, C., Fayyad, R., & Endicott, J. (2005). Quality-of-life impairment in depressive and anxiety disorders. *American Journal of Psychiatry*, *162*, 1171-1178.
- Schneiderman, A. I., Braver, E. R., & Kang, H. K. (2008). Understanding sequelae of injury mechanisms and mild traumatic brain injury incurred during the conflicts in Iraq and Afghanistan: persistent postconcussive symptoms and posttraumatic stress disorder. *American Journal of Epidemiology*, *167*, 1446-1452.
- Schnurr, P. P., Ford, J. D., Friedman, M. J., Green, B. L., Dain, B. J., & Sengupta, A. (2000). Predictors and outcomes of posttraumatic stress disorder in World War II veterans exposed to mustard gas. *Journal of Consulting and Clinical Psychology*, *68*, 258-268.

- Schnurr, P. P., Lunney, C. A., & Sengupta, A (2004). Risk factors for the development versus maintenance of posttraumatic stress disorder. *Journal of Traumatic Stress, 17*, 85-95.
- Schützwohl, M., & Maercker, A. (1999). Effects of varying diagnostic criteria for posttraumatic stress disorder are endorsing the concept for partial PTSD. *Journal of Traumatic Stress, 12*, 155-165.
- Schwab, K. A., Baker, G., Ivins, B., Sluss-Tiller, M., Lux, W., & Warden, D. (2006). The Brief Traumatic Brain Injury Screen (BTBIS): Investigating the validity of a self-report instrument for detecting traumatic brain injury (TBI) in troops returning from deployment in Afghanistan and Iraq. *Neurology, 66*, A235.
- Seal, K. H., Bertenthal, D., Maguen, S., Gima, K., Chu, A., & Marmar, C. R. (2008). Getting beyond "Don't ask; don't tell": An evaluation of US Veterans Administration postdeployment mental health screening of veterans returning from Iraq and Afghanistan. *American Journal of Public Health, 98*, 714-720.
- Seal, K. H., Bertenthal, D., Miner, C. R., Sen, S., & Marmar, C. (2007). Bringing the war back home: Mental health disorders among 103,788 US veterans returning from Iraq and Afghanistan seen at Department of Veterans Affairs facilities. *Archives of Internal Medicine, 167*, 476-482.
- Stein, M. B., Walker, J. R., Hazen, A. L., & Forde, D. R. (1997). Full and partial posttraumatic stress disorder: findings from a community survey. *American Journal of Psychiatry, 154*, 1114-1119.
- Stellman, J. M., Smith, R. P., Katz, C. L., Sharma, V., Charney, D. S., Gerbert, R., Moline, J., Luft, B. J., Markowitz, S., Udiasin, I., Harrison, D., Baron, S., Landrigan, P. J., Levin, S. M., & Southwick, S. (2008). Enduring mental health morbidity and social function impairment in World Trade Center rescue, recovery and cleanup workers: The psychological dimension of an environmental health disaster. *Environmental Health Perspectives* doi:10.1289/ehp.11164.
- Tanielian, T., & Jaycox, L. H. (2008). *Invisible wounds of war: Psychological and cognitive injuries, their consequences, and services to assist recovery*. RAND Center for Military Health Policy Research.
- Tate, A. R., Jones, M., Hull, L., Fear, N. T., Rona, R., Wessely, S., & Hotopf, M. (2007). How many mailouts? Could attempts to increase the response rate in the Iraq war cohort study be counterproductive? *BMC Medical Research Methodology, 7*, 51.
- Walker, E. A., Katon, W., Russo, J., Ciechanowski, P., Newman, E., & Wagner, A. W. (2003). Health care costs associated with posttraumatic stress disorder symptoms in women. *Archives of General Psychiatry, 60*, 369-374.
- Weathers, F., Huska, J., & Keane, T. (1991). *The PTSD Checklist Military Version (PCL-M)*, Boston, MA: National Center for Posttraumatic Stress Disorder.
- Zatzick, D. F., Jurkovich, G. J., Gentilello, L., Wisner, D., & Rivara, F. P. (2002). Posttraumatic stress, problem drinking, and functional outcomes after injury. *Archives of Surgery, 137*, 200-205.

Zlotnick, C., Franklin, C. L., & Zimmerman, M. (2002). Does "subthreshold" posttraumatic stress disorder have any clinical relevance? *Comprehensive Psychiatry*, 43, 413-419.

Table 1. Demographic and clinical characteristics by PTSD status

	<b>No PTSD</b>	<b>Partial PTSD</b>	<b>PTSD</b>	<b>F or <math>\chi^2</math></b>	<b>p</b>		
<i>N</i>	313	124	120				
Age	37.1 (0.5) <sup>a,b</sup>	31.9 (0.9) <sup>a</sup>	32.5 (0.9) <sup>b</sup>	17.88	<0.001		
Sex (% male)	86.6%	93.3%	91.5%	2.76	0.25		
Race/ethnicity				6.34	0.39		
White	84.0%	87.9%	78.3%				
Black	4.8%	4.8%	9.2%				
Hispanic	5.4%	4.8%	6.7%				
Other	5.8%	2.5%	5.8%				
Education				8.44	0.08		
High school	15.1%	15.3%	25.2%				
Some college/college	72.8%	76.6%	66.4%				
Graduate							
Graduate school	12.2%	8.1%	8.4%				
Married/living w/partner	64.4% <sup>a,b</sup>	46.8% <sup>a</sup>	54.2% <sup>b</sup>	12.39	0.002		

Service duty				11.75	0.003		
Active duty	22.0% <sup>a,b</sup>	40.0% <sup>a</sup>	31.2% <sup>b</sup>				
National Guard or Reserves	77.4%	56.9%	67.5%				
<i>Clinical variables</i>						Logistic Regression	
						No PTSD vs. Partial PTSD	No PTSD vs. Full PTSD
Self-reported health in past month				110.08	<0.001		
Excellent/good	91.4%	70.7%	44.0%				
Fair/poor	8.6% <sup>a,b</sup>	29.3% <sup>a,c</sup>	56.0% <sup>b,c</sup>			OR=4.91*, 95%CI=2.55-9.44	OR=13.63*, 95%CI=7.25-25.60
Self-reported health before and after deployment				10.81	0.004		
Better health	15.8%	11.7%	4.2%				
Worse health	84.2% <sup>a</sup>	88.3% <sup>b</sup>	95.8% <sup>a,b</sup>			OR=2.53*, 95%CI=1.09-5.86	OR=3.87*, 95%CI=1.45-10.35

Positive depression screen (PHQ9)	12.5% <sup>a</sup>	24.0% <sup>b</sup>	68.8% <sup>a,b</sup>	80.77	<0.001	OR=2.33, 95%CI=0.68-8.00	OR=16.40*, 95%CI=7.40-36.36
Positive alcohol use disorder screen (CAGE)	18.8% <sup>a,b</sup>	34.0% <sup>a,c</sup>	52.8% <sup>b,c</sup>	23.59	<0.001	OR=2.39, 95%CI=0.99-5.80	OR=5.17*, 95%CI=2.31-11.58
Positive mild traumatic brain injury screen	6.9% <sup>a,b</sup>	21.6% <sup>a,c</sup>	44.1% <sup>b,c</sup>	38.36	<0.001	OR=4.37*, 95%CI=1.70-11.22	OR=13.13*, 95%CI=5.11-33.71

*Note.* Values with the same superscript differ significantly,  $p < 0.05$ ; \*Group differs relative to No PTSD control group.

Logistic regression analyses adjusted for age, relationship status (yes/no), and duty type (active vs. reserve). \*Groups differ,  $p < 0.05$

Table 2. Psychosocial functioning variables by PTSD status

	No PTSD	Partial PTSD	PTSD	F or $\chi^2$	p	Logistic Regression			
						No PTSD vs. Partial PTSD		No PTSD vs. PTSD	
						OR	95%CI	OR	95%CI
Psychosocial Difficulties (total score)*	39.5 (0.9) <sup>a,b</sup>	46.6 (1.3) <sup>a,c</sup>	56.4 (1.3) <sup>b,c</sup>	53.56	<0.001				
Family problems (total score)*	6.1 (0.2) <sup>a,b</sup>	7.2 (0.2) <sup>a,c</sup>	9.8 (0.3) <sup>b,c</sup>	61.47	<0.001				
Would like help with family problems	10.7% <sup>a</sup>	17.2%	31.9% <sup>a</sup>	17.52	<0.001	1.33	0.46-3.83	5.00*	2.26-11.10
Sought help for family problems	13.2% <sup>a,b</sup>	24.3% <sup>a,c</sup>	39.3% <sup>b,c</sup>	20.97	<0.001	2.72*	1.14-6.48	5.64*	2.57-12.40
Work problems (total score)*	11.3 (0.4) <sup>a,b</sup>	13.4 (0.6) <sup>a,c</sup>	15.7 (0.6) <sup>b,c</sup>	19.96	<0.001				
Would like help with work problems	12.4% <sup>a,b</sup>	30.6% <sup>a</sup>	44.6% <sup>b</sup>	35.87	<0.001	2.85*	1.28-6.34	5.73*	2.80-11.73
Sought help for work problems	13.9% <sup>a</sup>	14.9% <sup>b</sup>	36.4% <sup>a,b</sup>	19.71	<0.001	1.31	0.51-3.40	5.84*	2.86-11.91
Financial problems (total score)*	4.9 (0.1) <sup>a,b</sup>	5.3 (0.2) <sup>a,c</sup>	6.4 (0.2) <sup>b,c</sup>	14.32	<0.001				

Would like help with financial problems	11.6% <sup>a,b</sup>	23.1% <sup>a</sup>	34.0% <sup>b</sup>	18.87	<0.001	1.51	0.65-3.47	3.28*	1.58-6.83
Sought help for financial problems	6.8% <sup>a</sup>	6.8% <sup>b</sup>	17.1% <sup>a,b</sup>	7.24	0.027	1.36	0.40-4.61	3.13*	1.16-8.41
Relationship problems (total score)*	5.1 (0.2) <sup>a,b</sup>	6.9 (0.3) <sup>a,c</sup>	8.2 (0.3) <sup>b,c</sup>	39.10	<0.001				
Sought help for relationship problems	7.4% <sup>a,b</sup>	15.1% <sup>a,c</sup>	35.0% <sup>b,c</sup>	33.60	<0.001	2.81*	1.06-7.44	7.54*	3.21-17.70
Would like help for relationship problems	5.3% <sup>a</sup>	11.5% <sup>b</sup>	33.0% <sup>a,b</sup>	40.19	<0.001	1.97	0.67-5.79	8.46*	3.54-20.18
School problems (total score)*	6.8 (0.3) <sup>a,b</sup>	7.4 (0.4) <sup>a,c</sup>	9.5 (0.4) <sup>b,c</sup>	15.83	<0.001				
Sought help for school problems	10.5%	16.1%	18.1%	2.34	0.31	1.48	0.55-4.02	1.61	0.64-4.06
Would like help for school problems	17.5% <sup>a</sup>	25.0% <sup>b</sup>	44.3% <sup>a,b</sup>	17.89	<0.001	1.31	0.57-3.01	3.09*	1.48-6.46

*Note.* Values with the same superscript differ significantly,  $p < 0.05$ .

Multivariate analyses of the Psychosocial Difficulties Scale total and subscale scores and logistic regression analyses adjusted for age, relationship status (yes/no), and duty type (active vs. reserve). \*Groups differ,  $p < 0.05$

## **APPENDIX B**

### **Are Stigma and Barriers to Care Associated With Psychopathology in Soldiers Returning From Operations Enduring Freedom and Iraqi Freedom?**

Please do not cite without permission as this manuscript is currently under review for publication.

**Is Psychopathology Associated with Stigma and Barriers to Care in Soldiers Returning  
from Operations Enduring Freedom and Iraqi Freedom?**

Robert H. Pietrzak, Ph.D., M.P.H.<sup>1,2</sup>, Douglas C. Johnson, Ph.D.<sup>3</sup>, Marc B. Goldstein, Ph.D.<sup>4</sup>,  
James C. Malley, Ph.D.<sup>5</sup>, Steven M. Southwick, M.D.<sup>1,2</sup>

<sup>1</sup>Department of Psychiatry, Yale University School of Medicine, New Haven, CT, USA

<sup>2</sup>National Center for Posttraumatic Stress Disorder, VA Connecticut Healthcare System,  
West Haven, CT, USA

<sup>3</sup>Department of Psychiatry, University of California San Diego School of Medicine, and VA San  
Diego Healthcare System, San Diego, CA, USA

<sup>4</sup>Department of Psychology, Central Connecticut State University, New Britain, CT, USA

<sup>5</sup>Department of Counseling and Family Therapy, Central Connecticut State University, New  
Britain, CT, USA

Draft of 07 September, 2008

**Acknowledgements**

We thank the veterans who participated in this survey. We appreciate the assistance of the Center for Public Policy and Social Research at Central Connecticut State University, the Connecticut Department of Veterans' Affairs, and the Connecticut Department of Mental Health and Addiction Services in conducting this research. This work was supported by a grant from the State of Connecticut. Disclosures: None for any author.

## ABSTRACT

**Objective:** Rates of psychopathology are high among soldiers returning from Operations Enduring and Iraqi Freedom (OEF/OIF). Soldiers who screen positive for a mental health disorder are more likely to report stigma and barriers to care, but little research has examined whether other factors such as negative beliefs about behavioral healthcare and social support may also be associated with perceived stigma and barriers to care. **Methods:** 272 OEF/OIF veterans in Connecticut completed a needs assessment survey. Analyses examined whether veterans who met screening criteria for PTSD, depression, and/or an alcohol use problem endorsed greater perceived stigma and barriers to care compared to OEF/OIF veterans who did not meet these criteria; and used a multivariate approach to examine potentially modifiable risk and protective factors of perceived stigma and barriers to care in a sample of OEF/OIF veterans. **Results:** While veterans who met screening criteria for a mental health disorder reported increased stigma and barriers to care, multivariate analyses revealed that negative beliefs about psychotherapy and decreased unit support, but not screening positive for a mental health disorder, were the only variables associated with increased stigma and barriers to care. **Conclusions:** Educational interventions targeted toward modifying negative beliefs about psychotherapy and bolstering unit support may help decrease stigma and barriers to care among OEF/OIF veterans.

Despite high rates of mental health problems among soldiers returning from Operations Enduring and Iraqi Freedom (OEF/OIF), concerns about stigma and barriers to receiving mental health care tend to be elevated in this population (1). Of note, soldiers who screen positive for a mental health disorder are twice as likely as those who do not screen positive to report concerns related to stigma and to barriers to care (1), a finding that is consistent with studies conducted in civilian samples (2).

A number of risk and protective factors are associated with stigma and barriers to care. Demographic factors such as younger age, male gender, nonwhite gender (3-5), psychiatric

conditions such as PTSD, depression, anxiety, and alcohol use problems (1,3,6), and negative attitudes about healthcare (7) are all related to increased perceived stigma and barriers to care. Service type (active duty vs. reserve/National Guard) may also be associated with barriers to care, as active duty soldiers are more likely to experience combat-related psychopathology (8). Protective factors such as marriage (4) and social support (3) may help counteract these influences and decrease stigma and barriers to care.

The purpose of this study was to: (A) examine whether OEF/OIF veterans who meet screening criteria for PTSD, depression, or an alcohol use problem endorse greater perceived stigma and barriers to care compared to OEF/OIF veterans who do not meet these criteria; and (B) use a multivariate approach to examine potentially modifiable risk and protective factors of perceived stigma and barriers to care in a sample of OEF/OIF veterans. We hypothesized that screening positive for a psychiatric disorder and having negative beliefs about mental healthcare would be associated with increased perceived stigma and barriers to care and that increased social support would be associated with decreased stigma and barriers to care.

## METHODS

### Sample

Participants in this study were drawn from the first of two waves of the Connecticut OEF/OIF Veterans Needs Assessment Survey of Connecticut (conducted 01/03 to 03/07). The purpose of this survey is to identify salient needs of this population and provide recommendations for legislative and public policy initiatives to improve readjustment for civilian life. In Wave I, a total of 1,050 surveys were mailed and 285 were returned, for an overall return rate of 27.1 %. Mean time between return from deployment and survey completion was 26.9 (standard error [SE]=0.7) months.

### Assessments

### *Dependent variable*

Perceived Stigma and Barriers to Care for Psychological Problems (1,9): This 11-item self-report instrument assesses stigma and obstacles that prevent or dissuade individuals from seeking mental health treatment. Two summary scores are derived: stigma (sample question: “My leaders would blame me for the problem”) and barriers to care (sample question: “It is difficult to schedule an appointment”). Responses range from “Strongly Agree” to “Strongly Disagree,” with mean ratings for each summary scale serving as outcome measures. For logistic regression analyses (see below), ratings of “Agree” and “Strongly Agree” were combined. In this sample, Cronbach’s  $\alpha$  on these items that comprise this measure was 0.90.

### *Independent variables*

The Posttraumatic Stress Disorder Checklist-Military Version (10) is a 17-item screening instrument based on DSM-IV criteria for PTSD. It was developed by the National Center for PTSD and contains items relevant to stressful military experiences. A positive PTSD screen was identified by total scores  $\geq 50$  and endorsement of each of three DSM-IV criteria required for a diagnosis of PTSD (cluster B: intrusive; cluster C: avoidance/numbing; and cluster D: hyperarousal). Cronbach’s  $\alpha$  on these items was 0.96.

The Patient Health Questionnaire-9 (11) is a 9-item self-report screening instrument for depression derived from the clinician-administered Primary Care Evaluation of Mental Disorders. Scores  $\geq 15$  indicate a positive screen for depression. Cronbach’s  $\alpha$  on these items was 0.92.

The CAGE Questionnaire (12) is a 4-item instrument used to identify individuals with a possible alcohol problem. Despite its brevity, it has been shown to have good validity in screening large populations. A score  $\geq 2$  is indicative of a possible alcohol problem.

The Unit Support Scale (13) is a 12-item instrument from the Deployment Risk and Resilience Inventory (DRRI; 13) that assesses the nature of professional relationships and cohesion between the soldier and his/her unit. Questions include, “My unit was like a family to me,” “I could go to most people in my unit for help when I had a personal problem,” and “My superiors made a real attempt to treat me as a person.” Cronbach’s  $\alpha$  on these items was 0.93.

The Postdeployment Social Support Scale (13) is a 15-item measure from the DRRRI that assesses the extent to which family, friends, coworkers, employers, and community provide postdeployment emotional support and instrumental assistance. Cronbach's  $\alpha$  on these items was 0.82.

The Connor-Davidson Resilience Scale (14) is a 25-item self-report assessment of psychological resilience. Total scores were used in this study. Cronbach's  $\alpha$  on these items was 0.94.

The Beliefs about Psychotropic Medications and Psychotherapy Scale (15) assesses beliefs about psychotropic medication and psychotherapy. Three items assessing beliefs about psychotropic medications and three assessing beliefs about psychotherapy were included in this survey. Responses range from "Strongly Agree" to "Strongly Disagree" with total scores serving as the outcome measure. Cronbach's  $\alpha$  on these items was 0.89.

#### *Data analysis*

Non-normally distributed variables were transformed using logarithmic base 10 transformations. Demographic characteristics and frequency of endorsement of each stigma and barriers to care item by screening group (those who met screening criteria for PTSD, depression, and/or alcohol use problem [hereafter "psychiatric disorder"] vs. those who did not) were compared using univariate analysis of variance and  $\chi^2$  tests. Logistic regression analyses were used to estimate odds ratios of the association between screening positive for a psychiatric disorder and endorsement of each stigma and barriers to care item. Two separate hierarchical linear regression analyses examined predictors of stigma and barriers to care scores. Variables hypothesized to be related to stigma and barriers to care were entered as independent variables. Step 1 included demographic variables (age, sex, race/ethnicity, education, relationship status, duty type: active vs. reserve), Step 2 included psychopathology variables (positive screen for PTSD, depression, alcohol use problems), Step 3 included potentially protective factors (Unit Support Scale, Postdeployment Social Support, Connor-Davidson Resilience Scale), and Step 4 included a measure of perceptions of mental health treatment (Beliefs about Psychotherapy and Psychotropic Medication). Separate regression models were conducted to examine specific beliefs about mental healthcare associated with stigma and barriers to care.

## RESULTS

### *Demographic characteristics*

The mean age of the total sample was 34.9 (SE=0.4), 89.4% were white, 82.4% completed at least some college education, 27.8% were active duty and 72.2% were in the National Guard or reserves; 87.4% were in the Army, 9.1% Marines, 2.2% Air Force, and 1.3% multiple branches; A total 92.0% of the sample reported having health insurance. Demographic characteristics in the groups who did and did not meet screening criteria for a psychiatric disorder are shown in Table 1. The group who screened positive for a psychiatric disorder was younger than the group who did not, but did not differ with respect to sex, race/ethnicity, education, relationship status, service type, and health insurance status.

SEE TABLE 1 ON PAGE 113

### *Perceived stigma and barriers to care*

Mean stigma and barriers to care scores and odds ratios of the association of item endorsement on individual stigma and barriers to care items are shown in Table 2. The group who screened positive for a psychiatric disorder scored higher on both the stigma and barriers to care scales (medium effect size), and were more likely to endorse nearly all of the stigma (ORs=2.10 to 4.15) and barriers to care items (ORs=3.58 to 5.45).

SEE TABLE 2 ON PAGE 115

Hierarchical regression results of predictors of stigma and barriers to care scores are shown in Table 3. Steps 2, 3, and 4 were significantly associated with both total stigma and barriers to care scores. Scores on the Unit Support and Beliefs about Psychotropic Medication and Psychotherapy scales each independently predicted stigma and barriers to care scores. While meeting screening criteria for PTSD or depression was associated with both stigma ( $\beta=0.24$ ,  $t=3.97$ ,  $p<0.001$ ) and perceived barriers to care ( $\beta=0.34$ ,  $t=5.71$ ,  $p<0.001$ ) in separate bivariate regression analyses, these variables were no longer significant when the other variables were entered into the models.

SEE TABLE 3 ON PAGE 117

Separate regression models examined which specific beliefs about mental healthcare were associated with stigma and barriers to care in the full sample. The beliefs “Therapy is not effective for most people” and “Therapy is a sign of weakness” predicted increased stigma ( $\beta=0.14$ ,  $t=2.53$ ,  $p=0.012$  and  $\beta=0.62$ ,  $t=10.69$ ,  $p<0.001$ , respectively) and barriers to care ( $\beta=0.28$ ,  $t=5.62$ ,  $p<0.001$  and  $\beta=0.29$ ,  $t=5.86$ ,  $p<0.001$ , respectively). The other items: “Therapy can help with stressful events,” “Anxiety and depression can be improved with medication,” “Medication to anxiety and depression does not help,” and “Medications are highly addictive” were not associated with stigma (all  $\beta$ 's $<0.08$ , all  $t$ 's $<1.50$ , all  $p$ 's $>0.13$ ) or barriers to care (all  $\beta$ 's $<0.05$ , all  $t$ 's $<1.05$ , all  $p$ 's $>0.29$ ).

## DISCUSSION

This study replicated results of a previous investigation (1), which found that OEF/OIF veterans who met screening criteria for a psychiatric disorder were more likely than veterans who did not meet these criteria to perceive increased stigma and barriers to care. However, results of the current study also extend those findings to suggest that, screening positive for PTSD, depression, or an alcohol use problem, when considered together with other potentially modifiable risk and protective factors of perceived stigma and barriers to mental healthcare (3-8), is *not* independently associated with stigma and barriers to care in OEF/OIF veterans. Instead, negative beliefs about mental healthcare, in particular psychotherapy, and decreased unit support emerged as the only significant predictors of stigma and barriers to care in this study.

Veterans who screened positive for a psychiatric disorder scored higher on both the stigma and barriers to care measures, and were more likely to endorse nearly all of the items that comprise these measures. Stigma and barriers to care items most strongly associated with screening positive for a psychiatric disorder were embarrassment, being perceived as weak, not knowing where to get help, and having difficulty scheduling an appointment. These results suggest that stigma and barriers to mental health care could be reduced by teaching soldiers and their families, as well as military leaders, to understand that combat stress reactions are usually normal and expected responses to abnormal situations, rather than signs of psychopathology. The

results also point to the need for ample and easily accessible mental health services for OIF/OEF soldiers.

Negative beliefs about psychotherapy and unit support were the only variables associated with stigma and barriers to care in multivariate analyses. Negative public perceptions about psychotherapy and behavioral healthcare in general may promote, at least in part, the internalization of negative beliefs about behavioral healthcare, which may increase perceptions of stigma and reduce self-esteem and motivation to seek help (16, 17). The magnitude of the relationship between negative beliefs about psychotherapy and increased stigma and barriers to care underscores the importance of assessing and developing methods to modify these beliefs in returning OEF/OIF veterans.

Unit support is also important for the psychological well-being of soldiers. Low levels of unit support have been associated with depression and PTSD in Gulf War I veterans (18) and with PTSD in Iraq veterans (19). High unit/organizational support has been associated with lower levels of PTSD among U.S. female Gulf War I veterans (20), and with positive mood, improved job performance and satisfaction, and organizational commitment in civilian work settings (21).

The results of the present study have several practical implications. Most importantly, negative beliefs about psychotherapy and unit support are potentially modifiable risk factors for stigma and barriers to mental healthcare. Negative beliefs about psychotherapy are often based on stereotypes and lack of accurate information about current evidence-based psychotherapies for combat-related psychiatric disorders. Recent cognitive-behavioral and exposure-based treatments have been shown to be highly effective for trauma-related symptoms/disorders (22) and, unlike some other psychotherapies, they are time-limited, practical, solution-focused, and based on building new skills and attributes, which may appeal to young men in the military. Educating soldiers about the nature and effectiveness of these interventions may help decrease stigma and barriers to mental healthcare.

The present findings also suggest that increasing unit support may help decrease stigma and barriers to mental healthcare, which in turn may improve unit psychological health, enhance military functioning, and increase retention of soldiers. Teaching military leaders about the

benefits of good unit support and its association to psychological health and optimal military functioning would likely motivate them to actively work on improving support for their soldiers. Delivery of mental health service in primary care settings (23), and/or confidential psychological counseling may also help decrease stigma associated with treatment-seeking in this population.

Methodological limitations of this study include a relatively low survey return rate, homogeneous sample of OEF/OIF veterans, and use of screening instruments to assess psychopathology. Whether these results are generalizable to larger, more diverse samples of OEF/OIF veterans when diagnostic instruments are utilized remains to be examined. Future research should examine the generalizability of these findings to larger samples of OEF/OIF veterans, and develop and test the effectiveness of interventions designed to modify negative beliefs about psychotherapy and unit support and their effect on treatment-seeking behaviors in military populations.

## REFERENCES

1. Hoge CW, Castro CA, Messer SC, et al: Combat duty in Iraq and Afghanistan, mental health problems, and barriers to care. New England Journal of Medicine 351:13-22, 2004
2. Kessler RC, McGonagle KA, Zhao S, et al: Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. Archives of General Psychiatry 51:8-19, 1994
3. Bonin JP, Fournier L, Blais R: Predictors of mental health service utilization by people using resources for homeless people in Canada. Psychiatric Services 58:936-941, 2007
4. McCarthy JF, Blow FC, Valenstein M, et al: Veterans Affairs Health System and mental health treatment retention among patients with serious mental illness: evaluating accessibility and availability barriers. Health Services Research 42:1042-60, 2007
5. Kuehn BM: Men face barriers to mental health care. Journal of the American Medical Association 296:2303-2304, 2006

6. Gillock KL, Zayfert C, Hegel MT, et al: Posttraumatic stress disorder in primary care: prevalence and relationships with physical symptoms and medical utilization. General Hospital Psychiatry 27:392-399, 2004
7. Sareen J, Jagdeo A, Cox BJ et al: Perceived barriers to mental health service utilization in the United States, Ontario, and the Netherlands. Psychiatric Services 58:357-364, 2007
8. Vogt DS, Samper RE, King DW et al: Deployment stressors and posttraumatic stress symptomatology: comparing active duty and National Guard/Reserve personnel from Gulf War I. Journal of Traumatic Stress 21:66-74, 2008
9. Britt TW, Greene-Shortridge TM, Brink S, et al: Perceived stigma and barriers to care for psychological treatment: Implications for reactions to stressors in different contexts. Journal of Social and Clinical Psychology 27:317-335, 2008
10. Weathers F, Huska J, Keane T: The PTSD checklist - Military version (PCL-M). Boston, MA: National Center for PTSD, 1991
11. Kroenke K, Spitzer RL: The PHQ-9: a new depression diagnostic and severity measure. Psychiatric Annals 32:509-521, 2002
12. Ewing JA: 'Detecting Alcoholism: The CAGE Questionnaire. Journal of the American Medical Association 252:1905-1907, 1984
13. King DW, King LA, Vogt DS: Manual for the Deployment Risk and Resilience Inventory (DRRI): a collection of scales for studying deployment-related experiences in military veterans. Boston, MA: National Center for PTSD, 2003
14. Connor KM, Davidson JR. Development of a new resilience scale: the Connor-Davidson Resilience Scale (CD-RISC). Depression and Anxiety 18:76-82, 2003
15. Bystritsky A, Wagner AW, Russo JE, et al: Assessment of beliefs about psychotropic medication and psychotherapy: development of a measure for patients with anxiety disorders. General Hospital Psychiatry 27:313-318, 2005
16. Greene-Shortridge TM, Britt TW, Castro CA: The stigma of mental health problems in the military. Military Medicine 172:157-161, 2007
17. Stecker T, Fortney JC, Hamilton E, et al: An assessment of beliefs about mental health care among veterans who served in Iraq. Psychiatric Services 58:1358-1361, 2007
18. Vogt DS, Pless AP, King LA, et al: Deployment stressors, gender and mental health outcomes among Gulf I veterans. Journal of Traumatic Stress 18: 115-127, 2005

19. Iversen AC, Fear NT, Ehlers A, et al: Risk factors for post-traumatic stress disorder among UK Armed Forces personnel. *Psychological Medicine* 38: 511-522, 2008
20. Wolfe J, Sharkansky EJ, Read JP, et al: Sexual harassment and assault as predictors of PTSD symptomatology among U.S. female Persian Gulf War military personnel. *Journal of Interpersonal Violence* 13: 40-57, 1998
21. Rhoades L, Eisenberger R: Perceived organizational support: a review of the literature. *Journal of Applied Psychology* 87:698-714, 2002
22. Monson CM, Schnurr PP, Resick PA, et al: Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *Journal of Consulting and Clinical Psychology* 74:898-907, 2006
23. Kilbourne AM, Pincus HA, Schutte K, et al: Management of mental disorders in VA primary care practices. *Administration and Policy in Mental Health* 33:208-214, 2006

Table 1. Demographic characteristics of veterans who met and did not meet screening criteria for a psychiatric disorder (PTSD, depression, and/or alcohol use problems)

	<b>Did not meet screening criteria</b>	<b>Met screening criteria</b>	<b>F or <math>\chi^2</math></b>	<b>p</b>
<i>N</i>	145	122		
Age*	38.0 (0.8)	34.6 (0.9)	7.42	0.007
Sex (% male)	129 (89.0%)	112 (91.8%)	0.33	0.57
Race/ethnicity			1.08	0.78
White	128 (88.3%)	105 (86.1%)		
Black	6 (4.1%)	6 (4.9%)		
Hispanic	6 (4.1%)	8 (6.6%)		
Other	5 (3.4%)	3 (2.5%)		

Education			2.47	0.29
High school	19 (13.2%)	18 (14.8%)		
Some college/college	113 (78.5%)	87 (71.3%)		
Graduate				
Graduate school	12 (8.3%)	17 (13.9%)		
Relationship status			1.10	0.29
Married/living w/partner	94 (65.3%)	72 (59.0%)		
Single or divorced	50 (34.7%)	50 (41.0%)		
Service duty			1.79	0.18
Active duty	24 (22.0%)	29 (30.2%)		
National Guard or Reserves	85 (78.0%)	67 (69.8%)		
Health insurance (%yes)	133 (91.7%)	113 (92.6%)	0.00	0.96

\*Groups differ,  $p < 0.01$

Table 2. Stigma and barriers to care items in veterans who did and did not meet screening criteria for a psychiatric disorder (PTSD, depression, and/or alcohol use problems)

	<b>Did not meet screening criteria</b>	<b>Met screening criteria</b>	<b>Statistical tests</b>	
Mean stigma score*	2.31 (0.09)	2.89 (0.10)	F(1,247)=17.72, p<0.001, Cohen's d=0.54	
Mean barriers to care score*	2.08 (0.07)	2.47 (0.08)	F(1,247)=12.57, p<0.001, Cohen's d=0.45	
				Odds of positive endorsement of item by positive screen for psychiatric disorder  OR, 95%CI
<i>Perceived stigma items</i>				

It would be too embarrassing	24 (24.0%)	53 (56.4%)	$\chi^2(1)=21.23, p<0.001$	4.15, 2.21-7.78*
I would be seen as weak	28 (28.6%)	55 (59.8%)	$\chi^2(1)=18.79, p<0.001$	3.78, 2.05-6.98*
My leaders would blame me for the problem	10 (11.0%)	22 (27.5%)	$\chi^2(1)=7.63, p=0.006$	3.08, 1.34-7.08*
My unit leadership might treat me differently	22 (24.4%)	35 (41.7%)	$\chi^2(1)=5.85, p=0.016$	2.42, 1.25-4.69*
It would harm my career	33 (31.7 %)	50 (49.0%)	$\chi^2(1)=6.40, p=0.011$	2.10, 1.18-3.74*
Members of my unit might have less confidence in me	33 (33.3%)	40 (46.0%)	$\chi^2(1)=11.28, p=0.001$	1.81, 0.99-3.32
<i>Barriers to care items</i>				
I don't know where to get help	7 (7.0%)	28 (30.1%)	$\chi^2(1)=17.33, p<0.001$	5.45, 2.24-13.29*
It is difficult to schedule an appointment	9 (11.7%)	32 (39.0%)	$\chi^2(1)=15.51, p<0.001$	4.54, 1.97-10.48*
There would be difficulty getting time off work for treatment	20 (19.8%)	49 (48.5%)	$\chi^2(1)=18.51, p<0.001$	3.58, 1.90-6.73*
I don't have adequate transportation	4 (3.2%)	9 (8.5%)	$\chi^2(1)=2.97, p=0.085$	2.81, 0.82-9.67

Mental health care costs too much money	33 (37.1%)	43 (48.9%)	$\chi^2(1)=2.51, p=0.11$	1.52, 0.83-2.79
---	------------	------------	--------------------------	-----------------

*Note.* \*Groups differ; Total stigma and barriers to care scores, and ORs and 95% CIs are adjusted for age. Frequencies of endorsement vary by item because of missing data. Reference group in logistic regression analyses were those veterans who did not meet screening criteria for PTSD, depression, and/or alcohol use problems.

Table 3. Predictors of stigma and barriers to care scores in hierarchical regression analyses

Stigma scores					
	F, p	R <sup>2</sup>	$\beta$	t	p
Step 1	0.40, 0.85	0.018			
Age			0.03	0.50	0.62
Race/ethnicity (white vs. other)			-0.07	1.16	0.25
Education (no college vs. college)			0.07	1.24	0.22
Relationship status (no vs. yes)			0.09	1.47	0.14
Duty type (reserve vs. active)			-0.03	0.55	0.58

Step 2*	2.37, 0.019	0.06			
Positive PTSD screen			0.03	0.44	0.66
Positive depression screen			-0.04	-0.59	0.56
Positive alcohol problem screen			0.07	1.15	0.25
Step 3*	4.35, <0.001	0.18			
Unit support*			-0.20	3.02	0.003
Postdeployment social support			0.01	0.09	0.93
Resilience			-0.10	1.34	0.18
Step 4*	13.18, <0.001	0.46			
Beliefs about psychotherapy and psychotropic medication*			0.59	9.20	<0.001
Barriers to care scores					

Step 1	1.57, 0.17	0.017			
Age			-0.09	1.17	0.25
Race/ethnicity (white vs. other)			-0.08	1.12	0.26
Education (no college vs. college)			-0.04	0.63	0.53
Relationship status (no vs. yes)			-0.03	0.39	0.69
Duty type (reserve vs. active)			0.04	0.53	0.60
Step 2*	3.20, 0.002	0.10			
Positive PTSD screen			0.07	0.83	0.41
Positive depression screen			0.10	1.12	0.26
Positive alcohol problem screen			0.01	0.09	0.93
Step 3*	3.22, 0.001	0.13			
Unit support*			-0.15	1.98	0.049
Postdeployment social support			0.04	0.51	0.61
Resilience			-0.02	0.26	0.79

Step 4*	6.49, <0.001	0.29			
Beliefs about psychotherapy and psychotropic medication*			0.44	5.89	<0.001

\*Statistically significant association with dependent variable,  $p < 0.05$ .

**APPENDIX C**

**Record of Deployment Health Education Presentations and  
National Guard Briefings**

**Presentations to State/Federal Agencies, Clinicians, Community Based Organizations and others on Deployment Health Matters**

<u>Activity</u>	<u>Participants</u>
2007 Department of Veterans Affairs Veterans Summit	7
2007 Stand Down	175
118 <sup>th</sup> Medical Bn, CTANG	8
VA West Haven PTSD/Anxiety Clinic	7
Vet Centers (3)	15
VA West Haven in-service for MSW's	31
VA Primary care clinics (3)	50
Gov's Task Force on Justice for Abused Children	19
Court Support Services Division staff	12
Local Mental Health Authorities (4)	28
Jail Diversion staff (2)	47
DMHAS Forensic Div. staff	8
DMHAS CVH/Addiction Services	10
Hartford Community Court staff	7
Domestic Violence Coalition-Bantam Court	12
Recovery Oriented Employment Services state-wide meeting	13
Pastoral Counseling workshop (Rev. McKinney)	30
Wheeler Clinic Open House presentations (2)	20
Critical Incident Trainings for police officers (5)	310
Half-day conference for state police-OEF/OIF veterans	22
Two training conferences for MSP clinicians	155
Presentations at State Trooper Peer Support trainings (2)	58
Veterans Day presentations to staff/participants (3 locations)	75
Statewide meeting of homeless providers	49
Project Homeless Connect (Hartford/Danbury)	200

2007 Annual Meeting of CT Child Protection Advocates	125
VA Newington Substance Abuse and Mental Health Clinics	30
Veterans Representative Training for DMHAS Clinicians	37
Presentation to co-chairs of Select Committee on Veterans Affairs	9
Presentation at 2007 AFSCME Council 4 Conference	28
Presentation to Region 2 Regional Mental Health Board	19
Statewide meeting of Public Defender's Office MSW's	24
Presented at Employee Assistance Program Association meeting	18
Presented to staff of Bridges/Melissa's Project	15
Presented at DPS State Police Operations Field Officers (OFO) Meeting	25
Presented at 2008 State Prosecutors Annual Conference	27
Presented to New London Wounds of War clinical consortium	22
Presented at 2008 Returning Veterans Conference, Bethesda, MD	<u>625</u>
	2,372

**APPENDIX D**

**Department of Mental Health and Addiction Services  
INFO Brief, “Connecticut Military Support Program”  
September 22, 2008**

## CONNECTICUT MILITARY SUPPORT PROGRAM

*"After my husband deployed, my oldest child began to act out. She was having such a hard time. And the truth is so was I. We'd never been apart. We'd always been a team. I just couldn't stop thinking about him being in danger every minute he was there. I became depressed. I am so grateful for the support I received from my MSP clinician. She really helped me get through it."*

~28 year old wife of a deployed CT Army National Guard soldier



The Military Support Program (MSP) addresses the mental health and substance use needs of National Guard and Reserve personnel affected by deployment in Operation Enduring Freedom (Afghanistan) and Operation Iraqi Freedom (Iraq). Administered by the Department of Mental Health and Addiction Services (DMHAS), MSP began in March 2007. Connecticut is the first state in the U.S. to offer mental health counseling services to its approximately 5,000 National Guard and Reserve personnel, sometimes called "Citizen Soldiers," and their families.

**Free, confidential outpatient counseling** provided to National Guard and Reserve personnel and their families.

**Over 225 licensed clinicians specially trained by DMHAS** to provide marriage and family counseling and counseling for stress related to deployment, service in a war zone, and homecoming.

**Outreach; 24/7 call center; information, referral and advocacy; and community case management services** provided by MSP staff.

### MSP Features



MSP provides **up to 15 outpatient counseling sessions**, but may expand to 30 visits in certain circumstances.

**Transportation assistance:** Livery service and gas cards offset transportation costs.

**Total Number of Counseling Sessions: 1,302  
FY '08**

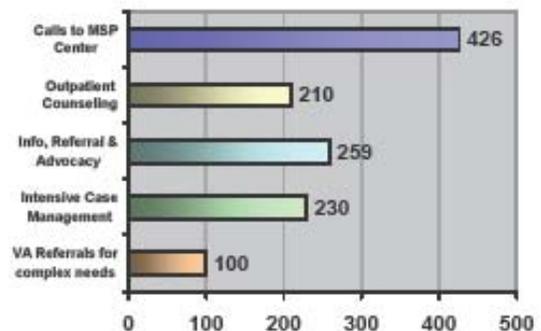
### Additional MSP Highlights:

**Educating clinicians:** DMHAS recruits, trains, credentials and manages MSP clinicians using a new training program on veterans' unique health needs, benefits, eligibility criteria, and how to apply.

**Children and deployment:** School-based clinicians to be trained by a DMHAS expert in family systems and school based services on the adjustment issues of children of deployed parents. In partnership with the National Guard/Reserves Family Support Programs, children of deployed parents will be identified and services will be offered to the child, parents and school personnel.

**Collaboration:** MSP works closely with VA and Vet Centers in facilitating workshops on deployment health at family conferences and all unit demobilizations and 30, 60, and 90-day drills.

Number of Individuals Served 7/1/07 – 6/30/08



*"The MSP has rapidly become an invaluable resource available to our Connecticut Guardsmen and their families. The service is prompt, the staff caring, as they routinely seek to provide flexible support options designed to meet the diverse needs of our military community. Speaking as a Commander, I am fortunate to have access to the resources the MSP can provide to our soldiers, airmen and their families."*

~Maj. Gen. Thad Martin, Adjutant General



### Just Call

National Guard/Reserve personnel and their family members seeking referral to counseling services are encouraged to call the 24/7 toll-free call center at 1-866-251-2913 to get names and contact numbers of at least three clinicians in their area.

For more information, please contact [jim.tackett@po.state.ct.us](mailto:jim.tackett@po.state.ct.us). To view previous issues, visit: <http://www.ct.gov/dmhas/infobriefs>.

**APPENDIX E**

**CONNECTICUT DIVERSION/TRAUMA RECOVERY PROGRAM FOR VETERANS**

## CONNECTICUT DIVERSION/TRAUMA RECOVERY PROGRAM FOR VETERANS

Per federal grant requirement, eligible applicants for the Jail Diversion for Veterans Program were restricted to State Mental Health Authorities (SMHA) with existing Jail Diversion infrastructure. Additionally, per federal requirement, implementation of the initiative includes two phases: 1) Planning Phase Months 1-6; and 2) Implementation Phase Months 7-60. Both are detailed below:

### **PLANNING PHASE: MONTHS 1-6**

**Goal A. Develop a strategic plan for a comprehensive continuum of programming to divert veterans with post-traumatic stress disorder (PTSD) and trauma-related disorders from the criminal justice system (at initial point of police contact, pre-booking, post-booking or at arraignment) to community-based trauma-integrated treatment and recovery services, in the context of a trauma-informed system of care.**

*Objective A.1.* Convene a **CT Diversion/Trauma Recovery Program** Advisory Committee with key state and community stakeholders, including DMHAS, the Dept. of Veteran Affairs (DVA), the VA CT Healthcare System, the Veterans Readjustment and Counseling Service, the Dept. of Correction (DOC), the Dept. of Social Services (DSS), the Judicial Branch, local police departments, community providers, veterans, family members, and advocates to support the development, implementation, and sustainment of a comprehensive, trauma-integrated continuum of diversion programming for veterans involved in the criminal justice system.

*Objective A.2.* Provide key stakeholders with expert consultation/TA on jail diversion and PTSD approaches for veterans and their linkage to effective trauma-integrated treatment services.

*Objective A.3.* Based on the needs assessment and resource/service inventory analyses, key stakeholders will develop a comprehensive strategic plan, including strategies for state infrastructure development in addition to a local pilot project, for CMHS review and approval.

*Objective A.4.* **Using consultation/technical assistance from Community Connection, undertake a transformation of the system of care in Eastern CT to render it a trauma-informed system of care.**

**Goal B: Conduct a process evaluation of the planning phase.**

*Objective B.1.* Engage the University of CT (UConn) in a process evaluation to determine whether the strategic planning process was effectively implemented and whether stakeholders were satisfied with the decision-making process.

*Objective B.2.* Disseminate findings by producing a process evaluation report for statewide use and to inform key state stakeholders.

**IMPLEMENTATION PHASE: MONTHS 6-60**

Goal A. Building on the existing Jail Diversion (JD) and Crisis Intervention Team (CIT) Programs in Eastern CT (Local Pilot Community), enhance the continuum of diversion programming to screen, divert, and treat veterans with PTSD and trauma-related disorders involved in the criminal justice system.

*Objective A.1.* Facilitate identification and referral of eligible veterans to divert from the criminal justice system (at initial point of police contact, pre-booking, post-booking or at arraignment) to community-based trauma-integrated treatment and recovery support services.

*Objective A.2.* Screen a minimum of 500 (Court = 400; CIT=100) veterans (annually); propose the CT Diversion/Trauma Recovery Program for 250 (Court=200; CIT=50) veterans (annually); a minimum of 250 (Court=200; CIT=50) veterans (annually) will be diverted by the referring criminal justice system entity.

*Objective A.3.* Of the 250 veterans who are diverted, refer a minimum of 125 (Court=100; CIT=25) veterans (annually) to the CT Diversion/Trauma Recovery Program. Refer the remaining 125 veterans to other, more appropriate services.

*Objective A.4.* Of the 125 veterans (annually) who are referred to the CT Diversion/Trauma Recovery Program, conduct clinical assessment of a minimum of 90 veterans (annually) who are interested in participating in the CT Diversion/Trauma Recovery Program. Refer the remaining 35 veterans to other, more appropriate services.

*Objective A.5.* For the 90 veterans who receive a clinical assessment 80 (annually) will choose to participate in the CT Diversion/Trauma Recovery Program. Refer the remaining 20 veterans to other more appropriate services.

**Goal B. Expand capacity for trauma-integrated treatment (Modified TREM/M-TREM) for veterans with PTSD/trauma-related disorders involved with the criminal justice system.**

*Objective B.1.* Provide case management services to engage 80 veterans (annually) in the integrated-trauma treatment and recovery support services.

*Objective B.2.* Improve engagement and retention of veterans in trauma-integrated treatment by offering services that are based on Motivational Enhancement Therapy (MET) approach, sensitivity to veterans, and that are focused on veterans' needs. Increased retention and favorable treatment outcomes are anticipated for at least 85% of the 80 veterans served annually.

*Objective B.3.* Increase availability and quality of trauma-integrated services for a minimum of 80 (annually) veterans through modified TREM/M-TREM Groups and individual treatment.

*Objective B.4.* Reduce trauma-related symptoms (i.e., self-harm, dissociation), substance use, and improve other mental health symptoms (i.e., anxiety, depression), and compliance with on-going trauma-integrated treatment.

**Goal C. Implement statewide infrastructure development strategies to divert veterans with PTSD and trauma-related disorders from the criminal justice system to community-based trauma-integrated services, including sustainability planning.**

*Objective C.1.* Increase local and state-level policies to support trauma screening, treatment and recovery services provided to veterans with PTSD and trauma-related disorders.

*Objective C.2.* Increase the number of law enforcement, correction, probation, and behavioral health staff trained to implement trauma screening, treatment, and recovery supports to veterans.

*Objective C.3.* Develop and implement a strategy for sustaining the program in Eastern CT (Local Pilot) and replicating the model across all 20 JD and CIT programs across CT.

**Goal D. Conduct a high quality program evaluation through an academic institution.**

*Objective D.1.* Engage the University of CT (UConn) to conduct an outcome evaluation.

*Objective D.2.* Disseminate findings by producing an evaluation report for statewide use and to inform the Advisory Committee.

The ultimate goal is to develop the expertise and infrastructure to sustain the CT Diversion/ Trauma Recovery Program in Eastern CT (Local Pilot) community, and in addition to document and generate evidence to support its replication across all 20 Jail Diversion and CIT programs across CT.

## **ABSTRACT**

The CT Department of Mental Health and Addiction Service, in collaboration with the CT Department of Veteran Affairs, VA CT Healthcare System, Department of Correction, Department of Social Services, and the Judicial Branch, seeks to conduct a strategic planning process to develop a comprehensive continuum of trauma-integrated diversion programming for veterans with PTSD/trauma-related disorders who are involved in the criminal justice system.

The purpose of the **CT Diversion/Trauma Recovery Program for Veterans** is to conduct a strategic planning process leading to the development and implementation of: 1) Infrastructure expansion at the State level to reach the growing number of veterans with PTSD and trauma-related disorders involved in the criminal justice system; and 2) Comprehensive local pilot project, targeting Crisis Intervention Team (CIT) and Jail Diversion programming, to divert veterans with PTSD and trauma-related disorders from the criminal justice system to trauma-integrated treatment and recovery services. The goals and objectives will be achieved through strong collaborations among federal, state, community, and academic partners, who will work together to develop, implement, and evaluate the **CT Diversion/Trauma Recovery Program** and monitor outcomes through continuous quality improvement activities. The

ultimate goal is to develop the expertise and infrastructure to sustain the **CT Diversion/Trauma Recovery Program** in Eastern CT (Local Pilot) community, and in addition to document and generate evidence to support its replication across all 20 Jail Diversion and CIT programs across CT.

The target population includes veterans with PTSD and trauma-related disorders (e.g. dissociative disorder and disorders of extreme stress not otherwise specified (DESNOS)). Recruitment efforts for the pilot will focus on veterans in Eastern Connecticut at several possible transitions: at initial point of police contact (pre-booking) or being arraigned for misdemeanors and low-level felonies (post-booking); and in lieu of probation violations.

Viewing this CMHS grant as a vehicle to further strengthen our continuum of trauma-informed and trauma-integrated diversion programming, this application represents a promising attempt to respond to this challenge, establishing the infrastructure needed to provide veterans with PTSD/trauma-related disorders effective trauma-integrated services and recovery supports. In doing so, these services simultaneously will help prevent arrest, re-arrest, relapse and promote long-term recovery for veterans with PTSD/trauma-related disorders. DMHAS and its partners, with extensive experience in developing and implementing diversionary programming, do not envision encountering significant policy, legal, or social barriers in implementing the **CT Diversion/Trauma Recovery Program**.