



# UNITED STATES AIR FORCE SCHOOL OF AEROSPACE MEDICINE

## Outpatient Mental Healthcare of Military Personnel at a Remote U.S. Air Base in Northern Iraq

**Teg W. McBride, Major, USAF**

**Air Mobility Command  
92 Wing  
336 Training Group  
336 Training Squadron  
701 Hospital Loop  
Fairchild AFB WA 99011**

**Wayne L. Chappelle**

**Air Force Materiel Command  
Air Force Research Laboratory  
711 Human Performance Wing  
USAF School of Aerospace Medicine  
Aerospace Medicine Department  
Aerospace Medicine Consultation Division  
2507 Kennedy Circle  
Brooks City-Base TX 78235-5116**

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//signed//

WAYNE CHAPPELLE, Psy.D., ABPP  
Aerospace Clinical Psychology Function

//signed//

KEITH E. BRANDT, Col, USAF, MC, CFS  
Chief, Aerospace Medicine Consultation Division

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## **Outpatient Mental Healthcare of Military Personnel at a Remote U.S. Air Base in Northern Iraq**

### ***INTRODUCTION***

The professional literature on the utilization of outpatient mental health services by soldiers and airmen serving in Iraq is limited. Although the literature is growing, important questions remain about the psychological effects and services available to military personnel deployed in support of Operation Iraqi Freedom (OIF). The purpose of the study is to provide data from an 8-month (Nov 07 – Jun 08) utilization study of an outpatient mental health clinic attached to a USAF Expeditionary Medical Support Hospital (EMEDS) in a remote region of northern Iraq. The study provides information regarding: (a) description of the clinic and available mental health services; (b) utilization data regarding personnel seeking care, as well as (c) implications and recommendations to civilian and military mental health providers seeking to understand the provision of psychological services available in theater. The study follows the outline of a previously published study (Chappelle & Lumley, 2006) for those interested in comparing services and utilization data between northern and southern regions of Iraq over similar lengths of time.

### **Current Research**

The basic principles of providing military mental health care in a deployed setting are based upon: proximity (i.e., providing care close to a person's unit within a combat zone), immediacy (i.e., treating a person during the onset of emotional difficulties), expectancy (i.e., treating a person with the expectancy he or she would return to duty and/or the front line within a short period of time), and simplicity (i.e., utilization of brief and simple interventions). Known as "P.I.E.S.," these principles serve as a theoretical construct for mental healthcare interventions with the goals of normalizing military personnel experiences, preventing isolation and stigma, and bolstering confidence in returning an airman or soldier to full duty without restrictions (e.g., limitations in weapons bearing or participation in sensitive operations). Although there may be variations among the service branches, all known military psychological approaches utilize a version of this method in preventing and treating psychological disorders with the intent of preserving the number and readiness of military personnel on the battlefield (Jones & Wessely, 2003; Lamberg, 2004).

The methods of treating and preventing emotional problems and other forms of combat related stress have evolved over the past century (Hicklin, 2003). Acting on lessons learned, the military has developed a wide range of mental health and combat stress control teams to care for military personnel on or near the front lines (Bacon, 2003; Ritchie & Owens, 2004). Since the initial days of OIF, numerous psychologists and mental health technicians have deployed to Iraq and applied the tools of mental health care to the prevention, assessment and treatment of psychological problems stemming from combat and operational stress (e.g., Reger & Moore, 2006; Moore & Reger, 2006).

Research involving the impact of deployment on airmen in theater is limited. However, since the onset of OIF, the Army has organized several Mental Health Advisory Teams (MHATs) to assess the impact of deployment on soldiers while they are deployed. The most recent Army study of soldiers serving in Iraq (Army MHAT-V, 2008) found that: (a) the percentage of soldiers screened positive for a mental health problem was similar to previous years (17.9% for a combined measure of acute stress, depression, or anxiety); (b) behavioral health personnel reported a shortage of behavioral health assets; (c) reports of work related problems due to stress and mental health problems generally increased with each subsequent month of deployment; (d) soldiers on their third or fourth deployment were at higher risk of mental health and work-related problems when compared with soldiers on their first or second deployment; (e) a total of 11.2% of soldiers met the screening criteria for a mild traumatic brain injury; (f) primary care personnel reported an increase in the number of medications prescribed for sleep, depression, and anxiety; (g) primary care personnel also reported an increase in helping soldiers with mental health problems and an increase in the number of mental health referrals for soldiers; (h) soldiers who screened positive for a mental health problem were significantly more likely to report engaging in unethical behaviors; and (i) suicide rates in theater remained elevated and higher than normal Army rates.

The findings of the Army MHAT-V (2008) study also reflected that although exposure to combat is down, such exposure remains a concern. For example, 79.7% reported receiving incoming artillery, rocket or mortar fire; 64.5% reported working in areas that were mined or had improvised explosive devices (IEDs); 59.3% reported receiving small arms fire; 52.3% reported having an IED explode near them; 52.2% of soldiers reported being attacked or ambushed; 44.2% reported experiencing hostile reactions from civilians; 40% reported being in a threatening situation where they were unable to respond because of the military rules of engagement, 38% reported shooting or directing fire at the "enemy;" and 37% reported witnessing an accident which resulted in serious injury or death. According to the Army MHAT-V study and an earlier study conducted by Hoge, et al. (2004), the prevalence of mental health problems among soldiers increases in a linear relationship with exposure to combat.

An outpatient mental health utilization study by Chappelle and Lumley (2006) in a southern region of Iraq found that of military personnel (soldiers and airmen) who sought mental healthcare: 51% sought care due to depression, anxiety, and adjustment related disorders; 52% were prescribed antidepressants and 18% were prescribed sedatives; 8% needed to be aeromedically evacuated due to a severe psychological condition (e.g., suicidal gestures, psychosis, substance dependence); 92% were returned to duty without restrictions in duties (e.g., weapons bearing, munitions handling); and 38% of military personnel did not return for follow-up services. It was also reported the number of military personnel seeking outpatient mental health care increased by 35% when exposure to attacks increased (e.g., sniper fire, roadside bombs, mortar attacks, suicide bombing attempts), and 24% of those seeking care reported that on one or more occasions they had felt they were in great danger of being killed. However, only 1 – 4 % of the population of airmen and soldiers sought outpatient mental healthcare.

It is evident from previous research, that the operational and combat-related stressors on the battlefield can lead to significant emotional difficulties (e.g., major depression, post traumatic stress disorder, alcohol and other substance abuse), as well as traumatic brain injury (Hoge et. al, 2008). It is essential that military psychologists continually investigate and understand the type of psychological difficulties that occur, the provision of psychological services, and the military personnel who are likely to utilize such services throughout various remote and industrial regions of Iraq.



## ***DESCRIPTION OF THE MENTAL HEALTH CLINIC & STAFF***

The Air Force outpatient mental health clinic in this study was part of an EMEDS hospital supporting military operations on a Forward Operating Base (FOB). The medical facility was distinguished as a level two field trauma center. It was staffed with a wide range of Air Force medical personnel (i.e., surgeons, emergency care nurses and technicians, physicians, flight medicine physicians) and resources for providing routine and critical emergency care services. The facility provided medical care for common ailments (e.g., influenza, nausea, heat exhaustion) and injuries (e.g., muscle strain) to very severe wounds (e.g., loss of limbs and eye sight, traumatic brain injury) and casualties. The medical facility provided care to U.S. and coalition forces, as well as civilian contractors. Only one mental health team supported the outpatient mental health clinic at a time (composed of one doctoral level USAF active-duty USAF military psychologist and one mental health technician) over a 6-month period before being replaced by another team. The mental health clinic primarily served airmen because soldiers were primarily seen or referred to: (a) the Army's outpatient mental health clinic for treatment, which consisted of one doctoral level mental health provider and two technicians; and (b) the Army's Combat Stress Team (CST) stationed on the FOB, which consisted of two mental health providers and three technicians. The main goal of the Army CST was to respond to and provide outreach to soldiers exposed to combat related traumatic stress and/or who were having minor adjustment related difficulties to the operational stressors of deployment. When not engaged in the field with soldiers exposed to traumatic stress, the Army CST worked at the Army's outpatient mental health clinic.

### ***Psychological Evaluation and Triage***

Each individual who presented to the USAF outpatient mental health clinic was given a general mental health screener (i.e., Outcome Questionnaire-45.2) and a standardized evaluation to identify presenting concerns and symptoms, and to assess the impact on occupational and daily functioning. The evaluation ranged between 30 to 90 minutes based upon the severity of the presenting condition (e.g., adjustment disorder, post-traumatic stress). An occupational assessment of how the person's psychological difficulties affected his or her ability to complete his or her assigned duties and participate in military operations without elevating the safety risk to oneself or others was a main concern. Information was gathered, as needed, from those who escorted the person to the clinic, as well as leadership in the person's chain-of-command. Such collateral information was often pivotal to a complete assessment of the person's situation and military disposition.

Understanding the avenues by which a patient was referred and what type of information needed to be obtained during the evaluation varied greatly and required flexibility and a broad understanding of various AF and Army career fields. A significant focus of an evaluation and triage included having a thorough understanding the person's job requirements and unique stressors in order to make a recommendation on suitability to remain in theater and perform his or her assigned duties.

### **Traumatic Brain Injury Assessment**

An important medical concern was the effect of mild traumatic brain injury or concussion, particularly from blast explosions, such as a roadside bomb. In contrast to the study published by Chappelle and Lumley (2006), this outpatient mental health clinic was equipped with the resources and trained provider to screen for acute neuropsychological effects of such injuries. Patients who were referred by medical providers for an evaluation following a mild traumatic brain injury (MTBI) were provided a comprehensive assessment, and given a neuropsychological screening in accordance with clinical practice guidelines established by the Defense and Veterans Brain Injury Center Working Group on the Acute Management of Mild Traumatic Brain Injury in Military Operational Settings (Defense and Veterans Brain Injury Center, 2006). The screening included administration of the Military Acute Concussion Evaluation (MACE) and the Automated Neuropsychological Assessment Metrics (ANAM). The ANAM has been used extensively with Army soldiers following deployment (Vasterling et al., 2006). The level of acute impairment, the patient's unique duty requirements, and the likelihood of re-exposure were considered when making return-to-duty recommendations. Assessments also included consultation with specialty providers (i.e., neurologist, neuropsychologist) stationed at nearby installation or their home unit in the United States. The EMEDS facility did not have such providers.

### **Hospitalization and Aeromedical Evacuation**

Military personnel who suffered from severe psychological difficulties (i.e., suicidal ideation, manic episode) were hospitalized within the EMEDS unit. Following an evaluation, they were provided close observation by medical personnel with oversight by medical leadership and the mental health team. An airman or soldier with psychological difficulties that generated an immediate risk to safety and required a level of care that exceeded the capabilities of the EMEDs unit were aeromedically evacuated out of theater to a larger facility. There were specific rules and procedures (e.g., use of restraints and escort) developed in coordination with EMEDs medical staff to safeguard patients until the arrival of aeromedical transportation. Such precautions were necessary due to the inherent risks associated with an emotionally or behaviorally unstable patient in an extremely hazardous environment (i.e., weapons bearing, rocket and mortar attacks).

### **Treatment and Follow-Up**

Similar to the "PIES" model mentioned earlier and consistent with the services reported by Chappelle and Lumley (2006), outpatient mental health services followed the BICEPS principles of: brevity (very brief forms of palliative treatment), immediacy (treatment as soon as symptoms are evident), centrality (treatment in a separate clinic centrally located in a medical facility on the front line), expectancy (expectation of recovery and/or return to the front line), proximity (treatment as close as

possible to the front line), and simplicity (use of simple and brief measures/methods of care). These principles served as the framework and theoretical model for military mental health care during and prior to the onset of OIF (Department of Defense Directive, 6490.5, 1999; True & Benway, 1992). Unless a patient was significantly impaired or presented as a safety risk, he or she was expected to return to his or her unit and continue with his or her military duties after a brief cognitive-behavioral intervention (e.g., relaxation training, cognitive restructuring). Follow-up sessions were often brief (e.g., 30 minutes) with particular focus on the occupational impact of the person's presenting symptoms and his or her ability to complete assigned duties. Similar to the previously reported study by Moore and Reger (2006), the need for brief, solution-focused treatment resulted in frequent use of cognitive-behavioral models and interventions. The use of base resources (e.g., the gym, chapel, morale phone calls) and support from peers and leadership in their chain-of-command was also assessed and encouraged during follow-up sessions.

### **Briefings and Outreach**

The mental health team was very active in prevention and outreach activities. Briefings were provided 1-3 times a week to incoming personnel to help prepare them to manage stressors associated with the deployed environment (e.g., cramped living quarters and limited privacy, mortar and rocket attacks, unique sights, sounds and smells, separation from family). Briefings were also provided to units throughout their deployment who were at high risk for operational stress. For example, extra effort was spent with Security Forces personnel manning the perimeter and entry check points of the installation due to their high operations tempo and isolated work environments. This most often took the form of visiting the airmen at their assigned posts or duty locations, building rapport, sharing a brief message of support and/or discussing performance improvement principles (e.g., relaxation, goal setting, physical fitness, nutrition). Re-deployment briefings were also provided 1-3 times a week to outgoing personnel in a group setting. The content of the briefing focused on preparing personnel for common psychosocial challenges and stressors associated with returning to their home station and families.

There were also several individual and small group consultations (ranging from 10 - 30 minutes in length) provided to military personnel receiving care in the medical clinic following traumatic events that lead to a life threatening injury or death. The Air Force mental health team would frequently work in coordination with the Army CST to assist military personnel after exposure to a traumatic event. Consistent with the outreach previously described by Chappelle and Lumley (2006), the consultations were for the purpose of: (a) eliciting and validating comments from military personnel about any emotional or behavioral symptoms of stress they were experiencing; (b) validating the unfortunate outcome and tragic nature of such events; (c) eliciting comments from those involved in the event regarding what they learned from the tragic experience to sustain resilience and military readiness; (d) educating personnel on common and situational stress-related symptoms during and following exposure to such events; and (e) identifying available resources and ways to manage stress related symptoms. The consultations often took the form of an informal personal discussion within the EMEDS facility (and often at a patient's bedside) to allow a person to process his or her thoughts and feelings and to consider the role of emotions and behavior in his or her recovery.

## **UTILIZATION OF THE MENTAL HEALTH CLINIC**

### **Demographics of Military Personnel**

A total of 86 (74%) airmen, 18 (16%) soldiers, and 12 (10%) civilian contractors were seen at the outpatient mental health clinic. There were 97 men with an average age of 30.70 years (SD = 9.13) and 19 women with an average age of 27.95 years (SD = 7.97) who sought outpatient mental health care. A total of 72 (62%) were between the ages of 18 and 29, 26 (22%) were between the ages of 30 and 39, and 18 (16%) were 40 years of age and older. A total of 80 (69%) were Caucasian, 14 (12%) were African American, 12 (10%) were Hispanic, and 1 (<1%) reported being Asian. Exact figures could not be obtained because 9 (8%) did not report their racial background. A total of 52 (45%) were single and 64 (55%) were married. A total of 95 (82%) were enlisted and 45 (39%) were between the ranks of E1 (Private/Airmen) and E4 (Senior Airmen/Corporal), 50 (43%) were between the ranks of E5 (Staff Sergeant/Sergeant) and E8 (Chief, Master Sergeant/Sergeant Major). Only 9 (8%) commissioned officers sought outpatient mental health care. A total of 80 (69%) were Active Duty and, 24 (21%) were from the Reserves or National Guard.

### **Referral Source Rate**

Based upon recall estimates, approximately 80 (69%) were self-referred, 11 (9%) were referred by peers from their unit or leadership in their chain-of-command, 13 (11%) were referred by medical personnel after presenting to the medical clinic following a head injury or presenting with significant signs of stress, and 12 (10%) were referred by members of the clergy and base chaplains.

### **Reasons for Seeking Care**

The most frequently identified operational stressors mentioned by personnel, included: (a) concerns about family life disruption related to separation from spouse, children, family and significant others; (b) interpersonal and communication problems with members of their unit related to long hours, changing mission requirements, and operating with limited resources; (c) the change and substantial increase in work responsibilities and duties; as well as (d) a sense of monotony and negative perceptions regarding how individual support duties have a critical impact on the overall mission in Iraq. Although the base was well established with living and recreational facilities, (which was reported by most to ease the operational stress of deployment) monotony among military personnel was a prevalent issue among airmen and soldiers who were confined to the installation due their supportive and non-combat related duties.

The primary reasons for seeking services often centered on operational stressors. However, it was evident that living and working in a combat zone had the potential to heighten stress levels. At the time of the initial evaluation, 53 (46%) reported seeing a person wounded or killed; 48 (41%) reported that on one or more occasions they had felt they were in great danger of being killed; 41 (35%) reported that on average they experienced a “moderate” to “extreme” fear for their safety; and 18 (16%) reported they had engaged in direct combat. As previously reported by Chappelle and Lumley (2006), exposure to combat-related stressors was a concern for military personnel (including the civilian contractors in this study) and an issue that was accentuated by the unpredictable and obscure form of insurgent warfare (e.g., roadside bombs, rocket-mortar attacks, and suicide bombers). The installation maintained a constant state of readiness to respond to emergencies or attacks, which required military personnel to sustain a heightened state of situational awareness.

**Psychological Diagnoses**

A total of 9 (8%) personnel seeking outpatient mental health care did not receive a psychological diagnosis, and only a small portion 11 (10%) of personnel were diagnosed with acute stress or PTSD. As in the study by Chappelle and Lumley (2006), caution was given to over diagnosing those who were experiencing normal reactions to operational and combat related stressors.

TABLE 1. *Primary Axis I Diagnoses of Personnel Seeking Outpatient Mental Health Care*

<u>Diagnoses</u>	<u>Military Personnel</u>
No Diagnosis	9 (8%)
Nicotine Dependence	26 (22%)
Anxiety Disorder (including acute stress and PTSD)	21 (18%)
Depressive Disorder	14 (12%)
Occupational Problem	13 (11%)
Adjustment Disorder	13 (11%)
Partner-relational Problem	13 (11%)
Traumatic Brain Injury	3 (3%)
Phase of Life Problem	2 (2%)
Bereavement	1 (<1%)
Psychosis	1 (<1%)

**Note.** The disorders listed above are based on the criteria listed in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; American Psychiatric Association, 2000). PTSD = post traumatic stress disorder.

### **Aeromedical Evacuations**

A total of 3 active duty military personnel (2 airmen and 1 soldier), between the ranks of E3 and E5 (ages 25 to 26), were hospitalized and aeromedically evacuated for psychological problems (e.g., psychosis, depression) that raised safety concerns regarding their overall suitability for engaging in support and combat related missions in-theater. Hospitalizations were relatively brief (2 to 3 days) due to the expedient response of the aeromedical evacuation airlift.

### **Alcohol, Tobacco, and Substance Use**

Given the stressful nature of deployment, the use of alcohol, tobacco, and other substances (e.g., prescription, illegal, or over-the-counter medications) was addressed during each mental health evaluation. There was concern regarding the effects that such use could have on elevating safety risks to self and others, as well as the integrity of military operations. However, over the course of 9-months, not one person who sought outpatient mental health care reported engaging in the use of alcohol or illegal substances (e.g., marijuana, amphetamines, cocaine) while deployed in Iraq.

In general, airmen and soldiers with non-combat related duties were restricted from leaving the base installation. As a result, access to alcohol was limited for many military personnel. However, Army soldiers, due to the nature of their combat related mission, routinely left the base to interact with the local community, giving them access to various merchants who sold alcohol. The experiences of mental health providers and technicians from the local Army CST regarding alcohol and/or substance abuse among soldiers may reveal different findings.

In comparison to a recent study that included anonymous surveys by the Army (MHAT-V, 2008), 8% of soldiers in-theater reported using alcohol, and 1.4% reported using illegal drugs & substances. Given the findings of the Army's MHAT-V, it is possible the use of alcohol and illegal substances was under-reported among military personnel seeking outpatient mental health care at the USAF EMEDS clinic. The possibility of under-reporting could be, in part, due to the general order from military leadership for soldiers and airmen to abstain from alcohol while deployed in Iraq. Although alcohol for private consumption could be purchased outside the installation from civilians or obtained on the compounds of coalition forces, any airman or soldier who reported violating the order to abstain from alcohol use or who had engaged in the inappropriate use of illegal substances would be subject to administrative and legal ramifications. As a result, it is possible that problems related to alcohol and substance use were not identified or underreported because of fears of being disciplined or charged with a serious offense.

The utilization data also indicate that 26 (22%) military personnel who sought outpatient mental healthcare also sought treatment for nicotine dependence, which was subsequently tied to their increasing usage affected by elevated stress levels from operational and combat related stressors. Based upon the disclosures made during clinical interviews, the use of tobacco surfaced to be an important component to understanding how increasing stress subsequently increased nicotine use (e.g.,

smoking, chewing tobacco) among military personnel who sought outpatient mental health care to curb or quit their use.

### **Use of Antidepressants, Sedatives, and Prescription Pain Medication**

Overall, 21 (18%) military personnel seeking outpatient mental health care reported they were prescribed antidepressants (i.e., bupropion, citalopram, fluoxetine, and trazodone), and 18 (16%) reported they were prescribed a sedative for short-term use (i.e., alprazolam, zolpidem). The use of antidepressants and sedatives were prescribed by medical providers within the EMEDS facility given the non-prescribing privileges of the psychologist. Most personnel seeking care were prescribed such medication prior to seeking outpatient mental health care. It was also discovered that 36 (31%) military personnel reported the use of prescription pain medication (e.g., hydrocodone) to manage various forms of pain for combat and non-combat related physical injuries. Although the management of pain was not the primary reason for seeking outpatient mental health care, it was not unusual to hear military personnel report stress affecting their tolerance and overall management of physical pain. Given the potential effects that such medication can have on occupational performance, it was important to assess the course and pattern of such use and the potential for misuse to ensure the safety and well-being of airmen and soldiers seeking care. However, after careful evaluations and consultation with the prescribing provider, such personnel appeared to have a genuine medical condition that validated their use of pain medication and the prescriptions appeared to be limited (e.g., 7 to 10 day supply without refill). Furthermore, the potential for misuse was addressed during each session, as needed.

Obtaining an accurate account of the use of antidepressants, sedatives, and prescription pain medication among military personnel is a difficult task because many military personnel were prescribed such medication without seeking psychological care. For example, it was not unusual to discover medical providers within the EMEDS facility prescribe such medication to personnel who had declined a referral to the outpatient mental health clinic. Consistent with the findings of Chappelle and Lumley (2006), the mental health team found that medical providers (e.g., physicians, nurse practitioners) were skilled in the identification of emotional difficulties, and would routinely ask for recommendations on the treatment and care of individuals who appeared to be at risk or suffering from psychological difficulties.

### **Return to Duty & Follow-up Rates**

Out of a total of 116 military personnel who sought outpatient mental health care, 98 (84%) were returned to duty without restrictions, 7 (6%) were referred to medical providers for additional evaluation and consideration in duty restrictions due to physical trauma from combat (i.e., roadside attack, improvised explosive device), 7(6%) soldiers were referred to the Army CST for further evaluation and treatment before returning to duty, and 3 (3%) were aeromedically evacuated. The vast majority of

military personnel who utilized the outpatient mental health clinic remained in the combat zone without any duty-related restrictions (e.g., weapon's bearing, or handling of explosives) initiated by the mental health team. Because it is unclear if the soldiers referred to the Army CST were returned to full duty, the return-to-duty rates for those seeking outpatient mental health care in this study appear lower than the results (i.e., >95%) of previously published studies (Army MHAT, 2005; Army MHAT, 2006; Army MHAT, 2008; Chappelle & Lumley, 2006).

A total of 56 (48%) military personnel reported they no longer wanted to return for services after receiving 2 to 4 sessions. However, it is unclear how the decision to seek follow-up mental health care was affected by: (a) the stigma of mental health services commonly perceived among military personnel and (b) the lack of interest in continuing with psychological services. For unknown reasons, a total of 49 (42%) military personnel did not return for follow-up after their initial evaluation. It is possible that several personnel perceived they did not need follow-up after meeting with a psychologist and discussing resources for managing their concerns. Only 11 (9%) military personnel sought 5 or more follow-up sessions.

### **GENERAL FINDINGS AND IMPLICATIONS**

The utilization data collected may be compared with previously published studies to assist both military and civilian psychologists (and other mental health providers) with understanding the delivery of mental health services on the battlefield. The implications of the utilization data suggest that military psychologists in a deployed setting should be: (a) well trained and particularly adept with working with various ranks, ages (most notably between 18 and 29), and minority groups; (b) familiar with how specific operational and combat related stressors effect the emotional disposition of military personnel and how such stressors accentuate the need for seeking mental health care; (c) skilled in the use of simple, brief, and empirically-based psychological interventions; (e) skilled in the assessment and treatment of tobacco use and nicotine dependence; (f) informed regarding the use and side effects of antidepressant medication, sedatives, as well as prescription pain medication; (g) perceptive of potential barriers to mental health care (e.g., stigmatization) effecting enlisted as well as commissioned officers; (h) skilled with assessing and treating personnel with depression, anxiety, adjustment, and marital-family related problems; (j) perceptive of how significant (as well as subtle) changes in a person's psychological disposition affect his or her safety and participation in their assigned duties (e.g., weapon's bearing); (k) skilled at interacting and collaborating with medical providers within a medical clinic and following their referrals of outpatient mental healthcare; and (l) familiar with procedures for psychiatric hospitalization, aeromedical evacuation, the use of physical and pharmacological restraints, and the documentation of such care in a combat zone. The above findings are similar to and consistent with those identified in a similar study by Chappelle and Lumley (2006) in a southern region of Iraq.

Based upon approximations of the number of personnel rotating during deployment cycles, it is estimated that 9%–10% of the population of airmen sought outpatient mental health care from the Air Force mental health clinic. This is a substantially larger number than the estimated 1% - 4% of airmen who sought outpatient healthcare in southern Iraq. However, it was difficult to estimate the proportion of soldiers who actually received outpatient mental health services because the Army



outpatient mental health clinic and Army CST provided a substantial amount of outpatient mental healthcare to soldiers.

Although it is difficult to identify the contributing factors that lead to an increase in utilization rates among airmen, it is possible that outreach efforts on the USAF installation increased referrals and utilization. Outreach activities that military and medical leadership (i.e., squadron and group commanders, first sergeants) reported being helpful at increasing awareness and referrals included: (a) briefings on various subjects (e.g., stress management, pre-exposure training) at base functions, most notably gatherings of incoming (or re-deploying) military personnel, as well as monthly military leadership meetings; (b) weekly didactic instruction with other medical providers on topics related to the maintenance of health and wellness during deployment; (c) “curbside” consultations with enlisted and officer leadership regarding issues affecting morale or the emotional/behavioral well-being of airmen and soldiers on the installation; (d) monthly presentations at medical group staff meetings regarding issues effecting personnel seeking outpatient mental healthcare; (e) daily consultation with medical providers in the EMEDS facility following an evaluation of an airman or soldier whose medical disposition appeared to be affected by his or her emotional state (e.g. stress, anxiety); and (f) weekly to bi-weekly worksite visits to units at high risk for operational and combat related stress (e.g., Security Forces) to familiarize military personnel with the identity and role of the psychologist and technician. Although exact numbers were not obtained, such activities often resulted in additional referrals for outpatient mental healthcare.

Approximately 50 individual consultations were provided to airmen or soldiers who were either receiving medical care for severe combat related injuries (e.g., removal of shrapnel, loss of eye sight or use of a limb) or who had accompanied their injured comrades in the medical clinic. Such personnel often appeared to be in emotional distress spurred by concern over the medical status of themselves or a comrade following exposure to life threatening event. Furthermore, formal combat stress debriefings (following the format outlined in the Outreach and Briefings section) were provided in collaboration with the Army CST to six groups of 5 to 7 airmen or soldiers following separate exposures to traumatic combat related events. In most circumstances, the emotional reactions (e.g., distress, anger, fear) of military personnel were considered normal given the circumstances of the situation. Those who appeared to be at risk for more chronic or acute emotional difficulties were referred to the outpatient mental health clinic. Although no formal assessments were provided, the briefings appeared to calm the emotional disposition of military personnel while increasing their access to emotional support at an important time during their deployment. Based upon the experiences of the mental health team, offering support to grieving personnel within the medical clinic is an important component to the delivery of mental healthcare.

A total of three soldiers were referred by primary care physicians to the psychologist for a neuropsychological screening of their cognitive functioning following a concussion due to a fall from a building or explosion from an IED. The soldiers were evaluated using the ANAM and revealed to have mild deficits in three or more of the following areas: reaction time, delayed and working memory, processing speed, concentration, spatial memory, and/or sensitivity to light and noise that worsened headache pain. Close attention was paid to evaluating symptoms typical of soldiers with a closed head injury following an explosive blast, such as: decreased memory, problems with attention and concentration, headaches, slower thinking, irritability, depression, and/or sleep disturbances (Defense and Veterans Brain Injury Center, 2006). In general, the soldiers appeared to minimize to some degree their cognitive symptoms because they wanted to return to their units. They voiced a strong interest to remain with their comrades and to continue serving in the same capacity. However, each of the three

soldiers reported persistent headaches ranging in severity- which prompted the referral for a cognitive screening. Each soldier was placed on observation and light administrative duty for approximately 1 month. Upon re-evaluation with the ANAM, consultation with medical colleagues, clinical interview, and observations by unit leadership, each soldier was reportedly doing well returned to duty. It is unknown whether they were returned to duty without some sort of restrictions based upon the nature and impact of their injury, or if problems related to TBI continued to surface.

It is difficult to estimate how many soldiers met the criteria for a mild traumatic injury. The number of soldiers assessed at the USAF outpatient mental health clinic was far less than the 11.2% of deployed soldiers that met the screening criteria for a mild traumatic brain injury reported by the Army MHAT-V (2008). Potential reasons for why the outpatient mental health clinic did not assess more soldiers with TBI include: resolution of presenting symptoms following the incident, decrease in combat related events/explosions, and minimization of symptoms reported by soldiers. It should also be mentioned that those with potentially fatal or serious injuries (e.g., loss of limb or eye sight) were immediately aeromedically evacuated out of theater prior to a formal consult for traumatic brain injury with the psychologist. This is an area that requires additional investigation to ensure soldiers exposed to IEDs and other blast injuries are effectively evaluated for TBI. The directive of all deploying military personnel to complete neuropsychological screening prior to and following deployment may help with the identification of military personnel who suffer from persistent symptoms of a TBI.

Although many of the findings and utilization results of this study are consistent with a previous study (Chappelle & Lumley, 2006) in southern Iraq, there are some notable differences. First, there were more resources for mental healthcare. The Army had a separate mental health and combat stress team that provided outpatient mental health care, as well as outreach services. As a result, most of the soldiers needing mental healthcare likely received care from Army medical assets and providers. This enabled the mental health team to actively pursue and engage in outreach efforts. Second, is the capacity to assess for TBI. Given the growing attention and insidious impact of mild TBI, having the capacity to assess for this condition using standard of care guidelines significantly expanded the scope of the clinic's services. Third, the number of aeromedical evacuations in proportion to the total number of personnel who were aeromedically evacuated out of theater for psychological difficulties in the northern region was significantly smaller in this study (3% versus 8%). Reasons for the difference remain unknown and can vary greatly. For example, improved pre-deployment screening methods may have identified and prevented those at significant risk from deploying. Or, it is possible that increased outreach efforts in the northern region (by both Army and USAF initiatives) provided early identification and treatment to those at risk. There are multiple possible explanations, which raises the need for additional research.

### ***RECOMMENDATIONS FOR MILITARY MENTAL HEALTH PROVIDERS***

Preparing for deployment is an arduous task that requires multiple skills as a mental health provider and commissioned officer. In addition to the suggestions provided by the Army MHAT-V (2008) and Chappelle and Lumley (2006), additional considerations for deploying include: (a) reading the AFHSC website to stay informed of medical issues and concerns among military personnel prior to, during, and following deployment to Iraq; (b) obtaining pre-deployment training in the set up, and capabilities of

different Air Force EMEDs facilities, as well as obtaining pre-deployment training on EMEDS policies and procedures for psychiatric hospitalizations and aeromedical evacuation; (c) being familiar with cultural, religious, ethnic, and geographical issues in the region and the potential to work with Iraqi forces- such as the provision of briefings on combat related stress; (d) being familiar and skilled with consultation based models of care and interaction within a medical care setting (e.g., Air Force Behavioral Health Optimization Program); (e) establishing a group of professional peers to consult with via phone or e-mail, as needed, in order to navigate through complex clinical and ethical dilemmas that may occur during the course of one's duties; (f) being familiar with Department of Defense policies on combat stress control (Department of Defense Directive 6490.5, 1999); and (g) remaining sensitive to how demographics regarding rank, gender, race, religion, and service branch effect the presentation of symptoms and utilization of psychological services. Training for deployment to Iraq can be fraught with difficulties when a provider has limited time and resources to prepare for deployment. There is no comprehensive training program available to prepare USAF military psychologists for the various situations or difficulties they may experience in a deployed environment. However, it is highly recommended that USAF medical leadership consider developing a 3 to 4 week course for such personnel to discuss and prepare for many of the foreseeable issues and events. For example, the training regimen for preparing USAF psychologists to deploy does not include procedures for hospitalization and aeromedical evacuation. Without such knowledge, a deployed psychologist may become easily overwhelmed with attempting to learn such procedures as a potentially hazardous situation unfolds.

### ***CONCLUSION***

It is important that both military and civilian psychologists who work with military personnel remain cognizant of types of presenting problems, reasons for seeking care, and military personnel most likely to seek mental healthcare in theater. Similarly, it's important to identify those that may be least likely to seek care (e.g., commissioned officers). Furthermore, there is a continual need to collect data on the services that are provided and utilization data to ensure military and civilian mental health providers remain aware of the pertinent mental health issues and that medical clinics in Iraq are employed with properly trained and well-prepared mental health teams.

## REFERENCES

- Air Force Instruction 44-153 (2006). *Traumatic stress response*. Retrieved June 2008 from <http://www.e-publishing.af.mil/shared/media/epubs/AFI44-153.pdf>
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.
- Armed Forces Health Surveillance Center. (2008). Update: Deployment health assessments, U.S. Armed Forces, May 2008 [Electronic version]. *Medical Surveillance Monthly Report*, 15(5), 12– 16.
- Army Mental Health Advisory Team (MHAT), (2008). *Operation Iraqi Freedom (OIF-06 -08: Iraq); Mental Health Advisory Team (MHAT-V) report*. Retrieved June 2008 from [http://www.armymedicine.army.mil/reports/mhat/mhat\\_v/MHAT\\_V\\_OIFandOEF-Redacted.pdf](http://www.armymedicine.army.mil/reports/mhat/mhat_v/MHAT_V_OIFandOEF-Redacted.pdf)
- Army Mental Health Advisory Team (MHAT), (2006). Mental Health Advisory Team (MHAT-IV): Operation Iraqi Freedom (05 -07) final report. Retrieved June 2008 from <http://www.globalpolicy.org/security/issues/iraq/attack/consequences/2006/1117mhatreport.pdf>
- Army Mental Health Advisory Team (MHAT), (2005). *Operation Iraqi Freedom (OIF-II) Mental Health Advisory Team (MHAT-II) report*. Retrieved June 2008 from [http://www.armymedicine.army.mil/reports/mhat/mhat\\_ii/OIF-II\\_REPORT.pdf](http://www.armymedicine.army.mil/reports/mhat/mhat_ii/OIF-II_REPORT.pdf).
- Bacon, B. (2003). A historical overview of combat stress control units of the U.S. Army. *Military Medicine*, 168(9), 689-693.
- Chappelle, W. (2005, August). Operational clinical psychology in Iraq: Lessons learned from the Air Force. Chair for symposium at the 113th annual convention of the American Psychological Association, Washington, D.C.
- Chappelle, W. (2006). An Air Force psychologist's collaboration with clergy: Lessons learned on the battlefield of Iraq. *Journal of Psychology and Christianity*, 25(3), 205- 215.
- Chappelle, W. & Lumley, V. (2006). Outpatient mental health care at a remote U.S. Air Base in southern Iraq. *Professional Psychology: Research and Practice*, 37(5), 523-530.
- Defense and Veterans Brain Injury Center, (2006). Defense and Veterans Brain Injury Center working group on the acute management of mild traumatic brain injury in military operational settings. Retrieved June 2008 from [http://www.pdhealth.mil/downloads/clinical\\_practice\\_guideline\\_recommendations.pdf](http://www.pdhealth.mil/downloads/clinical_practice_guideline_recommendations.pdf).
- Department of Defense Directive, 6490.5 (1999). *Combat Stress Control (CSC) programs*. Department of Defense [on-line]. Retrieved June 2008 from <http://www.dtic.mil/whs/directives/corres/pdf2/d64905p.pdf>.
- Hicklin, T. (2003). Methods for controlling combat stress evolving over time. *Psychiatric Annals*, 33(11), 720-724.

- Hoge, C. W. Castro, C. A., Messer, S.C., McGurk, D., Cotting, D. & Koffman, R. (2004). Combat duty in Iraq, Mental health problems and barriers to care. *New England Journal of Medicine*, 351(1), 13-22.
- Hoge, C, McGurk, D., Thomas, J., Cox, A., Engel, C., & Castro, C. (2008). Mild traumatic brain injury in U.S. Soldiers returning from Iraq. *New England Journal of Medicine*, 358(5), 453-463.
- Jones, E., & Wessely, S. (2003). Forward psychiatry in the military: Its origins and effectiveness. *Journal of Traumatic stress*, 16(4), 411-419.
- Lamberg, L. (2004). Military psychiatrists strive to quell soldier's nightmare of war. *Journal of the American Medical Association*, 292(13), 1539-1540.
- Lester, K. (2000). The psychologist's role in the garrison mission of combat stress control units. *Military Medicine*, 165(6), 459-462.
- Moore, B. & Reger, G. (2006). Clinical to frontline soldier: A look at the roles and challenges of Army clinical psychologists in Iraq. *Journal of Clinical Psychology*, 62(3), 395-403.
- Reger, G. & Moore, B. (2006). Combat Operational Stress Control In Iraq: Lessons learned during Operation Iraqi Freedom. *Military Psychology*, 18(4), 297-307.
- Ritchie, E. C., & Owens, M. (2004). Military issues. *Psychiatric Clinics of North America*, 27, 459-471.
- True, P.K., & Benway, M.W. (1992). Treatment of stress reaction prior to combat using the "BICEPS" model. *Military Medicine*, 157(7), 380-381.
- Vasterling, J. J., Proctor, S. P., Amoroso, P., Kane, R., Heeren, T., & White, R. F. (2006). Neuropsychological outcomes of army personnel following deployment to the Iraq war. *Journal of the American Medical Association*, 296, 519-529.





**AIR FORCE RESEARCH LABORATORY  
711<sup>th</sup> HUMAN PERFORMANCE WING  
USAF SCHOOL OF AEROSPACE MEDICINE/FEC  
2507 KENNEDY CIRCLE  
BROOKS CITY-BASE TX 78235-5116**

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