North Carolina Institute of Medicine
Task Force on Behavioral Health Services for the Military and their Families
Wednesday, December 16, 2009
Meeting Summary

ATTENDEES

Task Force/Steering Committee Members: Senator William Purcell, Michael Watson, Linda Alcove, Senator Peter Brunstetter, Lionel Cartwright, David Cistola, Debra Dihoff, Sandra Farmer, Catharine Goldsmith, Bob Goodale, Robin Hurley, Lil Ingram, Representative Verla Insko, Andy Jackson, Harold Kudler, Sara McEwen, Sheryl Pacelli, Senator Tony Rand, Christie Silbajoris, Karen Stallings, John Wagnitz, Li Fang, John Harris, Flo Stein
Interested Persons: Holly Danford, Anne Doolen, Abby Carter Emanuelson, Lisa English, Sylvia Hammond, Craig Kabatchnick, Joan Kaye, Jessica Meed, Kristy Straits-Troster, Kippie Tomkin
NCIOM Staff and Intern: Pam Silberman, Mark Holmes, Kimberly Alexander-Bratcher, Thalia Fuller, Catherine Liao

WELCOME AND INTRODUCTIONS

Michael Watson, Assistant Secretary, NC Division of Mental Health, Developmental Disabilities and Substance Abuse Services, Co-chair

Assistant Secretary Watson welcomed members of the Task Force, acknowledged the meaningful work conducted at the inaugural meeting of the group, and asked participants to introduce themselves.

SUBSTANCE ABUSE SERVICES: A VIEW FROM PROVIDER FRONT LINES

L. Worth Bolton, MSW, LCAS, CCS, Clinical Instructor, Behavioral Healthcare Resource Program, UNC-Chapel Hill School of Social Work

Many clinicians and addiction medicine specialists suggest that stress is the number one cause of maladaptive relapse to substance abuse. Stress leads to an increase in the brain levels of a peptide known as corticotropin releasing factor (CRF) which, in turn, triggers a cascade of biological responses. Animal and human research has implicated this cascade in the pathophysiology of both substance use disorders and Posttraumatic Stress Disorder (PTSD). (Jacobson, 2001) People subjected to chronic stress or those who show symptoms of PTSD often have hormonal responses that are not properly regulated and do not return to normal when the stress is over. This may make these individuals more prone to stress-related illnesses and may prompt patients to relapse to drug use. (Kreek, 1998) The annual Mental Health Advisory Team Report notes trauma begins in a number of places and there are many signs and symptoms of post-deployment changes.

Mr. Bolton and a group of behavioral health professionals provide training on substance abuse, post traumatic stress disorder (PTSD), and returning veterans to private behavioral health providers and students. The initial training was designed to increase knowledge and awareness of the potential for OEF/OIF veterans and/or their families contacting community-based substance abuse programs for services and identified returning NC National Guard and Reservists as an "at-risk" population. The pilot training occurred in December 2006 in Fayetteville. The content was continually changed as participant feedback helped to shape the training to the essentials needed for community-based providers interested in services to substance abusing veterans. More than 600 participants have attended this training to date. The primary goal is to care manage individuals into veteran-specific services that match the severity of their presenting problem.

The NC National Guard (NCNG) requested assistance from the Alcohol & Drug Council of NC's (ADCNC) Information & Referral Center for Substance Abuse Assessments on Guard members testing

positive on random drug analysis. The ADCNC and the UNC Behavioral Healthcare Resource Program worked with staff of the Division of Mental Health, Developmental Disabilities and Substance Abuse Services (DMHDDSAS) and the NCNG to develop a cadre of Licensed Clinical Addiction Specialists (LCAS) who would be available to the NCNG to conduct the Substance Abuse Clinical Evaluations. To date 44 LCAS have completed the required training, but wider geographic coverage is still needed.

Training for LCAS includes increasing knowledge of military culture and recommended strategies for engagement (6 contact hours); ensuring proficiency with Addiction Severity Index (multimedia version) as designated diagnostic tool (4 contact hours); providing links to and knowledge of full range of substance abuse and mental health interventions within the DoD/VA systems of care; and clarifying the policies and procedures required by the NCNG for providing these assessments, to include clinical documentation. The ADCNC currently operates this system, and recruitment and training of additional cadre is ongoing.

Several clinical challenges exist when engaging with veterans. It is critical to express genuine empathy and a demonstrated willingness to engage without overreacting to what an individual needs to discuss. In addition, it is important to express an understanding of dealing with persons experiencing trauma *without* the use of psychological jargon, labeling and premature "diagnosis talk." Most service members express concern about how this assessment will affect their relationship with their command. All service members have experienced deployment/combat stressors and all experience changes as result of these experiences. Screening data suggests that 15-25% are at-risk for PTSD and 20-30% are at-risk for other behavior health problems. Some show stress symptoms of combat without developing PTSD and most cope well following combat. Others may experience a delay in onset of problems within the first year after their combat experience. Available services for service members and their families include deployment cycle support programs, pre- and post-deployment screenings, post deployment health reassessments (PDHRs), and forward deployed behavioral health assets.

Professionals serving OEF/OIF veterans should have certain knowledge, skills and attitudes. Generate and become familiar with the acronyms of "military speak" and do not hesitate to ask when unsure, show genuine interest. Learn key aspects of military culture, rank and insignia. Remember that any assignment could expose them to trauma in these particular conflicts. Become aware of the many DoD/VA resources and how to access them such that you can explain in basic terms. Follow-up contact from you to them indicates genuine concern and a willingness to help beyond presenting crisis. To preparing for this statewide effort make on-site contact with relevant resources available in your geographic area in advance of any client contacts; clarify the referral process, hours of operation, key contacts, and required forms and paperwork; seek additional training/education on working with military and family members; and discuss the possibilities with an LME Provider Relations contacts to discuss, plan, and work through anticipated issues.

Throughout the training development and implementation, several lessons have been learned. Substance use, abuse, and dependency will continue to be a highly stigmatized issue for returning OEF/OIF veterans and their families. The most highly recognized use and abuse continues to be alcohol and prescription drugs. Families are more likely to contact providers with concerns about a returning veteran, asking for guidance and info on resources, than the veteran. Payor systems need to be coordinated and clarified such that "seamless systems of care" are a reality. Providers want to be part of the solution, but funding systems have not been responsive to "panel memberships" for LCAS credentialing. Linkages between psychosocial treatments and pharmacotherapies are crucial for successful outcomes, requiring close working relationships between clinicians and physicians. Providers need additional training and clarification on federal mandates on "Confidentiality of Alcohol and Drug Abuse Patient Records" as it relates to serving members of the military and their families (i.e., 42CFR-Part2). As with past history of serving substance abusing patients, most of the contacts are crisis driven. In other words, an incident (e.g.,

driving while impaired, domestic violence, urine testing, child abuse) prompts the initial contact. There is a high level of interest and concern for OEF/OIF veterans and their families regarding substance abuse by community-based providers and clinicians in the addiction field in our state.

Discussion focused on training components, the need to include information about female veterans, military sexual trauma, incorporating the training into behavioral health provider curricula, stigma, and the need for data on service members who have not been deployed.

WINDOWS TO THE BRAIN: THE NEUROPSYCHIATRY OF WAR-RELATED TBI
Robin Hurley, MD, FANPA, Associate Chief of Staff, Research and Education, Salisbury Veterans Administration Medical Center, Associate Director, Education, VISN 6 Mental Illness Research, Education and Clinical Center (MIRECC)

Dr. Hurley was asked to speak about war-related brain injuries in relationship to mental illness. During the course of this lecture, she reviewed MRI images of the brain as she explained the neuroanatomy. Everything a person thinks, feels, and all physical movements are based in the brain. These actions are processed through a series of circuits. These circuits are very complex. The review in the lecture focused on the key brain anatomical areas that are the centers of the circuits essential for emotion and cognition.

For emotion and cognitive processing there are 3 circuits. First, the dorsolateral prefrontal cortex is part of the circuit for thinking and processing memory and where intelligence is used. Research now demonstrates that the pons and cerebellum are a part of this circuit. The cerebellum is often mentioned in patients with alcoholism and disorders of motor stability. It is also a stabilizer of cognitive function. Other structures in this circuit include the basal ganglia and thalamus. The orbitofrontal cortex controls mood, judgment and insight. As we understand it to date, the pons and cerebellum do not play as big a role here. The third area to discuss is the cingulate. The cingulate cortex is the most medial and most well-protected circuit discussed thus far. This is the circuit for motivation. It is also important in the management and suppression in the long-term pain pathways. The hippocampus is a key structure for making new memories. Information for memory comes into the brain via the senses. It is eventually transmitted to the hippocampal circuitry for processing. The amygdala, adjacent to the hippocampus, adds emotion to memory. The amygdala is key to understanding the biological effects of PTSD.

The brain functions on a series of neurotransmitters that are in a sense “fuel” for the circuits. Some of these neurotransmitters are excitatory and others are inhibitory. It is a system of checks and balances. Many of the nuclei that produce these neurotransmitters are located deep in the brain stem and thus, well protected from traumatic injury. There are many research projects in the US looking at how trauma may affect both the more vulnerable circuits located on the surface of the brain and the better protected areas that are located deeper in the brain.

As Dr. Arciniegas of the University of Colorado teaches us: in the US, brain injury is more common than stroke, breast cancer, HIV/AIDS, spinal cord injuries and multiple sclerosis combined. Between 1.5 and 2 million people experience documented brain injuries in the US each year. There are also many unreported injuries that occur.

The post brain injury patient can be very complex. Multiple factors affect the patient’s presentation, creating the post-injury problems. Factors present before the injury play a role, including genetics and pre-existing conditions such as substance abuse and mental illness. Other factors affecting the post-injury clinical presentation include the physics of the injury mechanisms and the post injury environment in which the patient lives. There are 3 classifications (levels) of brain injury. These are mild, moderate, and severe. Most injuries are mild and patients usually recover completely from these. Common mental health

symptoms of brain injuries from which the patients do not recover and come for medical help include depression, decreased concentration and memory, and behavioral changes. Psychosis is least common.

The brain consists of both gray matter, containing the neuron cell bodies, and white matter, containing the neuron axons or fiber tracts that connect one group of cells to another. The gray matter of the cortex is less dense than the groupings of axons. This difference in consistency leads to different injury results which a rapid deceleration from speed occurs versus when there is a blunt force assault or massive pressure wave. The brain sits within an enclosing box (skull) under pressure. The inner surface of this box (the skull) has sharp sphenoid bones that can also injure the brain during rapid deceleration. The brain can also be rotated within the skull in several directions, depending on the force placed upon it. The most commonly remembered injury type by most clinicians in the "coup-contra-coup" injury in which bruising of the opposite side occurs when the brain is struck on one side. The cortex can turn on the central brain stem. The entire brain can rotate entirely if a strong blast of pressure is applied. All of these scenarios can happen together or independent of each other.

Subdural hemorrhages, the third most common type of brain injury, occur when there is a bleed in the linings surrounding the brain. Vessels on the outside of the brain are most prone to this type injury. Contusions or bruises are the second most common type of injury. The cortical area that controls cognition is a frequent location for subdural bleeds. The areas that control mood and judgment are most likely to be injured with bruises/contusions. Emotion and memory circuits, therefore, are highly vulnerable areas for injury.

Diffuse Axonal Injury (DAI), the most common type of brain injury, is occurs when the fiber tracks that are inside the brain get stretched and eventually break down. This can happen throughout the brain but not necessarily in one big spot- much more likely to be diffusely in small amounts throughout the brain. This is very difficult to visualize on clinical brain imaging. This is the injury mechanism to watch over the next decade – as there are many research projects underway to better understand DAI as a brain injury mechanism.

After a physical injury occurs to the brain, there is a "neurotransmitter storm". This is a release of all the brain's stored neurotransmitters at one time. This is not healthy for the injured brain and can lead to further secondary injury. In many universities, there is research underway to try to find a way to slow or stop this process from happening. Some studies are looking at hypothermia and others are looking for medications as possible interventions.

When an explosion occurs, a solid or liquid is turned to a gas. In a sense, this reaction pushes the surrounding air away from the site of explosion , creating an increase in air pressure (i.e., peak overpressure). There is then a vacuum or underpressure, and then a follow-up second much smaller peak of overpressure. Scientists do not yet know if this overpressure alone injures the brain.

The VA is taking care of 45% of OEF/OIF returning veterans (since FY 2002). Some published studies suggest that of the service members using medical care in Iraq and Afghanistan, 88% were injured by improvised explosive devices (IEDs). Post-traumatic stress disorder (PTSD) is re-experiencing a terrible event from the past. Some published studies have suggested that between 9-40% of those returning service members from Iraq and Afghanistan who responded to study questionnaires have PTSD. This range depends on how the studies were performed. One recent study reported that the worse the brain injury the more likely that the service member will report the post-traumatic distress. Another recent study shows that 42% of patients with positive initial TBI screens have chronic brain injury, mild TBI and PTSD (Lew et al). Sensorineural losses including headaches, problems with vision, ocular motor dysfunction, hearing loss, dizziness, balance problems, and tinnitus (ringing in the ears) have been reported in published studies to occur post-IED TBI's. Impulsivity is one of the most common reasons a

family might bring patient for care. Partial complex seizures are challenging to recognize and can sometimes be missed in a post-injury examination. Imaging can be helpful when history and clinical presentation do not match.

There are no FDA-approved medications to treat long-term psychiatric symptoms after brain injury. It is important to rule out social factors (abuse, neglect, caregiver conflict, and environmental issues) before prescribing medication. Most providers know to "start low and go slow" with medication. It is also important to discontinue conflicting agents and to give a medication a full therapeutic trial before discontinuation, as long as there are no contraindications. Therapy programs are an extremely important part of the multi-disciplinary approach to treatment.

VHA has published evidence-based treatment for TBI, PTSD and chronic pain. These are freely available to the public at www.healthquality.va.gov. VHA has also held a consensus panel on the triad of PTSD, TBI, and chronic pain. These findings will be soon released as guidance for providers. All VA's in the healthcare system screen returning OIF/OEF service members for PTSD and brain injury. If a patient screens positive for possible exposure to a brain injury, he/she is given a second level in-depth examination to determine if a brain injury did occur and if there are current symptoms that need treatment. Local NC VA's that complete this second level exam include Durham, Salisbury, and Fayetteville. Asheville referrals are sent to Salisbury for completion.

The VISN 6 Mid-Atlantic Mental Illness Research, Education, and Clinical Center (MIRECC) is a multi-center grant that focuses on research, education, and clinical care as the name implies. This center studies the mental illnesses that occur post-deployment. The research component has a central registry for patient participation in research studies. The research studies are divided into imaging, neurocognitive, basic science, interventions, and genetics. More information is available at www.mirecc.va.gov/VISN6/.

In summary, Scientists know very little about brain function both in non-injured and in injured persons. There are many unanswered questions with regards to TBI and its relationship to presence of post-injury mental health disorders.

Some of the many remaining research questions are:

- Is combat-related injury similar to or different from civilian TBI?
- When are the deficits permanent?
- Is there change in judgment/skill after mild combat-related TBI? If so, for how long?
- Can we use the sports-related TBI literature as a guide?
- What are the best assessment strategies/tools for the immediate and long-term evaluation?
- What are the best acute and longer term treatment protocols?
- What is the prognosis?

Discussion included a change in the frequency of these injuries as compared to previous wars, affect of multiple deployments, and the complexity of imaging in diagnosis and treatment.

THE INTERSECTION OF POST-TRAUMATIC STRESS DISORDER AND DEPRESSION
Harold Kudler, MD, Co-Director, Clinical Core, VISN 6 Mental Illness Research, Education, and Clinical Center (MIRECC), VISN 6 Mental Health Coordinator

As of the second quarter of FY 2009, possible mental health problems have been reported among 45.6% (193,879) of the 425,538 eligible OEF/OIF veterans who have presented to VA including PTSD, depressive disorder, affective psychoses, neurotic disorders, nondependent abuse of drugs, and alcohol dependence. The number of individuals with a mood disorder is greater than individuals reporting PTSD.

The International Classification of Diseases (ICD) has codes for all physical and mental disorders. Affective psychoses are defined as a severe disturbance of mood (mostly compounded of depression and anxiety but also manifested as elation and excitement) which is accompanied by one or more of the following: delusions, perplexity, disturbed attitude to self, disorder of perception and behavior. These are all in keeping with the patient's prevailing mood (as are hallucinations when they occur). There also is a strong tendency to suicide. For practical reasons, mild disorders of mood may also be included here if the symptoms match closely the descriptions given; this applies particularly to mild hypomania.

Between 40-70% of veterans with PTSD will also meet criteria at some point for major depression. When PTSD and depression are combined, there's a higher rate of suicide, especially if substance abuse is present. Also, these patients have greater utilization of specialty mental health treatments and antidepressants medications and higher mental health care costs than depressed patients without PTSD. (Chan et al, 2009). PTSD and major depression share the following: chronic, painful review of thoughts, images and ideas, markedly diminished interest or participation, feeling of detachment or estrangement from others, restricted range of affect/feelings, negative expectations about the future/profound pessimism, sleep problems, anxiety, irritability, trouble concentrating, guilt (survival guilt), and risk of suicide.

PTSD and major depression are biologically distinct disorders. Patients with melancholic depression tend to be non-suppressors of cortisol on the Dexamethasone Suppression Test (DST) while patients with PTSD are not. (Kudler et al, 1987). A series of subsequent studies by Rachel Yehuda revealed that patients with PTSD were, in fact, "super-suppressors of cortisol." This demonstrates that PTSD is neither the same as depression *nor* stress. In a study of the West Virginia National Guard, Scott and Heady found that 56% of rural veterans had scores suggesting PTSD and/or depression. This rate was significantly higher than the rate for urban veterans (32%). On the Combat Exposure Scale, rural veterans have a higher score (more combat exposure) for urban veterans. Looking at decline in function, veterans with PTSD and/or depression have much worse function than veterans without them. Rural veterans with PTSD/depression reported lower levels of function on each of the 5 indices than rural veterans without PTSD/depression *or:* urban veterans *with or without* PTSD/depression. Fifty percent of veterans in NC are rural, which is defined as six or fewer people per square mile.

There are separate VA/DoD Guidelines for PTSD and Depressive Disorders that refer to one another when both conditions are present. There also is significant overlap among the evidence-based therapies available for each disorder, including cognitive behavioral therapy, psychodynamic therapy, and antidepressant medications.

PTSD and major depression are two distinct disorders that may begin with the same stressful event. They also may reflect similar biological and psychological predispositions that combine with the stressor to create a complex "rippling effect" of biological and psychological systems. Both conditions are medical reductions of problems in living that may sometimes be better understood from the social, spiritual and/or moral perspective. Finally, survivor guilt may say more about these aspects of living than it says about one's serotonin transport genes.

Dr. Kudler recommended that we include screening for both PTSD and major depression in general populations and, in particular, among veterans. In fact, good tools are available for both. Also, Dr. Kudler advises we be ready for a positive screen in Primary Care and Mental Health Settings by ensuring access to evidence-based practices. This will require engagement with primary care clinics in DoD, VA, state programs and the community across NC and the development of seamlessly-integrated mid-level providers specially-trained to implement evidence-based treatment while also supporting (and training) traditional primary care staff.

Discussion focused on inadequately managed pain, predicting PTSD and depression among recruits, the need for screening for all four conditions (PTSD, TBI, depression, and substance abuse) in primary care, and the impact of age on these behavioral health disorders.

FAMILY NEEDS ACROSS THE DEPLOYMENT CYCLE

Kristy Straits-Troster, PhD, ABPP, Co-Clinical Director, VISN 6 Mental Illness Research, Education, and Clinical Center (MIRECC)

The Mid-Atlantic or VISN 6 Mental Illness Research, Education and Clinical Center (MIRECC) is dedicated to the development, dissemination, and evaluation of evidence-based practices and research focused upon improving readjustment, recovery and mental health among returning combat veterans. Although there are 10 MIRECCs in the VA system, the VISN 6 MIRECC, based in Durham, North Carolina, is relatively new and is the only MIRECC focused exclusively on post deployment mental health.

One needs to consider the cycles of deployment and cycles of development of individuals. The emotional cycle of deployment for service members and their families includes anticipation of departure, detachment and withdrawal, emotional disorganization, recovery and stabilization, anticipation of return, return adjustment and renegotiation, and reintegration and stabilization. Both service members and families have challenges during deployment including disconnect due to distance, loneliness, loss of trust, single households, and life decisions.

Dr. Straits-Troster recently conducted a qualitative study involving a series of focus groups to determine veterans' perspectives on post-deployment needs. In a confident neutral setting, the veterans and spouses participating were very willing to give feedback. Some of the post-deployment problems included social avoidance, noise sensitivity, jumpiness, anger, irritability, lack of patience, sleep problems, chronic joint pain, trouble concentrating, memory lapses, drinking or smoking too much, personality changes, digestive and bowel problems, weight changes, and hearing loss. Post-deployment family problems include marital problems, divorce, overprotective of family, dealing with distressed children and spouses, easily angered, jumpy in family setting, restless sleep problems, difficulty adjusting to running household together, being together again, body image problems due to weight gain, and employment problems.

The focus groups also provided mixed reports on their experiences in the VA and with TRICARE. Community providers were confused about fee basis process. Churches, prayer, and other faith-based connections were helpful to families. The focus groups reported several barriers to care including pride, stigma associated with mental health treatment, bureaucracy, limited options to the VA, dislike for group treatment, and a belief that treatments "don't work anyway." The top services of interest include helping deal with anger and stress, marriage and family counseling, information about benefits and services, and job and school counseling. The focus groups recommended more education after demobilization, more web-based information, knowledgeable unit liaisons, easier VA appointment access, more caring staff, decrease stigma, evening and weekend clinics, and peer supports.

Discussion focused on family support strategies (which have not been well-developed), an expert serving on the task force who might provide more information, the need to increase awareness among providers to offer back-home spouse support services, family assistance centers (12-13 across the state, available to NC National Guard members) and families are five times more likely to seek help from their faith communities that behavioral health providers.

DISCUSSION

Dr. Silberman presented to the group some of the items she heard discussed at the meeting. These included the overlap but distinction between chronic pain, TBI, depression, PTSD and substance abuse; need to understand appropriate medication management and appropriate treatments for each, move to a wrong-door approach, risk to military service with TRICARE or VA, stigma with mental health and especially substance abuse, aim for federal resources first then use state as a gap filler, workforce shortage issues discussed again, creative ways to screen and refer appropriate services on the mid-level side, training for primary care providers, diagnostic tools, faith-based organizations and training needed, support systems including schools and faith communities, positive experiences and resiliency in military, spread screening tools, outcome prompts, treatment options from VA to other providers through electronic health records; and collaboration with existing workgroups addressing these issues.

The next meeting will be held Friday January 15, 2010.