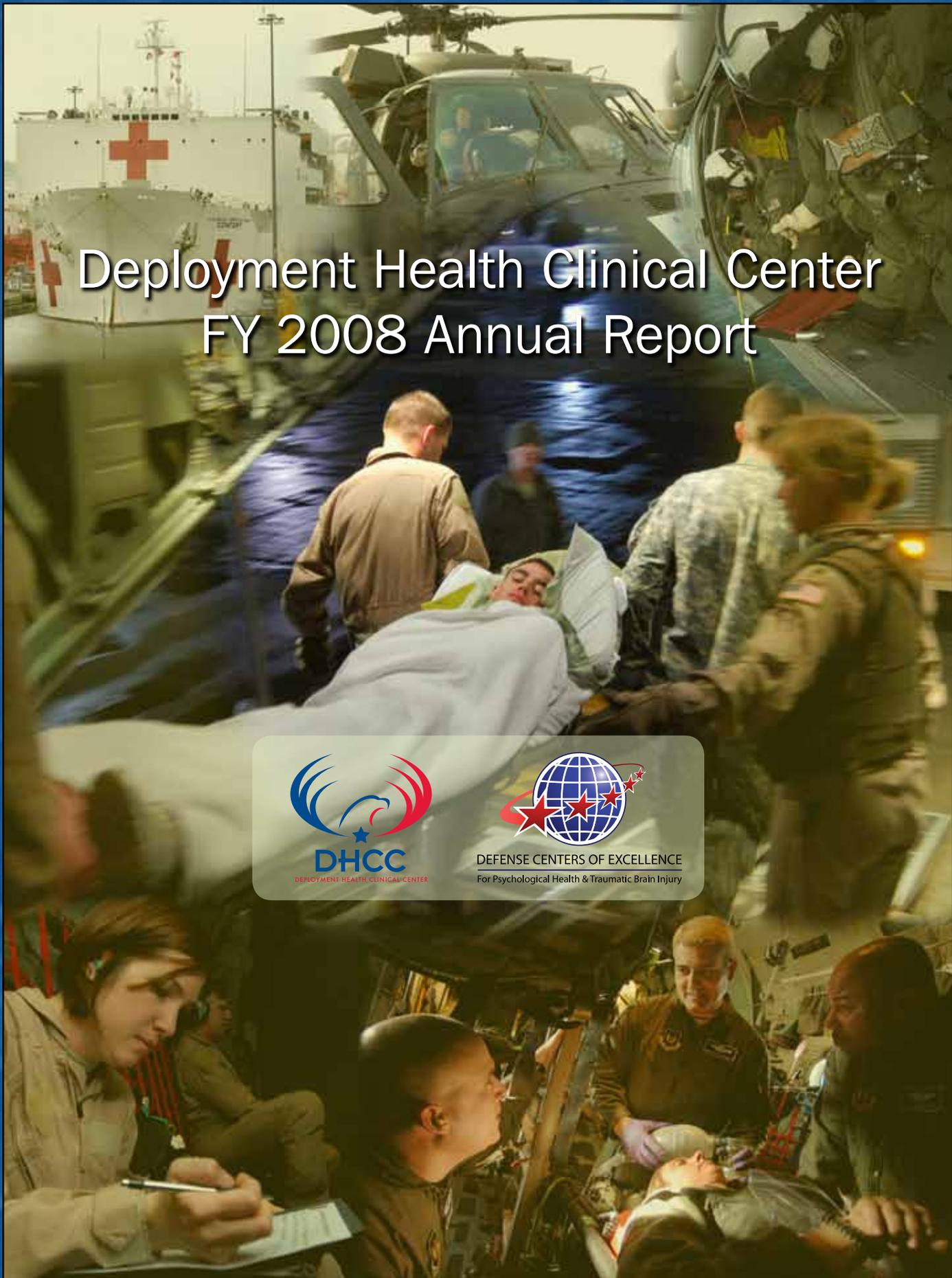


Deployment Health Clinical Center FY 2008 Annual Report



DEFENSE CENTERS OF EXCELLENCE
For Psychological Health & Traumatic Brain Injury





It is our duty to embrace, care for and help heal those wounded warriors returning from battle.

It is our solemn obligation to honor those who have given the ultimate sacrifice . . .

and it is part of our oath to never leave a fallen comrade behind.

This report is dedicated to the Soldiers, Sailors, Marines, Airmen, and Coast Guard members of our Armed Forces and their families whose selfless sacrifices allow all to be free.



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DEFENSE CENTERS OF EXCELLENCE
For Psychological Health & Traumatic Brain Injury

The Deployment Health Clinical Center would like to acknowledge and thank each of these organizations/individuals for their continued support, guidance, and leadership throughout the previous year.

Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury



Defense Health Board

Force Health Protection & Readiness



The Henry M. Jackson Foundation for the Advancement of Military Medicine

North Atlantic Regional Medical Command

Walter Reed Army Medical Center



Uniformed Services University of the Health Sciences

U.S. Army Medical Command (MEDCOM)

Our Soldiers, Sailors, Airmen, Marines and Their Families



Executive Summary

The DoD Deployment Health Clinical Center (DHCC), a component center of the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE), is uniquely positioned to support service members and their healthcare providers during the Global War on Terrorism. DHCC's core mission is to improve deployment-related health by providing expert, caring assistance and medical advocacy for military personnel with deployment-related health concerns and their families while simultaneously serving as a catalyst and resource center for the continuous improvement of deployment-related healthcare across the military healthcare system. This mission is accomplished through a three-component strategy of:

- **Direct Health Service Delivery:** Tertiary referral care for individuals with deployment-related health issues, clinical consultation, and primary healthcare quality improvement programs
- **Outreach and Provider Education:** The championing of deployment healthcare best practices through development and dissemination of innovative collaborative care systems, clinical practice guidelines, health information, health risk communication strategies, and clinical education programs
- **Implementation and Evaluation Programs:** Deployment-related clinical and health services research that uses science to advance the effective delivery of deployment-related healthcare.

This FY 2008 Annual Report summarizes DHCC's accomplishments in support of this mission.



What's New

- **Re-Engineering Systems of Primary Care Treatment (for Depression and PTSD) in the Military (RESPECT-Mil)** is an innovative collaborative care model where primary care providers screen all their patients for posttraumatic stress disorder and depression. If treatment is initiated, RESPECT-Mil Care Facilitators track patients through periodic phone contact and convey relevant information to their primary care providers and mental health supervisors.
- Following DHCC's successful 2006 pilot/demonstration project of the RESPECT-Mil system of care at Fort Bragg, DHCC has coordinated its efforts with the U.S. Army Medical Command, Office of the Surgeon General on a 24 month roll-out of RESPECT-Mil to 15 Army Medical D sites beginning in early 2007.
- Results of operations at the fully implemented sites are encouraging. At the end of FY 2008, of the monthly 20,000 primary care clinic visits in MTFs with full RESPECT-Mil implementation, more than 14,000 included screening for PTSD and depression. During all of FY 2008, more than 100,000 primary care visits in Army MTFs incorporated this screening. Of this number, approximately 3600 Soldiers with previously undetected mental health needs received appropriate referrals for care.
- RESPECT-Mil contributes to Army efforts to secure Soldier safety. By the end of FY 2008, 0.8% of the Soldiers screened (about 800) reported either passive or active suicidal ideation at the time of their primary care visit. There are no known completed suicides or attempts among these Soldiers. Anecdotally, reports of Soldiers initially receiving specialty care in military or community settings and who had been lost to follow-up resurface in RESPECT-Mil primary care screening and are reconnected with their source of mental health care.
- DHCC's research programs are funded by institutions which include the Department of

Introduction

Veterans Affairs, the Department of Defense, the U.S. Congress, the National Institute on Aging, the National Institute of Mental Health, the Samueli Institute for Information Biology, and the Henry M. Jackson Foundation for the Advancement of Military Medicine. This research focuses on innovative ways to improve deployment-related healthcare including the primary care detection and treatment of combat-related traumatic stress.

- The results from the successful clinical trial *Acupuncture for the Treatment of Trauma Survivors* indicate that the therapy is helpful to service members with trauma symptoms. Compared to Optimized Usual Care (UC), Acupuncture (ACU) was associated with a significantly greater decrease in PTSD symptoms, which was maintained through the 12-week follow-up (treatment X time, $F(3, 128) = 10.92, p < .001$); mean PTSD Checklist (PCL) score decreases were 19.4 (± 11.7) at end treatment and 19.8 (± 13.6) at 12-week follow-up in ACU vs. 4.0 (± 12.3) at end treatment and 9.7 (± 13.1) at 12-week follow-up in UC. Similar patterns of improvement were seen with symptoms of depression and psychological functioning.

FY 2008 Accomplishments — Ongoing Programs

- DHCC's clinical team provided intensive clinical assessments to members of all Branches of Service referred to DHCC for tertiary care, who were suffering from chronic pain conditions, and/or were candidates for admission to one of the Specialized Care Programs.
- Subscriptions to the *Deployment Health News* grew by 25% during FY 2008.
- The staff responded to more than 2000 Web and helpline inquiries from military personnel, families, and providers.
- DHCC offered ten cycles of its Specialized Care Program Track II for posttraumatic combat-related stress. Three cycles of the Specialized Care Program Track I for medically unexplained physical symptoms were also offered.
- The Center was represented at eight national and international meetings, conferences, and symposiums attended by more than 16,000 participants.
- DHCC sponsored the Deployment Healthcare Track at the 11th Annual Force Health Protection Conference in August 2008. The track offered 64 presentations to an aggregate attendance of 2500 during this CME-granting conference.



- DHCC's clinicians and scientists submitted 18 manuscripts for publication in peer-reviewed journals, developed 35 abstracts for presentations, and delivered an additional ten invited presentations at conferences and workshops in FY 2008.

DHCC brought its exhibit and educational materials to eight national and international meetings, conferences, and symposiums attended by more than 16,000 participants.

Direct Health Service Delivery

DHCC is a component center of the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE) and provides direct, tertiary care to service members; expert referral care for complex deployment-related health concerns; consultation services to clinicians, service members, and families; and longitudinal tracking of veterans with specific deployment exposures.

Specialized Care Programs

DHCC offers two programs of intensive, tertiary care for deployment veterans: the Specialized Care Programs Track I and Track II. Employing evidence-based therapies, these comprehensive, three-week programs are delivered by a multidisciplinary staff of deployment-health specialists including an internist, health psychologist, physical therapist, registered nurse, and clinical social worker. Alternative and complementary practices including yoga, massage, and relaxation therapy are employed as well.

The Specialized Care Program Track I is the tertiary level of care specified by the DoD/VA Post-Deployment Health Evaluation and Management Clinical Practice Guideline. The program is designed to treat the sickest patients who continue to present with deployment-related chronic illness or idiopathic physical symptoms that interfere significantly with their life and work in spite of comprehensive guideline-based care and multiple visits with primary and specialty care physicians. Originally designed to care for Soldiers from the first Gulf War, the program is also helpful for OIF/OEF veterans with mild Traumatic Brain Injury who suffer from frustrating idiopathic physical symptoms for which their care providers cannot provide relief.

The program seeks to improve physical conditioning and decrease symptoms through a gradual, paced physical reactivation program. Program participants receive cognitive behavioral therapy to adopt a more constructive attitude towards their physical challenges and to become active partners in their healthcare. They are empowered to better cope with their illness

and to adopt positive health behaviors. Each program member receives an individualized symptom management plan, while the members of each cycle of six-to-eight participants support one another. The program emphasizes clinical follow-up and primary care management after return to the local healthcare system. In FY 2008, 17 patients participated in 3 cycles of the Specialized Care Program Track I.

“You helped across a bridge I didn't know I could cross.”

—Specialized Care Program Track II Graduate

The Specialized Care Program Track II provides evidence-based treatments for posttraumatic stress for individuals who have been through basic care and continue to experience difficulty after deployment. Through traditional and alternative treatment modalities, patients receive help in dealing with the lingering effects of combat and to assist in the process of constructive re-integration. These veterans may be referred after receiving treatment according to the DoD/VA guidelines for posttraumatic stress or depression. Exposure therapy in a group setting is crucial to the success of the program. The members of the groups draw courage from one another in exploring and articulating difficult feelings and distressing memories. In FY 2008, DHCC delivered 10 cycles of the Specialized Care Program Track II program to 62 participants.

“You have encouraged me to ask myself the tough questions.”

—Specialized Care Program Track II Graduate

Patients of both programs receive an average of 28 provider contacts and 48 hours of group treatment during the program as well as clinical follow-up contacts for up to 40 weeks to monitor status and provide on-going support.

Direct Health Service Delivery

Continuous Quality Improvement Meetings were held for all cycles the Specialized Care Programs. Anecdotally, attendees report that the overall experience was positive and that they have a high positive regard for the staff, both clinical and administrative. Responding to interest in creating similar programs from other military treatment facilities, DHCC continues to share best practices in the treatment of posttraumatic stress and medically unexplained physical symptoms.

Specialized Care Program Evaluation

DHCC collects medical and behavioral health status along with socio-demographic data from Specialized Care Program participants at four time points: entrance, exit, one-month follow-up and three-month follow-up. The data collection methodology is designed to facilitate future longitudinal analyses, revealing the impact of the programs on the health of the service members who participate in them. So far DHCC has gathered data for 221 patients at entrance, 188 patients at exit, 87 patients at one-month follow-up, and 74 patients at three-month follow-up.

A series of data analyses have been performed on the data. The t-test analysis demonstrates that in the period between entrance and exit, patients' average number of physical symptoms significantly declined from 6.7 to 5.8 ($t = 2.68, p < 0.01$). The PTSD Checklist (PCL) scores also decreased (from 63.7 to 59.7), to

“It is very comforting to know that if I feel I am getting worse, I can get help.”

—Specialized Care Program Alumni surveyed about SCP Clinical Follow-up

a statistically significant degree ($t = 2.43, p = 0.02$). Additionally, the Transformed Physical Score (PCS), using the SF-12 Health Survey to measure physical health improvement, increased slightly from 36.1 to 36.7, which is not statistically significant ($t = -0.47, p = 0.64$). On

the other hand, the Transformed Mental Score (MCS), measuring mental health improvement, increased fairly strongly from 31.6 to 36.0, and this enhancement is statistically significant ($t = -3.78, p < 0.01$). Overall, these results suggest that participants in the Specialized Care Programs achieve modest, but statistically significant, improvements in physical as well as mental/emotional functioning. When more data has been collected, DHCC staff will further examine the trends indicated by these health scores.

“The [follow-up] contact helps my morale; it makes me feel like they know I exist.”

—Specialized Care Program Alumni surveyed about SCP Clinical Follow-up

DHCC's Continuous Quality Improvement Committee, using the FOCUS-PDCA quality improvement model used at Walter Reed, developed a list of questions to survey Specialized Care Program alumni about their satisfaction levels with the clinical follow-up they received after they left the program. Twenty-seven alumni were surveyed and their comments on their likes and dislikes were compiled and analyzed. Results of the improvement project were presented at the 11th Annual Force Health Protection Conference.

Worldwide Ambulatory Referral Care Program

The DHCC's Worldwide Ambulatory Referral Care Program receives referrals of patients with chronic physical symptoms who are potential candidates for the Specialized Care Program Track I. These service members have activity limiting symptoms that have unclear etiologies and that present challenges to the patient and their care provider. Administered by an internal medicine physician with extensive experience in post-deployment medicine, the program receives referrals from throughout the United



States and overseas. The internist performs a clinical evaluation, including necessary laboratory diagnostics, and may initiate medical and pharmacological treatment for any new diagnoses. If diagnosis and the pathway to appropriate treatment remain unclear, the internist may pursue more imaging studies or referrals to specialists. Appropriate follow-up is offered until all necessary treatments have been completed.

Intensive clinical evaluations are also given to candidates for the Specialized Care Program Track II since co-morbid physical injuries often accompany and exacerbate post-deployment stress or depression symptoms. Should the patient go on to enter one of the Specialized Care Programs, the internist continues to address his or her health concerns during the program. The Ambulatory Referral Care Program provided services to approximately 424 patients with 930 follow-up visits in FY 2008. The most common physical complaints were musculoskeletal injuries, sleep disorders, and war-related chronic pain conditions.

Warrior Transition Unit Psychiatric Consultation Liaison Services

The Post Deployment Health Assessment Tool (PDHAT) is designed to identify symptoms of posttraumatic stress disorder, depression, anxiety and panic attacks, traumatic brain injury, alcohol consumption/abuse, and pain levels. It is administered to some redeployed inpatient

Soldiers at Walter Reed. The assessment requires approximately an hour to complete.

In January 2008, the DHCC Research Team Nurse Practitioner began working with mid-level providers on the Walter Reed Department of Psychiatry's Psychiatric Consultation Liaison Services (PCLS) team to identify newly arrived Warrior Transition Unit Soldiers able to participate in the PDHAT, conduct the initial PDHAT screening, and to administer the 3-month telephonic follow-up PDHAT with these Soldiers.

The major difficulty in completing the initial assessment was access to the patients, who were often physically unable to complete the assessment due to their injury, distracting pain, or response to sedating/pain medications. Access was also a challenge for the 3-month follow-up since most patients had left WRAMC necessitating significant effort to locate them and secure their cooperation for the telephone interview.

DHCC staff involvement with this program was initiated, in part, to locate and evaluate possible participants for DHCC's research study, *A Placebo-Controlled Trial of Prazosin Vs. Paroxetine for Combat Stress-Induced Nightmares and Sleep Disturbance*. This study ended due to difficulty recruiting participants, since patients taking most psychotropic medications were excluded, and the majority of newly arrived WTU Soldiers were on SSRIs or other medications. The study is being replaced by evaluation of prazosin as an adjunctive therapy. For more information on this study, please see pg. 18.



Direct Health Service Delivery

Tracking Depleted Uranium Exposures

The Department of Defense has a program for the identification and medical management of service members potentially exposed to depleted uranium (DU). DHCC had a significant role in creating and disseminating the original 2003 medical management and tracking process in conjunction with the Office of the Assistant Secretary of Defense for Health Affairs and representatives from the Services. These same parties along with representatives from the Armed Forces Institute of Pathology, the U.S. Army Center for Health Promotion and Preventive Medicine, and the Baltimore VA Depleted Uranium Follow-Up Program updated the process in 2006.

DHCC has two main roles in sustaining the DU Program. The Center provides central archiving of depleted uranium test results for all the Services. During FY 2008, DHCC received the results of 2,254 24-hour urine bioassays for depleted uranium analysis bringing the total archived to 4,874. There were no new cases of DU exposure in FY 2008. DHCC also coordinates the referral of patients with positive DU exposure to the VA Depleted Uranium Follow-up Program and continues to coordinate medical management and follow-up for them, as needed.



Medical Management of Embedded Metal Fragments

In December 2007, the Office of the Assistant Secretary of Defense for Health Affairs published a policy requiring the Services to conduct laboratory analyses of the metal fragments of munitions fire removed from DoD personnel in DoD military treatment facilities. This policy, which resulted from input from a panel of experts solicited from each Service, the Armed Forces Institute of Pathology, the Armed Forces Radiobiology Research Institute, and the Deployment Health Clinical Center, is the first step in establishing a procedure for tracking and medically managing DoD personnel exposed to potentially hazardous embedded fragments. In FY 2008, DHCC consultants participated in continued discussions on removal guidelines, fragment analysis, and the development of a registry.

Clinical Consultation through Helplines and Email

DHCC operates two toll-free telephone helplines with access from Europe and the United States: the DoD Helpline for Military Personnel and Families and the DHCC Helpline for Clinicians and Providers. DHCC also provides an email support service that can be accessed both directly and through the Center's Web site. Specifically, military personnel most often asked for help in completing their Deployment Health Assessments (DD 2795, 2796, and 2900) or getting a copy of forms they had completed previously. Service members also called regarding specific health concerns, especially depleted uranium exposure and leishmaniasis.

DHCC's Clinician Helpline provides access for clinical consultation, referral services for post-deployment health issues, and guideline implementation information. Specifically, healthcare providers called DHCC in FY 2008 to get training on how to fill out their patients' Deployment Health Assessments (DD 2795, 2796, and 2900), to ask questions about interpretation of specific deployment-related military healthcare policies, to inquire about treatment for specific health conditions, to ask how to interpret or access the SF 36 (Short Form 36) or PCL (PTSD

Checklist), and for resource information on PTSD and TBI. DHCC staff responded more than 500 phone inquiries through these two helplines during FY 2008 and more than 200 inquiries through the DHCC Web site.

Force Health Protection & Readiness, Office of the Assistant Secretary of Defense for Health Affairs, requested that DHCC assume responsibility for its 1-800 DoD-HA Deployment Health Support Contact Center. Initiated in 1996 to assist veterans of the first Gulf War with questions and concerns about the health effects of their deployment, this helpline now provides a place for service members, veterans, and their family members to ask questions about specific chemical or biological agent test or deployment exposures, medical disability, transition to VA care, and other health questions related to their deployments. DHCC staff responded to nearly 1300 questions on this helpline in FY 2008.

Figure 1. Web/Email Questions

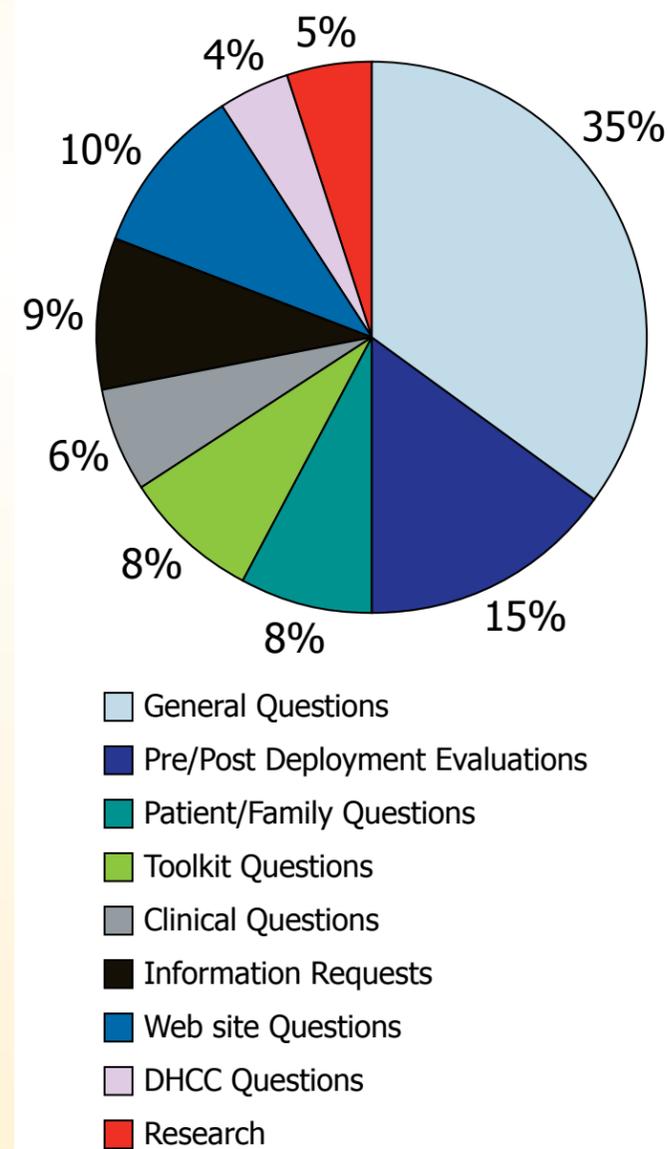
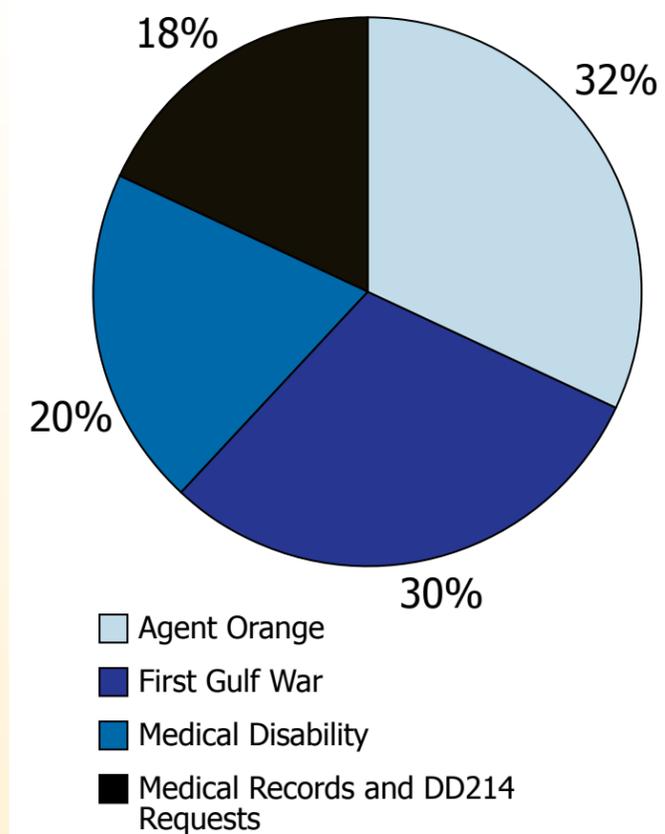


Figure 2. Inquiries to DoD/HA Helpline



Outreach and Provider Education

DHCC's charter includes the mission to develop, implement, and sustain deployment-related health education programs for disseminating clinically relevant knowledge to providers. DHCC's FY 2008 outreach to military healthcare providers included supporting the implementation of the Re-Engineering Systems of Primary Care Treatment for Depression and PTSD in the Military (RESPECT-Mil) program to military treatment facilities, developing Web content, sponsoring the Deployment Healthcare Track at the 11th Annual Force Health Protection Conference, and delivering presentations in the U.S. and around the world. DHCC continued to champion the DoD/VA Post-Deployment Health Evaluation and Management Clinical Practice Guideline. It also promoted the use of associated guidelines for medically unexplained symptoms, posttraumatic stress, and depression by primary care providers. DHCC staff participated in research on the efficacy of current guidelines and the creation of new ones.

Deployment Health Integration in Primary Care—RESPECT-Mil

The Department of Defense and the Army work to enhance the fitness and health restoration of service personnel by continuing to develop and deliver state-of-the-art methodologies to identify service members with deployment-related stressors and to treat them in a timely and appropriate way. To build resilience and support post-traumatic growth, behavioral health practices should be standardized through the use of guideline-informed evidenced-based practice. Furthermore, the systems approach of integrating behavioral health into primary care at the MTF level has been shown to provide efficient, effective coverage of the military population.

Background

Research shows that nearly 20% of returning Soldiers screen positive for a major mental health disorder. While 78% of them acknowledge the need for help, only about one-fourth of these pursue mental health specialty care. Soldiers who screen positive are twice as likely to perceive barriers (e.g., career effects, stigma,



poor access, and mistrust) to seeking specialty care help. Since nearly 90% of Soldiers access primary care annually and the average Soldier receives about 3.5 primary care visits per year, this setting offers opportunities for better access to psychological health services, less stigma, and earlier intervention. This arrangement is preferred by many Soldiers, creates opportunities for early intervention, increases the acceptability of psychological health services, and reduces fear of resulting career harm.

Re-Engineering Systems of Primary Care Treatment for Depression and PTSD in the Military (RESPECT-Mil) incorporates the management of PTSD, depression, and deployment-related health concerns using applicable Department of Defense/Department of Veterans Affairs (DoD/VA) clinical practice guidelines. DHCC has been championing this program since its 2005 collaboration with the MacArthur Foundation and its Initiative on Depression and Primary Care. Employing the proven and successful three-component model of prepared primary care practice, RESPECT-Mil Care Facilitator resources, and an enhanced, systematic specialty care interface, the program was successfully piloted at Fort Bragg.

RESPECT-Mil Implementation

The U.S. Army Surgeon General's OPORD 07-34 directed the establishment of a Center of Excellence at Fort Bragg to oversee Army-wide implementation; universal primary care provider training in PTSD, depression, and RESPECT-Mil for all Army primary care providers; and a 24 month

roll-out of RESPECT-Mil to 15 Army Medical D sites. This implementation began in early 2007.

DHCC's Director is the Program Director of this effort. The Center of Excellence Implementation Team traveled widely and often in 2008. The team made ten two- or three-day site visits in support of this effort and delivered five Champion Training Sessions and eight RESPECT-Mil Care Facilitator (RCF) training courses. The team presented a workshop at the 11th Annual Force Health Protection Conference and the Uniformed Services Academy of Family Physicians (USAFP) Conference. The final RESPECT-Mil site designated in OPORD 07-34 was scheduled to receive training in November 2008. The other 14 sites were trained by the end of FY 2008 and have fully assembled teams.

RESPECT-Mil Results

Results of the operations at the fully implemented sites are encouraging. According to this treatment model, primary care providers are trained to screen all their patients for posttraumatic stress disorder and depression and to communicate with them about behavioral health issues as well as idiopathic symptoms and other deployment-related health concerns. If treatment for posttraumatic stress disorder or depression is initiated, RCFs track patients through periodic phone contact to determine

their progress in following their treatment plan and convey relevant information to primary care providers and mental health supervisors.

At the end of FY 2008, of the monthly 20,000 primary care clinic visits in MTFs with full RESPECT-Mil implementation, more than 14,000 included screening for PTSD and depression. During the all of FY 2008, more than 100,000 primary care visits in Army MTFs incorporated

Nearly 800 Soldiers with emergent or urgent suicidal distress received care as a result of RESPECT-Mil primary care screening. There have been no known completed suicides or attempts among these Soldiers.

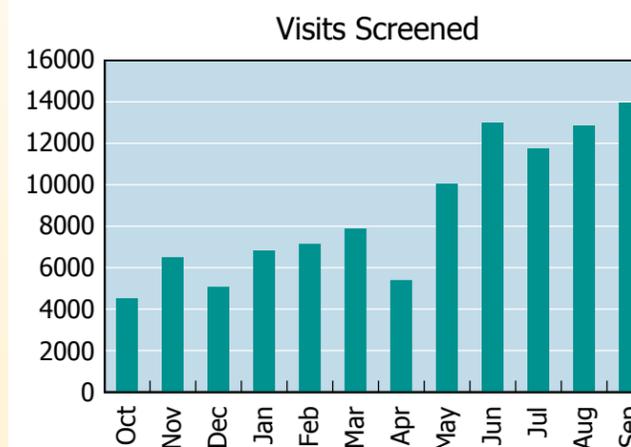
this screening. Of this number, approximately 3600 Soldiers with previously undetected mental health needs received appropriate referral for care.

RESPECT-Mil contributes to Army efforts to secure Soldier safety. By the end of FY 2008, 0.8% of the Soldiers screened (about 800) reported either passive or active suicidal ideation at the time of their primary care visit. There are no known completed suicides or attempts among these Soldiers. Anecdotally, reports of Soldiers initially receiving specialty care in military or community settings and who had been lost to follow-up resurface in RESPECT-Mil primary care screening and are reconnected with their source of mental health care.

RESPECT-Mil Technical Enablers

The RESPECT-Mil Center of Excellence has partnered with Army MEDCOM social work leaders and a civilian company to develop a Web-based care management tracking system for care facilitator use when working with RESPECT-Mil Soldiers. With initial deployment expected in early 2009, the FIRST-STEPS system will increase care facilitator adherence to RESPECT-Mil protocol. RCFs will document all information gathered during their periodic contacts with

Figure 3. RESPECT-Mil MTFs — Primary Care Clinic Visits Screened FY 2008



Outreach and Provider Education

patients. During these telephonic consultations, RCFs periodically administer symptom checklists for depression (Patient Health Questionnaire or PHQ-9) and PTSD (PTSD Checklist or PCL) to assess patient response to treatment. FIRST-STEPS will automatically calculate the PHQ-9 and PCL with change scores, track changes in patient status relative to medication and



An Army Behavioral Health Specialist and a RESPECT-Mil Care Facilitator (RCF) receive training on FIRST-STEPS. RCFs record data from their periodic telephone consultations with patients into FIRST-STEPS. The system flags cases that need to be staffed during weekly RCF/BH Specialist staffing sessions and provides the BH Specialist with a detailed view into each patient's case as needed to make treatment recommendations.

counseling adherence, track patient progress on self-management goals, and tracks general issues such as pending change in status (PCS, ETS, MEB, deployment, etc.).

FIRST-STEPS will also offer the RESPECT-Mil program "real-time" program evaluation and benchmarking. The tool will greatly improve overall capacity to monitor program-related quality of care and to manage the program at implementing sites. Password protection systems, state-of-the-art computer security measures, and prescribed level of information

access tailored to an individual's program role will insure that personal health information remains tightly controlled and highly protected.

The RESPECT-Mil OPORD also requires "universal" training for all Army primary care providers on effective strategies to screen, assess, and manage depression and PTSD in a primary care setting. An interactive training product is scheduled to be released in December 2008. The training product will be available on the DHCC Web site at <http://www.pdhealth.mil/respect-mil/index.asp>.



All Army primary care providers will receive 2.5 hours of online training on strategies to screen, assess, and manage depression and PTSD in the primary care setting.

Clinical Practice Guidelines

DHCC has been an important contributor and champion of DoD/VA Clinical Practice Guidelines including the Post-Deployment Health Evaluation and Management Clinical Practice Guideline and the supporting guidelines for PTSD, Major Depressive Disorder, and Medically Unexplained Symptoms since 2002.

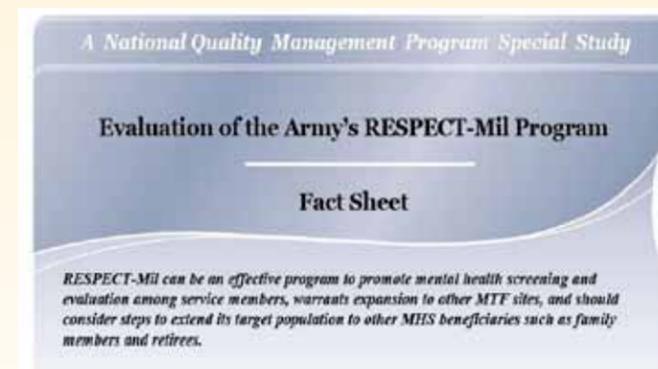
The DHCC director is the designated DoD champion of the DoD/VA Major Depressive Disorder Guideline. He and the DHCC deputy director participated on the expert panel revising this guideline, the initial draft of which was completed in 2008. Currently under review, it is expected this guideline revision will be released in 2009.

DHCC provided behavioral health input to the Amputation Management/Rehabilitation Clinical Practice Guideline Development Working Group, which developed an algorithm defining and outlining the care and management of amputation rehabilitation, and developed an outline of patient education topics/processes. The DHCC deputy director researched and wrote four annotations on behavioral health assessment, treatment, patient education, and peer support processes. The new guideline was released in late 2007. In 2008, the DHCC deputy director participated on a working group tasked to develop tool kits to enhance this guideline's implementation.

The DHCC director and deputy director are consultants to the Scientific Advisory Panel of Military Health System Clinical Quality Management, which performs research and program evaluation of DoD healthcare problems, processes, and high interest issues, including evaluation of clinical practice guideline implementation and utility. DHCC consultants have contributed to research studying the implementation and efficacy of the DoD/VA post-deployment health, medically unexplained symptoms, depression, and posttraumatic stress disorder clinical practice guidelines.

DHCC consultants contributed to a 2006 report summarizing research on screening and referral patterns for posttraumatic stress, utilizing the DD Form 2796/Post-Deployment Health Assessment for a population of close to 300,000. A 2007 follow-on study examined the referral patterns in the Ft. Bragg RESPECT-Mil program during the first three months of full implementation. Results indicated that 76% of primary care visits at the RESPECT-Mil clinic were screened for either depression or PTSD, whereas only 7% were screened in a comparison clinic. Of those screened at the RESPECT-Mil clinic, approximately 17% screened positive for depression, PTSD, or both. Of those screening positive, 75% received a follow-up diagnostic evaluation and 75% received a suicide risk evaluation. As seen in a previous GAO study, about 21% of screen-positive visits were referred.

About 96% of these referrals went the primary care-based RESPECT-Mil program and/or Behavioral Health specialty care.



Unlike a previous GAO study of Post-Deployment Health Assessment data which had revealed a disappointingly low number of service members screening positive for posttraumatic stress being subsequently referred for mental health services, there was a much greater accounting of patients referred or not referred. Approximately 60% of screen positives were accompanied by explanations for lack of referral. The most common reasons for lack of referral were that the service member was already in behavioral health care (44%), was determined to be a false-positive screen (29%), or the service member declined referral (28%). Together, approximately 91% of screen-positive visits were accompanied by indications of referral, explanation for lack of referral, and/or a documented treatment plan. This provided the much greater transparency of referral patterns the GAO study recommended. The authors concluded that the RESPECT-Mil program can be an effective program to promote mental health screening and evaluation among service members and warrants expansion to other MTF sites and with other populations. Subsequently, similar screening and referral data have been obtained from a number of other sites implementing the RESPECT-Mil program.

The DHCC deputy director collaborated with Military Health System Clinical Quality Management to create a Web-enabled CME presentation on this important study, which was released in Sep 2008.



DHCC's Deputy Director narrated a Web-enabled CME presentation on the Military Health System Clinical Quality Management RESPECT-Mil Study.

Web-Based Outreach to Providers and Military Personnel

DHCC's Web site, www.PDHealth.mil, is central to the Center's communication function. The print, online, and video-enabled outreach products developed by DHCC are made available on the site along with forms and instructions for the military medical community on key post-deployment assessments. The site receives an average of 25,000 Page View Requests per day.

Approximately 13 new or updated links were added to the Web site each week. In FY 2008, DHCC added information on Behavioral Health topics, Medical Management of Metal Fragments, and the DoD disability evaluation system, which includes service-specific policies and directives, fact sheets and handbooks, education and training materials, policy research, and related links.

In the Health Conditions and Concerns Section, a new page on Mental Health was added containing evidence-based clinical practices, prevention strategies and guidance on intervention, patient education materials, information on programs and services that deal with posttraumatic stress (PTSD), combat trauma, military sexual trauma and other mental health issues, and treatment centers that offers individual and family psychotherapy, and group and gender specific therapy treatments. Pages were also added to this section dealing with

Substance Use Disorders, Suicide and Suicide Prevention, and Sexual Assault Prevention and Response.

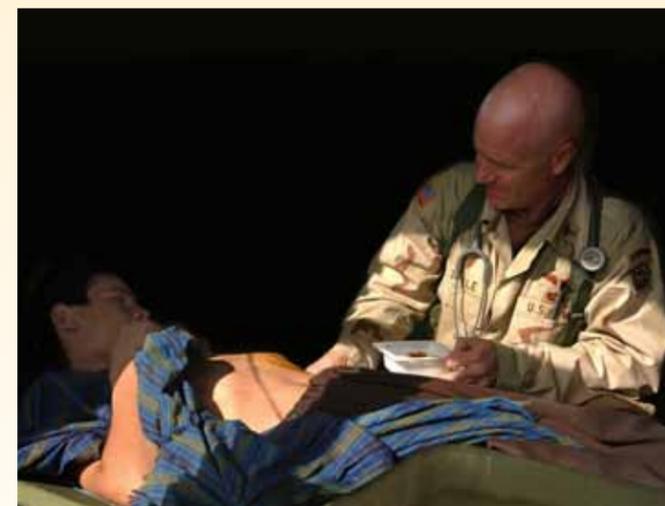
A new page was also added on Amputation and Polytrauma. Added in support of the new VA/DoD Clinical Practice Guideline for Rehabilitation of Lower-Limb Amputation, the page contains a link to the new guideline, information on DoD/VA programs and services for wounded warriors, and specific information about blast injuries and co-morbid polytrauma conditions.

Additional information was added to the RESPECT-Mil Section on PDHealth.mil. Military medical personnel implementing the program can go to this section to find provider manuals, fact sheets, copies of forms and scoring information for the Patient Health Questionnaire-9 and PTSD Checklist used during telephonic consultation with patients, as well as patient education materials and handouts.

Providers and service personnel can access PDHealth.mil to obtain copies of the DD Forms 2295, 2296, and 2900 used for Pre-Deployment and Post-Deployment Assessments (PDHA) and the Post-Deployment Reassessment (PDHRA) along with information on how to do the assessments. The DD Forms 2796 and 2900 were updated in January 2008 to enhance questions on physical and behavioral health and add questions on traumatic brain injury. Detailed information describing these updates has been added to PDHealth.mil.

Fostering Trust between Providers and Military Personnel

DHCC is the only DoD activity that uniquely focuses on helping military clinicians improve their ability to communicate technical information about health risk to their patients. The Center develops and disseminates deployment-related health risk communication materials for clinician use and for distribution to patients. DHCC's health risk communication outreach activities in FY 2008 included daily distribution of the *Deployment Health News*,



collaboration with the Office of the Assistant Secretary of Defense for Health Affairs Risk Communication Working Group, and participation in a DOD, VA, and HHS risk communication coordinating subcommittee.

DHCC published 230 issues of the *Deployment Health News* in FY 2008, and subscriptions to this daily electronic newsletter increased to 2915 from 2,325 the previous year. The newsletter covers health issues related to military service, deployments, homeland security, and the War on Terrorism. Information is gathered from the news media and publicly available sources including periodicals, professional journals, and government and private sector Web sites. Provision of these articles is intended, in part, to rapidly inform clinicians of media coverage that may cause service personnel and family members to seek medical advice and care.

Deployment Healthcare Track at the Force Health Protection Conference

DHCC staff continued to sponsor the Deployment Healthcare Track at the Force Health Protection Conference in 2008. The overall conference has become the nation's largest Military Preventive Medicine and Public Health Conference with than 3,000 registrations; doubling from 2004 to 2008. Attendees included physicians, mid-level providers, nurses, behavioral health providers, researchers, and healthcare administrators and policymakers. The

2008 Deployment Healthcare Track provided 64 individual presentations with an aggregate attendance of more than 2500.

The week started with a day-long pre-conference workshop for RESPECT-Mil site champions and implementation teams for which 133 healthcare professionals registered from worldwide locations. This workshop included topics such as the history and early findings of RESPECT-Mil, a care facilitation and behavioral health supervision demonstration, a group exercise that allowed participants to work on specific plans to implement RESPECT-Mil at their sites, and a discussion of lessons learned.



DHCC sponsored a pre-conference workshop for RESPECT-Mil Champions at the 11th Annual Force Health Protection Conference.

The theme of the Deployment Healthcare Track's plenary symposium was "Best Practices in Facilitating Growth and Healing After Trauma." Sonja Batten, PhD, Acting Deputy Director, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, started off the opening plenary speaking on *VA Update on Post-Deployment Psychological Health and Traumatic Brain Injury Clinical Initiatives*. She was followed by Seth Eisen, MD, MASc, VA Health Services Research and Development Service, speaking on "...to care for him who shall have borne the battle.": *A Collaborative DoD/VA Research Agenda Imperative for Veterans with War Wounds*, Michael S. Jaffee, MD, Col (S), USAF, DoD/VA Defense

Outreach and Provider Education

and Veterans Brain Injury Center, presenting *Traumatic Brain Injury in OIF/OEF Interdisciplinary Efforts aimed at Establishing Evidence Based Best Practices*, and Charles Engel, MD, MPH, COL, USA, DoD Deployment Health Clinical Center and the Uniformed Services University of Health Sciences, who discussed *Focusing Care on Populations & Systems: Deployment Health Seen*

Figure 4. The 2008 Deployment Healthcare Track Plenary Presentations

Improving Care to Returning Warfighters: The Defense Centers of Excellence (DCoE) for Psychological Health and Traumatic Brain Injury. Loree Sutton, BG, USA, MD, Director, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury.

VA Update on Post-Deployment Psychological Health and Traumatic Brain Injury Clinical Initiatives. Sonja Batten, PhD, Acting Deputy Director, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury.

"...to care for him who shall have borne the battle.": A Collaborative DoD/VA Research Agenda Imperative for Veterans with War Wounds. Seth Eisen, MD, MASc, VA Health Services Research and Development Service.

Traumatic Brain Injury in OIF/OEF Interdisciplinary Efforts aimed at Establishing Evidence Based Best Practices. Michael S. Jaffee, MD, Col (S), USAF, DoD/VA Defense and Veterans Brain Injury Center.

Focusing Care on Populations & Systems: Deployment Health Seen Through a Progressive Lens. Charles Engel, MD, MPH, COL, USA, DoD Deployment Health Clinical Center and the Uniformed Services University of Health Sciences.

Through a Progressive Lens which led to a panel discussion on the plenary theme *Best Practices in Facilitating Growth and Healing After Combat Trauma*, ending the afternoon's session.

BG Loree Sutton, USA, MD, Director, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, joined the Deployment Health Track on Thursday to give a presentation on *Improving Care to Returning Warfighters: The Defense Centers of Excellence (DCoE) for Psychological Health and Traumatic Brain Injury*.

The track included three panel presentations: *Fort Carson Readiness Center (SRC): Collaborative Interdisciplinary Efforts Aimed at Establishing Evidence-based Best Practices; Improving Deployment Healthcare for Soldiers and Families Through Collaborative Care Best Practices; and Acupuncture and PTSD*— where individual presentations, including the presentation of results from DHCC's successful research study, *Acupuncture for the Treatment of Trauma Survivors* by COL Engel, were followed by a discussion on *Acupuncture and PTSD: The Road Ahead*.

Additional track topical categories include in-theatre infections; programs and strategies that promote and restore service member resilience; and screening and treatment for specific health conditions including depression, PTSD, TBI, insomnia, and Vitamin D deficiency.

There were 38 different federal, military and public institutions represented in the Deployment Healthcare Track including military medical and VA facilities and centers, military and civilian medical schools in the U.S. and Great Britain, civilian research institutions, and alternative and complementary medicine healthcare providers and institutes. A list of presentations and speakers is available in Appendix D. DHCC plans to sponsor the Deployment Healthcare Track, with the theme "Theatre of War," at the 12th Annual Force Health Protection Conference in Albuquerque, New Mexico in August 2009.

Health Services Research

DHCC's deployment-related clinical research is driven largely by extramural funding. DHCC's research efforts support the clinical, scientific, and policy goals of the Center. The Center has successfully completed and continues to be engaged in a wide range of projects designed to scientifically evaluate health services for post-deployment medical concerns. Current projects are competitively funded by the U.S. Congress, the National Institute of Mental Health, the Department of Defense, the Department of Veterans Affairs, the Centers for Disease Control and Prevention, and the National Institute on Aging. DHCC's scientists and staff regularly publish in peer-reviewed medical journals. DHCC's clinicians and scientists submitted or published 18 manuscripts for journals articles or book chapters, created 35 abstracts for presentations at conferences, and delivered an additional 10 invited presentations at conferences and workshops in the U.S. and Canada in FY 2008.

The research team consists of personnel with expertise in the social and behavioral sciences, general medicine, psychiatry, epidemiology, statistics, demography, risk communication, as well as administrative personnel. The team serves a number of functions in support of the DHCC mission to improve post-deployment care, to include:

- Clinical, epidemiological, and health services research
- Clinical practice guideline implementation
- Program evaluation
- Development of surveys and mental health screening tools
- Database creation and management
- Research consultation to clinicians
- Manuscript and report preparation

DHCC's FY 2008 research portfolio consisted of the following ten projects.

A Single-Item PTSD Screener (SIPS) for Primary Care

Posttraumatic stress disorder (PTSD) among recently deployed Soldiers is a critical psychiatric problem facing the Department of Defense. Research indicates that while most mental healthcare is delivered in primary care, PTSD often goes unrecognized by primary care providers who naturally focus on presenting physical complaints. Deliberate screening for PTSD in primary care patients is expected to lead to earlier diagnosis and intervention, thereby reducing long-term impairment.

The goal of this study was to develop and test a simple screening tool for use in a primary care setting for rapid identification of patients with symptoms of PTSD. The Single-Item PTSD Screener (SIPS) for Primary Care was compared to the 4-item PTSD screen that is commonly used in VA settings and in some DoD settings. SIPS responses were evaluated against a criterion PTSD diagnosis based on a well-established diagnostic interview. Operating characteristics of the SIPS were compared to those of the 4-item screen.

The SIPS asks: "Were you recently bothered by a past experience that caused you to believe you would be injured or killed...not bothered, bothered a little, or bothered a lot?" The SIPS was completed by 234 patients from three Washington DC area military primary care clinics. Independent, blinded assessments using



a structured diagnostic PTSD interview were completed in 213 of these patients. The SIPS yielded a reasonable range of likelihood ratios, suggesting capacity to discriminate between low and high probability PTSD patients. However, the SIPS sensitivity was only 76% for those reporting “bothered a little” and the four-item PC-PTSD yielded significantly better test characteristics on Receiver-Operator Curve analysis.



A single, user-friendly primary care PTSD screening question with three response options, while sensible and worth further investigation, failed to offer sound test characteristics for PTSD screening. Therefore, plans are underway to evaluate a refined version of the question to see if we can identify a SIPS that performs as well as the 4-item screen for PTSD identification in primary care.

Data for this study were collected at three DoD medical treatment facilities: Walter Reed Army Medical Center, the Rader Clinic at Fort Myer, and the DiLorenzo Clinic at the Pentagon.

A Study of Prazosin as an Augmentation Treatment for the Relief of Combat Stress-Induced Nightmares and Sleep Disturbance

Trauma-related nightmares and sleep disruptions following exposure to life-threatening events are persistent symptoms that often cause significant impairment in social and occupational functioning. Preliminary research shows that the medication prazosin ameliorates both nightmares and sleep disturbances in veterans from Vietnam and OEF/OIF. We expect that results from this 4-year, double-blind, placebo-controlled, 15-week clinical

trial will support the use of prazosin treatment of combat-related nightmares in OEF/OIF returnees. Because many service members with combat-stress related nightmares are being prescribed other medications first, with limited success, we believe that augmenting their treatment to include prazosin will decrease nightmares and improve sleep to a greater degree than if they remained on the other medication alone.

Funded by the Department of Defense, this multi-site study is a collaboration among DHCC researchers and researchers from VA Puget Sound Healthcare System/University of Washington School of Medicine, Madigan Army Medical Center, and other researchers from Walter Reed Army Medical Center. The protocol is currently being reviewed by the IRB, and we expect to begin enrolling participants in early 2009.

A Study of Prazosin for the Relief of Combat Stress-Induced Nightmares and Sleep Disturbance

We expected that results from this double-blind, 12-week randomized controlled clinical trial would support the use of prazosin over both paroxetine and placebo for the treatment of combat-related nightmares. However, our hypothesis remains untested because of the difficulty recruiting study participants. In particular, service members at WRAMC experiencing nightmares are frequently prescribed an exclusionary medication as a first-line treatment, thereby preventing them from participating in the study.

Funded by the Department of Defense, this multi-site study is a collaboration between DHCC and researchers from VA Puget Sound Healthcare System and Madigan Army Medical Center. This study will close at the end of October 2008.

Acupuncture for the Treatment of Trauma Survivors

Posttraumatic stress resulting from combat-related traumatic events has been treated with only moderate success using presently available psycho- and pharmacological therapies.



Furthermore, an important subset of people who suffer from posttraumatic stress disorder find currently efficacious treatments undesirable because of side-effects, psychosocial stigma, and high cost. Acupuncture, with few known side effects, has the potential to be an effective alternative treatment for posttraumatic stress disorder or an adjunct to other therapies. Acupuncture has been shown to improve well-being and to successfully treat stress, anxiety, and pain conditions.

The objective of this two-arm, 12-week randomized controlled trial was to determine the effectiveness of acupuncture for alleviating symptoms associated with posttraumatic stress disorder. Two-hundred forty-five active duty service members were screened for entrance into the study, 75 were enrolled after meeting preliminary criteria, and 55 met full eligibility criteria and were randomized to study condition. Forty-three of the 55 randomized soldiers (78%) provided complete follow-up data. Recruitment for the study was completed in June 2007, and data collection continued through October 2007.

Primary analyses indicate that compared to Optimized Usual Care (UC), Acupuncture (ACU) was associated with a significantly greater decrease in PTSD symptoms, which was maintained through the 12-week follow-up (treatment X time, $F(3, 128) = 10.92, p < .001$); mean PTSD Checklist (PCL) score decreases were

19.4 (± 11.7) at end treatment and 19.8 (± 13.6) at 12-week follow-up in ACU vs. 4.0 (± 12.3) at end treatment and 9.7 (± 13.1) at 12-week follow-up in UC. Similar patterns of improvement were seen with symptoms of depression and psychological functioning. Secondary analyses and manuscript development are in process.

The study was Congressionally-funded and the study team consisted of personnel from DHCC, the Uniformed Services University of the Health Sciences, the Samueli Institute, and the University of Western Ontario.

DESTRESS-PC: A Brief Online Self-Management Tool for PTSD

The broad objective of this research is to improve primary care mental health services for military personnel and veterans with posttraumatic stress disorder related to war-zone trauma. The research is also relevant to providing early, high quality access to low-stigma mental health services for victims of other traumatic events, including terrorist attacks and natural or man-made disasters. The study hypothesis is that a brief Internet-based online self-management tool for posttraumatic stress disorder, DESTRESS-PC, based on empirically valid cognitive-behavioral therapy strategies, will improve posttraumatic stress disorder symptoms, related functional status, and attitudes regarding mental health treatment among veterans and military personnel with posttraumatic stress disorder who are seeking primary healthcare after service in Operations Iraqi Freedom or Enduring Freedom (OIF/OEF).

A primary care-based two parallel arm randomized controlled trial will assess the feasibility and efficacy of DESTRESS-PC for reducing the posttraumatic stress disorder symptoms of war-zone exposed soldiers and veterans, increasing their mental health-related functioning; reducing depression, generalized anxiety, and somatic symptoms; and improving attitudes regarding formal mental health treatment. Participants will be randomly assigned to either the DESTRESS-PC intervention or Optimized Usual Care (the control condition).

The DESTRESS-PC intervention will be delivered to participants via the Internet, with participants logging on to a secure website hosted on private (i.e., nonmilitary) servers. Participants' progression through the intervention will be monitored by a DESTRESS Nurse, and participants will have scheduled and as-needed access to their nurse via e-mail and telephone. DESTRESS Nurses will be supervised by mental health professionals and will have contact with participants' primary care providers.

As of the end of FY 2008, recruitment had begun at the one of the study sites, and is set to begin at the other study sites by December 2008. Six combat veterans have been screened for entrance into the study; two participants met preliminary study criteria and were consented; one participant was found to meet full eligibility criteria and was randomized to the study condition.

Evaluation of Acceptability of Collecting Information About Adverse Childhood Events from Military Personnel

The National Defense Authorization Act 2006, Section 733, "Baseline Health Data Collection Program," mandates that DoD implement a baseline health instrument to improve health surveillance and contribute to a system that supports early intervention and prevention programs among service personnel throughout their military careers. This baseline assessment has been called for by past Presidential Review Directive, Institute of Medicine reports, and the Armed Forces Epidemiological Board.¹ The assessment will collect relevant demographic, medical, psychosocial, occupational, and health risk factor data from all U.S. military personnel upon entry into the armed forces.

¹ Armed Forces Epidemiological Board (2006). Armed Forces Epidemiological Board 2006 June Meeting. Wright-Patterson AFB, OH.

² Anda, R. F., Croft, J. B., Felitti, V. J., Nordenberg, D., Giles, W. H., Williamson, D. F. et al. (1999). Adverse childhood experiences and smoking during adolescence and adulthood. *Journal of the American Medical Association*, 282, 17, 1652-1658.

³ Chapman, D. P., Whitfield, C. L., Felitti, V. J., Dube, S. R., Edwards, V. J., & Anda, R. F. (2004). Adverse childhood experiences and the risk of depressive disorders in adulthood. *Journal of Affective Disorders*, 82, 217-225.

⁴ Dong, M., Dube, S. R., Felitti, V. J., Giles, W. H., & Anda, R. F. (2003). Adverse childhood experiences and self-reported liver disease: new insights into the causal pathway. *Archives of Internal Medicine*, 163, 1949-1956.

⁵ Dube, S. R., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: the adverse childhood experiences study. *Pediatrics*, 111, 3, 564-57.

Current research indicates that adverse childhood events, such as loss of a parent, abuse, or living in a household which includes a family member who is incarcerated, a substance abuser, or mentally ill may contribute to negative adulthood consequences.^{2,3,4,5} Recent efforts to use self-reported adverse childhood event information as part of military health surveillance have raised questions regarding the validity of the information. If sensitive questions are viewed as unacceptable by military respondents and family members, then the accuracy of reported information will be compromised.

This study, funded by DoD, was a DoD, VA, and Centers for Disease Control and Prevention collaborative effort to examine the acceptability of collecting adverse childhood event data as a part of routine military health surveillance. The study consisted of three components. The first was a focus group-based study, conducted at Ft. Bragg, to assess the views of service members and their spouses regarding the collection of adverse childhood event data. Participants were recruited at the Robinson Clinic and the Womack Army Medical Center's Primary Care Clinic. Seven hundred eighty-four participants were screened and 40 participants were consented and interviewed. The second component was a panel of subject matter experts, the Collaborative Adverse Childhood Experiences Study Committee, which met in February 2006 to discuss the acceptability, practicality, legal, and ethical aspects of using adverse childhood event data as a part of routine health surveillance. A report outlining the recommendations of the panel is complete. The study team also completed the third component, a review of past efforts in the military to collect adverse

childhood event data anonymously. The team recently published a report of the findings in the journal *Military Medicine*.

Preference-Weighted Analysis of Posttraumatic Stress Disorder in Veterans

Extant symptom- and generic quality of life-focused measures used to assess posttraumatic stress disorder are useful at the clinical level because they describe functioning. However, these measures are not useful at the policy level because they fail to assess how people value different health problems (e.g., what domains of health-related quality of life do people prefer most versus least). In contrast, preference-weighted health status measures can capture this information and provide preference-based outcome data for use in cost-effectiveness analysis. Policy makers can then allocate resources based, in part, on how well interventions could maximize the quality of life domains that society values the most.

Using existing datasets, study team members calculated the preference-weighted health status score (PWHSS) for 808 veterans receiving VA primary care services. The PWHSS rates



preferences in a range from 0 (death) to 1 (perfect health). Veterans were assessed for health-related quality of life, mental health disorders, and medical ICD-9 diagnoses. PWHSS scores associated with PTSD were 0.082 or lower (depending on PTSD severity, sex, disability status, work status, and other mental health diagnoses) than PWHSS in the average veteran without the disorder. In other words, the analysis suggests that society at large sees the health status associated with a diagnosis of posttraumatic stress disorder as less desirable than the health status of veterans not diagnosed with this disorder.

The team also developed a statistical model that can be easily used by policy and decision makers to assess PWHSS from other datasets that contain information about patient demographics, Axis-I mental health diagnoses, PTSD symptom severity, and disability status.

A manuscript summarizing the study findings is currently under review by a scientific journal.

Prospective Study of Functional Status in Veterans at Risk for Unexplained Illness

DHCC is collaborating with the East Orange New Jersey VA War-Related Illness and Injury Study Center on a prospective longitudinal study to understand whether stress response, ability to cope with stress, or personality characteristics affect the likelihood of developing medically unexplained symptoms after service in OIF/OEF. Measures are both self-reported and physiological and participating military personnel are tested during their pre-deployment (phase I) and post-deployment (phase II) processing. Participants also complete phone interviews and mailed surveys 3 months and a year after return from deployment (phases III and IV). The study is expected to help identify individuals at risk for developing medically unexplained symptoms after future deployments and guide future work on intervention strategies. Phase I data collection is expected to be completed in the fall of 2008. To date, 253 service members have completed phase II, 122 have completed phase III and 22 have finished phase IV.

Veteran Status, Health and Mortality in Older Americans

This study, funded by the National Institute on Aging from FY 2002 through FY 2006, was extended into FY 2008 by Walter Reed Army Medical Center and the Uniformed Services University of the Health Sciences. It evaluates whether older veterans experience higher mortality than do their non-veteran counterparts and uses demographic modeling to see if this trend increases with age and whether physical health is more important than mental health in the process of mortality convergence and crossover between older veterans and non-veterans. Using data from the Survey of Asset and Health Dynamics among the Oldest-Old (AHEAD) and the Survey of Health and Retirement Study (HRS), the study employs such statistical techniques as the structural hazard rate model, the random-effects longitudinal regression model, the multinomial logit regression, and mathematical simulation.

The project produced the following findings. The first finding suggests a mortality crossover between veterans and non-veterans that probably occurs just before age 70. Since this crossover does not tend to happen abruptly, the two mortality schedules might experience a long-standing process of convergence, an idea that has not drawn sufficient attention so far from scientists and planners.



Second, among Americans age 70 years or older, the mortality differences between veterans and non-veterans diverge at a considerable pace, with an increased excess death rate over age among older veterans. The disadvantaged survivorship in the veteran population is very small at age 70, but becomes more and more sizable in progressively older age groups. At age 85, the excess death rate among veterans is considerable.

Third, while the study managed to capture much of the veteran status's effect through the two health dimensions in the "young-old" and the "old-old" demographic categories, many details regarding the mechanisms inherent in the excess mortality and transitions in functional status among older veterans remain unknown beyond age 85. At age 70, variations in physical health and mental disorders account for approximately 61% of the total effect of veteran status on the mortality of older Americans. At age 75, the portion of such indirect effects falls to 42%. At age 85, only one-fifth of the excess mortality among veterans is captured by physical health conditions and mental disorders.

Fourth, veteran status does not have significant influences on transitions in functional status among those functionally independent at baseline. Older veterans and non-veterans who are initially independent in their activities of daily living share a similar pattern of disability incidence and functional ability persistence. However, veterans who were initially disabled demonstrate much lower disability resolution than their non-veteran counterparts, and such effects increase substantially with time.

Fifth, convergence of two survival curves, affiliated to two population subgroups, implies the occurrence of a mortality crossover preceding this convergence. Therefore, mortality crossovers among population subgroups are a highly observable demographic event, given the frequent occurrence of survival convergence.

Sixth, we found some interesting patterns on the linkages among health measures. While the presence of specific health conditions has strong adverse impact, comorbidity exerts an even

more significant influence on an older person's functional status and self-rated health. While self-rated health among those with stroke is substantially affected by functional disability that accompanies this disease, indirect effects are less significant for the rest of health conditions considered.

Lastly, application of different statistical models, with or without considering sample selection bias, lead to distinct variations in the predicted values of health transition scores at a series of time points, thereby providing strong evidence that without considering the selection biases in the process of health transitions, estimation of the effects on health transitions of older persons can be severely biased.

This last finding has led to the study team's current effort to construct an unbiased longitudinal model on health transitions in older persons using updated data of health dynamics, as requested by reviewers of a recent submission to a scientific journal. Manuscript preparation and submission of study results will continue into FY 2009.

Vitamin D Deficiency in OIF/OEF Veterans with Chronic Pain, Fatigue, and Anxiety

Vitamin D has been long recognized as essential to bone health. Generated by the skin through sun-light exposure, vitamin D can be secondarily acquired through fortified milk consumption. Vitamin D deficiency is prevalent in the general population. As much as 5–36% of the U.S. population, 19 to 50 years of age, may have deficiency depending on a number of factors. Variables effecting vitamin D levels include the latitude where individuals live, the amount of seasonal sun-exposure they receive, the amount consumed through milk, food, or supplements, or the degree of their skin pigmentation.

The prevalence of vitamin D deficiency in the U.S. military population is not known, although a study of Finnish military recruits found that 5% were deficient in the summertime. Those deficient were more than three times as likely to have a stress fracture over the next 90 days,



when compared to those who had adequate vitamin D stores. Recently, vitamin D deficiency in the general population has also been linked to chronic musculoskeletal pain. Ninety-three percent of 151 patients seen at the Mayo Clinic with chronic musculoskeletal pain had vitamin D deficiency. The degree of anxiety found in patients with fibromyalgia has been correlated to low vitamin D levels. Finally, vitamin D receptors have been found in the brain. Experimental knockout mice for the vitamin D receptor reveal anxiety behaviors, suggesting that vitamin D has a role in brain function.

The purpose of this study is to retrospectively analyze the diagnoses of Specialized Care Program patients, primarily OIF/OEF veterans, to see if there is a correlation with their vitamin D levels, as determined during their routine care. Specifically, the focus will be on chronic musculoskeletal pain, fatigue, and anxiety. However, other illnesses such as bone-related illnesses will be looked at as well. The degree of vitamin D deficiency present in this segment of the OIF/OEF veteran military population will be determined.

By the end of FY 2008, preliminary results on a small study cohort revealed that 30 of 61 OIF/OEF veterans who had chronic pain also had vitamin D deficiency. Since half of these patients suffered from deployment-related bone or joint injuries, the recommendation is made to consider screening OIF/OEF veterans with chronic musculoskeletal pain for vitamin D deficiency, so that optimum bone health can be achieved through proper supplementation.

In FY 2009, DHCC will continue to coordinate efforts to support continuous improvement of deployment-related healthcare across the military health system, especially in the area of combat-related behavioral health.

Direct Health Service Delivery

The DHCC clinical team plans to continue to deliver the Specialized Care Programs Track I and Track II and to provide evaluation and care for veterans with difficult-to-diagnose deployment-related health concerns. DHCC also plans additional refinements such as a Track II gender-specific session for women and a one-week program for spouses. DHCC is working on plans to disseminate a version of the Specialized Care Program Track II to additional AMEDD sites in FY 2009.

Outreach and Provider Education

The DoD and U.S. Army MEDCOM approved funding for RESPECT-Mil expansion to 17 new sites and an assessment of potential integration into 12 Warrior Transition Units (WTUs) in addition to the original 15-site Army RESPECT-Mil implementation. The RESPECT-Mil Center of Excellence will move to Walter Reed, and DHCC will form a Triservice RESPECT-Mil Implementation Team in FY 2009 with the intent of moving forward on this approved Army expansion as well as developing an approved plan and timeline for expansion into the Navy and Air Force health systems. The mandated universal training program for Army primary care providers will be placed on DHCC's Web site, and FIRST-STEPS, the RESPECT-Mil protocol technical enabler, will be deployed in FY 2009.

DHCC consultants will continue to support adoption and use of DoD/VA Clinical Practice Guidelines as needed, and Center staff will continue to consult with the Scientific Advisory Panel of Military Health System Clinical Quality Management on studies and educational programs.

DHCC will again conduct the Deployment Healthcare Track at the 12th Annual Force Health Protection Conference, taking place in Albuquerque, New Mexico in August. The theme of the track will be the "Theatre of War" and will include, as its plenary presentation, a reading of Bryan Doerries' modern translation of two plays by Sophocles, "Ajax" and "Philoctetes." DHCC will work with other DCoE Centers, the Defense and Veterans Brain Injury Center and Telehealth & Technology Operations, to offer them the opportunity to provide sub-tracks during this conference.

Health Services Research

The DHCC research team will close its clinical trial *A Placebo-Controlled Trial of Prazosin Vs. Paroxetine for Combat Stress-Induced Nightmares and Sleep Disturbance* replacing it with *A Study of Prazosin as an Augmentation Treatment for the Relief of Combat Stress-Induced Nightmares and Sleep Disturbance*. Participant recruitment will ramp up at all the study sites of the *DESTRESS-PC: Randomized Trial of an Online Early Intervention for Combat PTSD in Primary Care* during FY 2009. Data analysis and manuscript preparation of current projects will continue and the design of new projects is ongoing.

The DHCC research team will continue to disseminate the tools it is developing and testing along with research findings on addressing deployment-related mental health concerns in the military population.

Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury

DHCC's full integration into the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE) will occur in FY 2009. DHCC's clinicians and researchers will continue to coordinate their efforts and expertise with the Directorates and other component centers of the DCoE.

DHCC Inter-Service, Inter-Agency, and University Collaborations

Department of Defense and Military Services

- Armed Forces Institute of Pathology
- Armed Forces Radiobiology Research Institute
- Defense and Veterans Brain Injury Center
- Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury
- Defense Health Board
- Force Health Protection & Readiness, Office of the Assistant Secretary of Defense for Health Affairs
- Military Health System Clinical Quality Management
- Naval Health Research Center (San Diego, California)
- Navy and Marine Corps Public Health Center
- Office of Clinical Program Policy, Office of the Assistant Secretary of Defense for Health Affairs
- Uniformed Services University of the Health Sciences
- U.S. Air Force Institute for Operational Health
- U.S. Air Force Medical Support Agency
- U.S. Army Center for Health Promotion and Preventive Medicine
- U.S. Army Medical Command Quality Management Directorate
- U.S. Army Medical Research and Materiel Command
- U.S. Army Medical Surveillance Activity
- U.S. Army Proponency Office for Preventive Medicine
- Walter Reed Army Institute of Research
- Walter Reed National Vaccine Healthcare Center

Department of Veterans Affairs

- Boston Veterans Affairs Medical Center
- Cooperative Studies Program Coordinating Centers (Palo Alto, California)

- Environmental Agents Service
- Environmental Epidemiology Service
- Montgomery Veterans Affairs Medical Center, Jackson, MS
- National Center for PTSD
- Office of Quality and Performance
- Ralph H. Johnson Veterans Affairs Medical Center
- Veterans Affairs Maryland Health Care System Depleted Uranium Follow-Up Program (Baltimore, Maryland)
- Veterans Affairs Puget Sound Health Care System
- War-Related Illness and Injury Centers (East Orange, New Jersey, and Washington, DC)

Department of Health & Human Services

- Centers for Disease Control and Prevention
- National Institute of Mental Health
- National Institute on Aging

University and Other Collaborations

- Boston University School of Medicine
- Center for the Study of Traumatic Stress
- Dartmouth University School of Medicine
- Duke University Medical School
- Indiana University
- Medical University of South Carolina
- Regenstrief Institute, Inc.
- Rutgers University/University of Medicine and Dentistry of New Jersey
- The John D. and Catherine C. MacArthur Foundation
- Samueli Institute for Information Biology
- University of New South Wales (Sydney, Australia)
- University of Washington School of Medicine
- University of Western Ontario
- Walter Reed Society
- Widmeyer Communications

Appendix A: Collaborations

Detailed List of DHCC Collaborations

Collaborations to Improve the Quality of Post-Deployment Healthcare

Clinical Practice Guideline Creation and Revision: The DHCC deputy director contributed behavioral health expertise to the Amputation Management/Rehabilitation Clinical Practice Guideline Development Working Group, which reviewed and graded literature related to amputation, formulated recommendations, developed an algorithm, and created patient education materials. The new guideline was released in late 2007. In 2008, the DHCC deputy director participated on a working group tasked to develop tool kits to enhance this guideline's implementation. The DHCC director has been designated DoD champion of the DoD/VA Major Depressive Disorder Guideline. The DHCC director and deputy director participated on the expert panel revising this guideline in FY 2008.

Clinical Practice Guideline Implementation: DHCC continues education and consultation efforts to promote use of the DoD/VA Post-Deployment Health Evaluation and Management Clinical Practice Guideline (PDH-CPG) through collaborations with the VA healthcare system,



Office of the Assistant Secretary of Defense for Health Affairs, the National Vaccine Healthcare Center, Army Medical Command, Navy and Marine Corps Public Health Center, Air Force Medical Support Agency, and medical staff from all Branches of Service. In FY 2004, DHCC created 18 Web-based courses and the award-winning PDH-CPG Toolbox to support this effort. In FY 2006, a Web-based training module on the Medically Unexplained Symptoms Clinical Practice Guideline was added to the Deployment Health Clinical Training Series on the DHCC Web site, and in FY 2007 another module on the Major Depressive Disorder Clinical Practice Guideline was added. By the end of FY 2008, 4,017 Toolboxes had been distributed to Army providers, 1,773 to Air Force, and 2,650 to Navy providers.

DoD/VA Clinical Practice Guideline Quality Monitoring: The DHCC director and deputy director are consultants to the Scientific Advisory Panel of Military Health System Clinical Quality Management helping researchers assess implementation of the DoD/VA post-deployment health, depression, and posttraumatic stress disorder clinical practice guidelines. In FY 2008, the DHCC deputy director collaborated with Military Health System Clinical Quality Management to create a Web-enabled CME presentation on screening and referral patterns of the RESPECT-Mil program at a pilot clinic at Fort Bragg, NC.

Federal Clinician Education and Consultation: Ongoing support is provided to all DoD medical treatment facilities through DHCC's state-of-the-art Web site, PDHealth.mil (<http://www.PDHealth.mil>). PDHealth.mil provides a one-stop repository for deployment-related health information for clinicians and patients. DHCC also furnishes toll-free helplines for both clinicians with questions and for patients who need care, a daily electronic newsletter highlighting current events and newly developed information in the area of post-deployment health, and clinical resources to enhance health risk communication and improve the doctor-patient relationship.

Collaborations in Provision of Post-Deployment Clinical Care

Center for the Study of Traumatic Stress: The Center for the Study of Traumatic Stress provides DHCC with valuable input about the health risks associated with extreme warfare environments and terrorism. Established in 1987, the Center addresses Department of Defense concerns about psychological, behavioral and healthcare consequences resulting from these health threats. The Center pioneered research on the effects of exposure to weapons of mass destruction prior to Desert Storm generating an unprecedented body of research, scholarship and one of the world's largest databases (over 18,000 articles) on psychological, social and behavioral consequences of exposure to traumatic events and other extreme environments (e.g., desert, space, undersea). This includes mental health responses ranging from resilience, distress, health risk behaviors, disaster behaviors and psychiatric illness such as posttraumatic stress disorder, acute stress disorder and depression. In addition, the Center has developed an extensive knowledge and research capability to address preparing, responding to, mitigating, and recovery from natural and human made disasters.

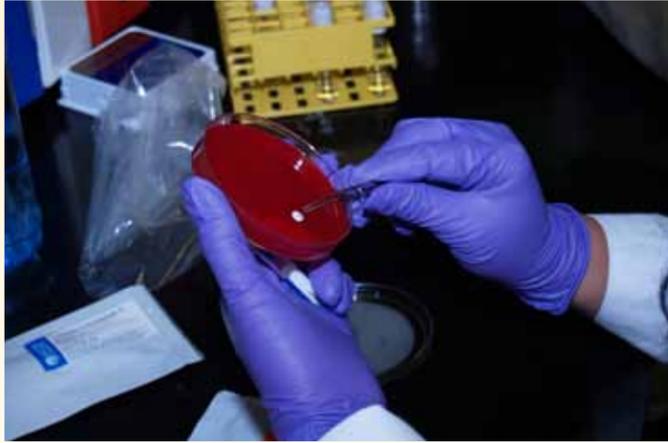
Clinical Follow-up after Depleted Uranium Exposure: DHCC provides central archiving for records pertaining to depleted uranium exposure tests. Collaboration between DHCC, Force Health Protection & Readiness, the Army Center



for Health Promotion and Preventive Medicine, the Armed Forces Institute of Pathology, and the Veterans Health Administration's Depleted Uranium Follow-up Program continues. During FY 2008, DHCC received the results of 2,254 24-hour urine bioassays for depleted uranium analysis bringing the total archived to 4,874. There were no new confirmed cases of depleted uranium exposure in FY 2008. In addition to archiving DU records, DHCC's role is to facilitate the referral of patients with positive DU exposure to the VA's Depleted Uranium Follow-up Program. DHCC has helped coordinate the follow-up of the service members who were exposed to DU during the current conflict and will continue to coordinate medical management follow-up for them, as needed.

Clinically Oriented Health Risk Communication: DHCC collaborates with multiple agencies and organizations to build effective systems for federal clinician and military/veteran health risk communication as well as clinical and public health education on deployment health issues. On-going collaboration through the Office of the Assistant Secretary of Defense (OSD) for Health Affairs Health Risk Communication Working Group includes the Air Force Institute for Operational Health, the Army Center for Health Promotion and Preventive Medicine, and the Navy and Marine Corps Public Health Center. This

Appendix A: Collaborations



collaboration results in the development of a variety of health risk communication materials and fact sheets for inclusion in the OSD Family Readiness Library. DHCC also participates in the DoD/VA/HHS Health Risk Communication Subcommittee—an interagency effort to ensure consistent and accurate information for the public. DHCC provided review and comments on and drafted sections of the DoD Risk Communication Addendum as well as various fact sheets for service members, their families, and health providers.

Nerve and Mustard Agent Exposure: In FY 2004, DHCC collaborated with the Army Proponency Office for Preventive Medicine on policies for the evaluation and follow-up of casualties of nerve and mustard agent exposure incidents that did not occur in storage, demilitarization, or research settings. DHCC is available to coordinate healthcare evaluations for military personnel exposed to these agents to ensure appropriate follow-up. These policies are under review regarding the need for further coordinating instructions including coordination with the Department of Veterans Affairs.

Staff Training and Assistance Team Outreach: The Staff Training and Assistance Team was assembled in late FY 2003 to provide staff training and assistance to military treatment facilities in each Branch of Service for the implementation of the DoD/VA Post-Deployment Health Evaluation and Management Clinical Practice Guideline and use of newly created guideline tools. In FY 2005, the team

made eight visits to military treatment facilities from all Branches of Service, presenting to more than 400 providers. The team made one visit in FY 2006. The DHCC Staff Training and Assistance Team also began distribution of the guideline Providers Desk Reference Toolbox to the Services in the summer of 2004 in coordination with the Army Medical Command, the Air Force Medical Support Agency, and the Navy and Marine Corps Public Health Center. By the end of FY 2008, nearly 8442 copies had been sent out to military primary care providers.

Walter Reed Society: Throughout the year the DHCC staff members provide volunteer support to the Walter Reed Society, which was established in 1996 to assist the hospital command with issues related to patient care, education, and family support for staff and patients. Past projects of the Society include the improvement of waiting rooms, provision of playground equipment, and creation of a healing garden. In response to the Global War on Terrorism, the Society has set up the Operation Iraqi Freedom Family Support Fund to provide assistance to family members of patients at Walter Reed. DHCC personnel support the Society's efforts to care for these Soldiers and their family members who come to the hospital to be with them during their recovery. Many volunteer hours are spent meeting Soldiers and family members, assessing their financial and related needs, and receiving and distributing packages that are sent in support of our troops. This work keeps the DHCC close to the Soldiers and helps the staff understand their experiences and their needs.



Appendix B: Publications

Manuscripts

Engel C. C., Harper Cordova E., Gore K., et al. (In press). Acupuncture for the treatment of trauma survivors. *General Hospital Psychiatry*.

Engel C. C., Oxman T., Yamamoto C., Gould D., Barry S., Stewart P., Kroenke K., Williams J., Dietrich A. (In press). RESPECT-Mil: Feasibility of a systems-level collaborative care approach to depression and PTSD in Military Primary Care. *Military Medicine*.

Feliciano M. An overview of PTSD for the Primary Care Provider. Manuscript submitted for publication.

Freed M. C., Goldberg R., Gore K., Engel C. C. (In press). Estimating the burden of combat PTSD in the US Military and Department of Veterans Affairs Medical Centers. In V.R. Preedy & R.R. Watson, (Eds.), *Handbook of Disease Burdens and Quality of Life Measures*.

Freed M. C., Osborn R. L., Rohan K. J. (In press). Estimating the burden of seasonal affective disorder. In V.R. Preedy & R.R. Watson, (Eds.), *Handbook of Disease Burdens and Quality of Life Measures*.

Freed M. C., Yeager D., Liu X., Gore K. L., Engel C. C., Magruder K. M. Preference-weighted health status of veterans with posttraumatic stress disorder (PTSD): Toward creating an outcome for cost-effectiveness analysis using clinical data. Manuscript submitted for publication.

Gore K., Engel, C. C., Freed M. C., Liu X., Armstrong III D. (2008). Test of a single-item posttraumatic stress disorder screener in a military primary care setting. *General Hospital Psychiatry*, 30, 5, 391.

Hoge C. W., Engel C. C., Castro C. (2008). Mild traumatic brain injury in U.S. Soldiers returning from Iraq. [The authors' reply]. *New England Journal of Medicine*, 358, 20, 2179.

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, 5, 453–463.

Litz B. T., Engel C. C., Bryant R., Papa A. (2007). A randomized controlled proof-of-concept trial of an Internet-based, therapist-assisted self-management treatment for posttraumatic stress disorder. *American Journal of Psychiatry*, 164, 11.

Liu X., Engel C. C., Armstrong D. W., Kang H. (2008). Survival convergence and the preceding mortality crossover for two population subgroups. *Population Research and Policy Review*, 27, 3, 293–306.

Robinson R., Davis J., Krueger M., Gore K., Freed M. C., Kuesters P., Dube S., Engel C. C. (2008). Acceptability of adverse childhood experiences questions for health surveillance in U.S. Armed Forces. *Military Medicine*, 173, 9, 853–859.

Roesel T. (2008). A novel hypothesis explains the syndrome of chronic musculoskeletal pain and comorbid painful healed fractures sites in vitamin D deficiency. [Abstract]. *Journal of Bone and Mineral Research*, 23, S223.

Roesel T. (2008). Vitamin D deficiency in Iraq and Afghanistan veterans with chronic musculoskeletal pain. *Journal of Occupational and Environmental Medicine*, 50, 6, 613–614.

Smith T., Zamorski M., Smith B., Riddle J., Leard C., Wells T., Engel C. C., et al. (2007). The physical and mental health of a large military cohort: Baseline SF-36V health status of the millennium cohort study. *BMC Public Health*, 7, 147, 340.

Terhakopian A., Sinaii N., Schnurr P. P., Engel C. C., Hoge C. W. (2008). Estimating population prevalence of PTSD: An example using the PTSD checklist. *Journal of Traumatic Stress*, 21, 3, 290–300.

Ursano R. J., Benedek D. M., Engel C. C. (2008). Mental illness in deployed soldiers. *British Medical Journals*, 335, 7620, 571–572.

Ursano R. J., Engel C. C. (2008). The importance of assessing exposure to trauma. *Psychiatric Services*, 59, 3, 229.

Appendix B: Publications

Abstracts

Bruner V., Martin C. Caring for the Caregiver: Managing Compassion Fatigue. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Clymer R., Bruner V., Roesel T, Wilson R., Engel C. C. The Deployment Health Clinical Center Specialized Care Track II Program for Service Members Returning from OEF/OIF. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Duda R. Applications of 3CM to Depression and PTSD in RESPECT-Mil. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Duda R. Care Facilitation and Behavioral Health Supervision Demonstration. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Duda R. Key Players of the RESPECT-Mil Program: A Unique Collaborative Team. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C. C. Developing Implementation Plans: A Group Exercise. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C. C. Focusing Care on Population & Systems: Deployment Health Seen Through A Progressive Lens. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C.C. RESPECT-Mil: History, Early Findings, and Road Ahead. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C. C. RESPECT-Mil Implementation Plan Presentations. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C. C. Principles of Screening. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C. C. Screening for Preventive Health Care and Disease Detection: Addressing Individual and Population Level Needs. Symposium Discussant on “Screening Considerations and DoD initiatives” at the 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C. C. The Psychosocial Effects of Screening. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C. C., Harper Cordova E., Benedek D., Gore K., Armstrong D., Osuch E., Grieger T., Jonas W., Ursano R. Evaluating the Efficacy of Acupuncture as a Treatment for PTSD in Military Personnel. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Engel C. C., Oxman T., Dietrich A., Williams J. W. RESPECT-Mil: A Systems-Based Intervention for Primary Care Management of PTSD and Depression in U.S. Army Personnel. Presentation for Symposium on “Healthcare Innovations to Prevent Mental Health Consequences of OEF/OIF Deployment.” 23rd Annual Meeting of the International Society of Traumatic Stress Studies, Baltimore, MD, November 15–17, 2007.

Engel C. C., Oxman T., Dietrich A., Williams J. W., Kroenke K., Wilson R. RESPECT-Mil: A Systems-Based Intervention for Primary Care Management of PTSD and Depression in U.S. Army Personnel. Symposium at the 28th Annual Meeting of the Anxiety Disorders Association of America entitled, “Can PTSD be treated in primary care? Learning from Military and VA settings,” Savannah, GA, March 8, 2008.

Freed M. C., Kuesters P., Gore K.L., Liu X., Engel C. C. Why the Global Burden of PTSD May Be Underestimated. USUHS Research Week, Bethesda, MD, May 12–14, 2008.

Freed M. C., Liu X., Kuesters P., Goldberg R., Gore K. L., Engel C. C. Estimating the Disease Burden of Combat PTSD in VA and DoD Populations. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Gore K. L., Freed M. C., Liu X., Kuesters P., Engel C. C. Primary Care Screening for PTSD: Is One Question Enough? Symposium at the 28th Annual Meeting of the Anxiety Disorders Association of America entitled, “Can PTSD be treated in primary care? Learning from Military and VA settings,” Savannah, GA, March 8, 2008.

Liu X., Engel C. C., Kang H., Gore K. (Paper). Development of an Unbiased Longitudinal Model on Functional Status Transitions in Older Persons. Population Association America, New Orleans, LA, April 16–19, 2008.

Liu X., Engel C. C., Kang H., Gore K. (Poster). Development of an Unbiased Longitudinal Model for Transitions in Functional Limitations. Population Association America, New Orleans, LA, April 16–19, 2008.

Liu X., Engel C. C., Liang J. Development of a Structural Multinomial Logit Model in Population Research. Southern Demographic Association Meeting, Birmingham, AL, October 11–13, 2007.

Martin C., Bruner V. (Poster). Compassion Fatigue in Deployed Military Caregivers: Measurement and Risk Factors. 47th Navy Occupational Health and Preventive Medicine Conference, Hampton, VA, March 14–20, 2008.

Money N., Engel C. C., Miller R., Gore K., Fritts M. (Poster). Yoga Nidra as an Adjunctive Therapy for Posttraumatic Stress Disorder. 2nd IAYT Symposium on Yoga Therapy and Research, Los Angeles, CA. March 6–8, 2008.

Money N., Fritts M., Miller R., Gore K., Engel C. C. (Poster). Integrative Restoration (iRest) as an Adjunctive Therapy for Post-traumatic Stress Disorder. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Money N., Fritts M., Miller R., Gore K., Engel C. C. (Poster). Integrative Restoration (iRest) as an Adjunctive Therapy for Post-traumatic Stress Disorder. USUHS Research Week, Bethesda, MD, May 2008.

Papa A., Litz B.T., Engel C.C., Bryant R.A., Gore K.L., Bruner V. Internet-Based Self Management for PTSD. Symposium at the 28th Annual Meeting of the Anxiety Disorders Association of America entitled, “Can PTSD be treated in primary care? Learning from Military and VA settings,” Savannah, GA, March 8, 2008.

Quigley K. S., D’Andrea E., Ackerman A., Hamtil H., Yen C., Engel C. C. Military Stress, Virtual Reality (VR) Stress Inoculation and VR PTSD Treatment. 2008 Applied Psychophysiology & Biofeedback (AAPB) 39th Annual Meeting, Daytona Beach, FL; May 13, 2008.

Roesel T. Vitamin D Deficiency in OEF/OIF Veterans with Chronic Musculoskeletal Pain and Healing fractures. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Sheliga V., Clymer R., Bruner V., Bullis D., Wilson R., Engel C. C. Putting Soldier Satisfaction Data to Work: An Exploratory Study of the Specialized Care Alumni’s Perceptions of Follow-up. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Terhakopian A., Engel C. C., Sinaii N., Schnurr P. P., Hoge C. W. Use of the PCL for Estimating PTSD Prevalence in Various Populations: Defining Optimal Cutoff Criteria for Population Studies. Poster 116. 59th Annual Meeting of the Institute for Psychiatric Services. New Orleans, LA, October 11–14, 2007.

Terhakopian A., Magra T. R., Benedek D. M., Engel C. C., Ursano R. J. Hospital Behavioral Health Preparedness for Infectious Disease Outbreaks. NR2-046. 161st Annual Meeting of the American Psychiatric Association, Washington DC, May 5, 2008.

Wilson R. Development of a Collaborative Care Implementation Plan. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

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Wilson R. Key Principles of Effective Collaborative Care in Primary Care. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Wilson R. RESPECT-Mil: The Successes and Challenges of Implementation in the Field. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Yeager D., Freed M. C., Liu X., Gore K.G., Engel C. C., Magruder K. M. Does Combat-Related Trauma Impact Preference-Weighed Health Status? (Poster). International Society for Traumatic Stress Studies (ISTSS) Conference, Baltimore, MD, November 2007.

Presentations

Clymer R. Combat PTSD as a Relational Disturbance. American Academy of Psychotherapists, San Diego, CA, October 2007.

Crowley B. Establishing a Forensic Practice. Course Presentation by Panel. American Academy of Psychiatry and the Law Annual Meeting, Miami Beach, FL, October 20, 2007.

Crowley B., Grieiger T. Presentation of Videotaped Testimony of Two Opposing Experts in Army Court Martial — Dr. Crowley for the Defense; Dr. Grieger for the Prosecution — Jury Verdict: Not Guilty. American Academy of Psychiatry and the Law Annual Meeting, Miami Beach, FL, October 19, 2007.

Engel C. C. Helping Heroes: DoD-VA Direction and Implications for AACDP. The Fall Meeting of the American Association of Chairs in Departments of Psychiatry, Washington, DC, November 4, 2007.

Engel C. C. In Return for Their Sacrifice: Primary Care Approaches to Post-War Syndromes. Department of Psychiatry Grand Rounds, Dartmouth Medical School, Hanover, NH, February 26, 2008.

Litz B. T., Papa T., Engel C., Bryant R., Bruner V., Gore K. Progress in Computer-Based Treatment of Behavioral Disorders. (Panel Discussion). Second Annual Summit on Behavioral Telehealth: Technology for Behavior Change and Disease Management, Boston, MA, June 2008.

Roesel T. (Poster). A Novel Hypothesis Explains the Syndrome of Chronic Musculoskeletal Pain and Comorbid Painful Healed Fractures Sites in Vitamin D Deficiency. American Society for Bone and Mineral Research, Montreal, Canada, September 12–16, 2008.

Roesel T. Vitamin D Deficiency in Chronic Pain. Medical Grand Rounds, Michigan State University, December 9, 2007.

Terhakopian A., Benedek D., Engel C. C., Ursano R. Disaster, Mass Trauma, Prevention and Early Intervention. 3rd Annual Meeting of the International Society of Traumatic Stress Studies, Baltimore, MD, November 15–17, 2007.

Wilson R. RESPECT-Mil: Recognition and Management of Depression & Post-Traumatic Stress Disorder. Georgia Academy of Family Practice Physicians, Atlanta, GA, November 10, 2007.



Appendix C: Research Projects

Name of Project: A Placebo-Controlled Augmentation Trial of Prazosin for Combat Trauma PTSD.

Funding Organization: Department of Defense.

DHCC Staff Assigned:

Michael C. Freed, PhD (Clinical Research Psychologist; Project Director).

Phoebe Kuesters, BA (Project Coordinator).

Molly Feliciano, MSN, RN, CRNP (Nurse Practitioner, Certified).

Brian Crowley, MD (Psychiatrist).

Principal Investigator:

Charles Engel, MD, MPH, COL, MC, USA.

Collaborating External Personnel and Organizations:

Murray A. Raskind, MD, University of Washington School of Medicine, VA Puget Sound Health Care System.

Elaine R. Peskind, MD, University of Washington School of Medicine, VA Puget Sound Health Care System.

Miles M. McFall, PhD, University of Washington School of Medicine, VA Puget Sound Health Care System.

Scott C. Moran, MD, MAJ, MC, USA, Walter Reed Army Medical Center.

John C. Bradley, MD, COL, MC, USA, Walter Reed Army Medical Center.

Status:

Protocol is currently being reviewed by the IRB.

Name of Project: A Placebo-Controlled Trial of Prazosin Vs. Paroxetine for Combat Stress-Induced Nightmares and Sleep Disturbance.

Funding Organization: Department of Defense.

DHCC Staff Assigned:

Michael C. Freed, PhD (Clinical Research Psychologist; Project Director).

Phoebe Kuesters, BA (Project Coordinator).

Molly Feliciano, MSN, RN, CRNP (Nurse Practitioner, Certified).

Principal Investigator:

Charles Engel, MD, MPH, COL, MC, USA.

Collaborating External Personnel and Organizations:

Murray A. Raskind, MD, University of Washington School of Medicine, VA Puget Sound Health Care System.

Elaine R. Peskind, MD, University of Washington School of Medicine, VA Puget Sound Health Care System.

Miles M. McFall, PhD, University of Washington School of Medicine, VA Puget Sound Health Care System.

Status:

Study closed. Replaced by A Placebo-Controlled Augmentation Trial of Prazosin for Combat Trauma PTSD.

Name of Project: Acupuncture for the Treatment of Trauma Survivors.

Funding Organization: U.S. Congress.

DHCC Staff Assigned:

Elizabeth Harper-Cordova, MA (Study Coordinator).

Thomas Roesel, MD, PhD (Medical Monitor).

Principal Investigator:

Charles Engel, MD, MPH, COL, MC, USA.

Collaborating External Personnel and Organizations:

David M. Benedek, MD, DFAPA, Uniformed Services University of the Health Sciences (Co-Investigator).

Elizabeth A. Osuch, MD, University of Western Ontario.

Thomas A. Grieger, MD, DFAPA, Uniformed Services University of the Health Sciences.

Robert J Ursano, MD, Uniformed Services University of the Health Sciences.

Appendix C: Research Projects

Christine H. Choate, DC, PhD, Samueli Institute.
Wayne Jonas, MD, Samueli Institute.

Presentations:

Cordova E., Benedek D., Armstrong D. W., Osuch E., et al. Evaluating the Efficacy of Acupuncture as a Treatment for Posttraumatic Stress in Military Personnel. 9th Annual Force Health Protection Conference, Albuquerque, NM, August 2006.

Cordova E., Benedek D., Gore K., Armstrong D., Osuch E., Grieger T., Choate C., Jonas W., Ursano R., Engel C. C. Rationale and Design of a Randomized Controlled Trial of Acupuncture for PTSD. 10th Annual Force Health Protection Conference, Louisville, KY, August 2007.

Engel, C., Benedek D., Gore K., Armstrong D., Osuch E., Grieger T., Choate C., Jonas W., Ursano R. Evaluating the Efficacy of Acupuncture as a Treatment for Posttraumatic Stress in Military Personnel. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 2008.

Status:

Active—data collection and primary analyses are complete; manuscript preparation and secondary analyses are in process.

Name of Project: Collaborative Adverse Childhood Experiences Study.

Funding Organization: Department of Defense, Office of the Assistant Secretary of Defense for Health Affairs.

DHCC Staff Assigned:

Ronnie Robinson, MS (Study Coordinator).

Principal Investigator/Associate Investigator:

MAJ Mary Krueger, MD, Womack Army Medical Center (Principal Investigator).

COL Charles Engel, MD, MPH (Associate Investigator).

Collaborating External Personnel and Organizations:

COL Bruce Ruscio, MPH, DrPH, Office of the Assistant Secretary of Defense for Health Affairs.

Shanta Dube, MPH, Centers for Disease Control and Prevention.

Tim Tinker, DrPH, MPH, Widmeyer Communications.

Marty McCough, MPA, Widmeyer Communications.

Stacia Tipton, MA, Widmeyer Communications.

Presentations:

Davis J., Robinson R., Engel C. C. Acceptability of Adverse Childhood Experiences (ACE) Questions in Routine Military Health Surveillance: A Qualitative Examination. 10th Annual Force Health Protection Conference, Louisville, KY, August 2007.

Davis J., Robinson R., Engel C. C. The Collaborative Adverse Childhood Experiences (CACES): Evaluating the Utility of Adverse Childhood Experiences (ACE) Health Surveillance in U.S. Military Personnel. 10th Annual Force Health Protection Conference, Louisville, KY, August 2007.

Papers:

Robinson R., Davis J., Krueger M., Gore K., Freed M. C., Kuesters P., Dube S., Engel C. C. (2008). Acceptability of adverse childhood experiences questions for health surveillance in U.S. Armed Forces. *Military Medicine*, 173, 9, 853–859.

Status:

Closed.

Name of Project: Preference-Weighed Health Status Associated with Posttraumatic Stress Disorder in Veterans: A Policy-Friendly Assessment of Illness Severity.

Funding Organizations: Department of Defense/Henry M. Jackson Foundation (internally funded).

DHCC Staff Assigned:

COL Charles Engel, MD, MPH.

Kristie L. Gore, PhD.

Xian Liu, PhD.

Principal Investigator:

Michael C. Freed, PhD.

Collaborating External Personnel and Organizations:

Derik Yeager, MBS, Medical University of South Carolina.

Kathryn M. Magruder, PhD, MPH, Medical University of South Carolina, Ralph H. Johnson VA Medical Center.

Status:

Manuscript under review by a scientific journal.

Name of Project: Primary Care PTSD Screener (PPS): A Feasibility Study Comparing Measures of PTSD.

Funding Organization:

DHCC Staff Assigned:

Kristie L. Gore, PhD (Project Coordinator and Co-Investigator).

Principal Investigator:

COL Charles Engel, MD, MPH.

Collaborating External Personnel and Organizations:

CPT El Castro, MD, WRAMC.

LTC Van Coots, MD, Rader Clinic, Fort Belvoir.

COL Dale K. Block, Medical Corps, DiLorenzo Clinic, Army Pentagon.

Presentations:

Gore K., Armstrong D. W., Freed M. D., Liu X., Engel C. C. A Single-item Screener for PTSD in a DoD Primary Care Setting. 9th Annual Force Health Protection Conference, Albuquerque, NM, August 2006.

Gore K., Freed M. C., Armstrong D. W., Liu X., Engel C. C. One-Question Screening for Posttraumatic Stress Disorder (PTSD) in Primary Care. 2006 International Society for Traumatic Stress Studies Annual Meeting, Hollywood, CA, November 4–7, 2006.

Armstrong, D. W., Gore, K. L., Freed, M. C., Liu, X., Engel, C. C. Screening for Posttraumatic Stress Disorder (PTSD) in Primary Care. Poster presented at the 2nd North American Congress of Epidemiology in Seattle, WA, June 2006.

Armstrong, D. W., Gore, K. L., Freed, M. C., Liu, X., Engel, C. C. Screening for Posttraumatic Stress Disorder (PTSD) in Primary Care. Poster presented at USUHS Research Day meeting in Bethesda, MD, October, 2006.

Gore KL, Freed MC, Liu X, Kuesters P, Engel CC. Primary care screening for PTSD: Is one question enough? Symposium at the 28th Annual Meeting of the Anxiety Disorders Association of America entitled, "Can PTSD be treated in primary care? Learning from Military and VA settings," Savannah, GA, March 8, 2008.

Papers:

Gore K., Engel, C. C., Freed M. C., Liu X., Armstrong III D. (2008). Test of a single-item posttraumatic stress disorder screener in a military primary care setting. *General Hospital Psychiatry*, 30, 5, 391.

Status:

Trial complete. Refinement of the SIPS and further testing are underway.

Name of Project: Prospective Study of Functional Status in Veterans at Risk for Unexplained Illness.

Funding Organization: East Orange, New Jersey VA Medical Center.

Principal Investigator:

COL Charles Engel, MD, MPH.

Collaborating External Personnel and Organizations:

Karen S. Quigley, PhD, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Elizabeth A. D'Andrea, PhD, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Appendix C: Research Projects

Michael Byrnes, MD, Dept of Veterans Affairs, Ft Dix, New Jersey.

Karen G. Raphael, PhD, Univ. of Medicine and Dentistry of New Jersey.

Chin-Lin Tseng, PhD, Univ. of Medicine and Dentistry of New Jersey.

Shelley A. Weaver, PhD, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Drew A. Helmer, MD, MS, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Thomas Findley, MD, PhD, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Patricia A. Findley, PhD, MSW, LCSW, School of Management and Labor Relations Rutgers, the State of University of New Jersey.

Judith Lyons, PhD, G.V. (Sonny) Montgomery Veterans Affairs Medical Center, Jackson, MS.

Adam Ackerman, BS, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Isabella Rodrigues, PhD, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Conway Yen, BS, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.



Gladstone Reid, MS, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Florence Chua, MS, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Michael Bergen, MS, War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

Presentations:

D'Andrea E. A., Ackerman A., Hamtil H., Engel C. C., Quigley K. S. Health and Psychological Features of Soldiers Deploying to Iraq and Afghanistan. Health Services Research and Development Service National Meeting, Washington, DC, February 21–23, 2007.

Quigley K.S., D'Andrea E.A., Ackerman A., Hamtil H., Yen C., Engel C.C. Military Stress: Pre-War Physiological Predictors of Post-War Health Outcomes. Talk given as part of a symposium "Military Stress and Virtual Reality Stress Inoculation and Treatment" (Chair: K.S. Quigley) at the Annual Meeting of the Association for Applied Psychophysiology and Biofeedback, Daytona Beach, FL, May 16, 2008.

Status:

Active. Data collection continues.

Name of Project: Randomized Trial of an Online Early Intervention for Combat PTSD in Primary Care: DESTRESS-PC.

Funding Organizations: National Institute of Mental Health and Department of Defense.

DHCC Staff Assigned:

Elizabeth Harper Cordova, MA (Project Director).

Principal Investigator/Site Investigator:

COL Charles Engel, MD, MPH (Principal Investigator).

Collaborating External Personnel and Organizations:

Brett T. Litz, PhD, Boston University School of Medicine, the Boston VAMC.

Kathryn Magruder, MD, MPH, Medical University of South Carolina/Charleston VA.

LTC T. Ray Coe, PhD, Womack Army Medical Center, Ft. Bragg.

Status:

Active recruitment.

Name of Project: Veteran Status, Health and Mortality in Older Americans.

Funding Organization: National Institute on Aging.

DHCC Staff Assigned:

Xian Liu, PhD.

Principal Investigator:

Xian Liu, PhD.

Presentations:

Liu X., Engel C., Kang H., Cowan D. The Effect of Veteran Status on Mortality Among Older Americans and Its Pathways. Population Association of America 2003 Annual Meeting, May 2003.

Liu X., Engel C. C., Kang H. Veteran Status and Transitions in Functional Conditions in Older Americans." 2004 Annual Meeting of the Population Association of America, Boston, Massachusetts. April 2004.

Liu X., Engel C. C., Kang H. Survival Convergence and the Preceding Mortality Crossover for Two Population Subgroups. Southern Demographic Association Annual Meeting. Hilton Head, South Carolina. October 2004.

Liu, X., Engel, C. C., Kang, H. Survival Convergence and the Preceding Mortality Crossover for Two Population Subgroups. Annual Meeting of the Population Association of America, Philadelphia, PA. March 31-April 2, 2005.

Liu, X., Engel, C. C., Armstrong, D. W. Linkages of Health Conditions, Functional Status and Self-Rated Health in Older Americans. 2005 Annual Meeting of the Southern Demographic Association, Oxford, Mississippi, November 3–5, 2005.



Liu, X., Engel, C. C., Armstrong, D. W., Kang, H. Health Conditions, Disability and Self-Rated Health in Older Americans. 2006 Annual Meeting of the Population Association of America, Los Angeles, CA. March 31–April 2, 2006.

Liu, X., Engel, C. C., Armstrong, D. W., Kang, H. Health Conditions, Functional Status and Self-Rated Health in Older Americans. 2007 Annual Meeting of the Population Association of America, New York, New York, March 29–April 1, 2007.

Liu, X., Engel, C. C., Liang, J. Development of a structural multinomial logit model in population research. 2007 Annual Meeting of the Southern Demographic Association, Birmingham, Alabama, October 11–13, 2007.

Liu, X., Engel, C. C., Kang, H., Gore, K. Development of an unbiased longitudinal model on functional status transitions in older persons. 2008 Annual Meeting of the Population Association of America, New Orleans, Louisiana, April 16–19, 2008.

Publications:

Liu, X., Engel, C. C., Kang, H., Cowan, D. N. (2005). The effect of veteran status on mortality among older Americans and its pathways. *Population Research and Policy Review*, 24, 573–592.

Liu, X., Engel, C. C., Kang, H., Armstrong, D. W. (2006). Veterans and functional status transitions in older Americans. *Military Medicine*, 171, 943–949.



Liu X., Engel C. C., Armstrong D. W., Kang H. (2008). Survival convergence and the preceding mortality crossover for two population subgroups. *Population Research and Policy Review*, 27, 3, 293–306.

Articles in Preparation:

Liu, X., Engel, C. C., Kang, H., Gore, K. Development of an unbiased longitudinal model on functional status transitions in older persons.

Liu, X., Engel C. C., Armstrong, D. W., Kang, H. Linkages of health conditions, functional status and self-rated health in older Americans.

Liu, X., Engel, C. C., Liang, J. Decomposition of causal effects in multinomial logit models.

Status:

Manuscript preparation.

Name of Project: Vitamin D Levels and their Correlation to Pain, Fatigue, Anxiety, and other Co-morbidities in Specialized Care Program Service Member seen at the Deployment Health Clinical Center.

Funding Organizations: n/a.

Principal Investigators:

Thomas Roesel, MD, PhD, FACP.

COL Charles Engel, MD, MPH.

Presentations:

Roesel T. Adult Vitamin D Deficiency: Review of the Literature and Implications for Force Health Protection. 10th Annual Force Health Protection Conference, Louisville, KY, August 5–10, 2007.

Roesel T. Vitamin D Deficiency in Chronic Pain. Medical Grand Rounds, Michigan State University, December 9, 2007.

Roesel T. Vitamin D Deficiency in OEF/OIF Veterans with Chronic Musculoskeletal Pain and Healing fractures. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 12–15, 2008.

Roesel T. (Poster). A Novel Hypothesis Explains the Syndrome of Chronic Musculoskeletal Pain and Comorbid Painful Healed Fractures Sites in Vitamin D Deficiency. American Society for Bone and Mineral Research, Montreal, Canada, September 12–16, 2008.

Publications:

Roesel T. (2008). A novel hypothesis explains the syndrome of chronic musculoskeletal pain and comorbid painful healed fractures sites in vitamin D deficiency. [Abstract]. *Journal of Bone and Mineral Research*, 23, S223.

Roesel T. (2008). Vitamin D deficiency in Iraq and Afghanistan veterans with chronic musculoskeletal pain. *Journal of Occupational and Environmental Medicine*, 50, 6, 613–614.

Status:

Active.

Adams, Bruce, MD, COL, USA, William Beaumont Army Medical Center. *Combat Airway Management: Did We Forget Our ABCs?*

Aronson, Naomi, MD, COL, USA, Uniformed Services University of the Health Sciences and Walter Reed Army Medical Center. *Infections of War: Operation Iraqi Freedom and Operation Enduring Freedom.*

Baker, Monty, PhD, Maj, USAF, Lackland Air Force Base. *Screening, Assessment and Management of Blast Concussion: Perspectives from an AF Theater Hospital.*

Batten, Sonja, PhD, Acting Deputy Director, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury. *VA Update on Post-Deployment Psychological Health and Traumatic Brain Injury Clinical Initiatives.*

Bruner, Victoria, RN, LCSW, BCETS, DoD Deployment Health Clinical Center. *Caring for the Caregiver: Managing Compassion Fatigue.*

Burkett, Edwin, MD, MBA, FS, LtCol, USAF, Global Health Branch, Office of the Command Surgeon, U.S. Joint Forces Command. *Civil Military Health Prevention as a Security Enhancing Tool.*

Chou, Roger, MD, Oregon Health and Science University. *Principles of Screening.*

Clymer, Roy, PhD, DoD Deployment Health Clinical Center and Bruner, Victoria, RN, LCSW, BCETS, DoD Deployment Health Clinical Center. *The Deployment Health Clinical Center: Specialized Care Track II Program for Service Members Returning from OIF/OEF.*

Cullen, Mark R., MD, Professor of Medicine and Public Health at Yale University School of Medicine. *Screening for Risk and Disease in the U.S. Military: Occupational and Environmental Considerations.*

Dickey, Wayne, PhD, Lockheed Martin. *Examination of Depression and Posttraumatic Stress Disorder Screening and Referral Procedures at RESPECT-Mil's Pilot Site.*

Duda, Roger, MD, MAJ, USA, Walter Reed Army Medical Center. *Applications of the 3CM to Depression and PTSD in RESPECT-Mil.*

Duda, Roger, MD, MAJ, USA, Walter Reed Army Medical Center, Barry, Sheila and Stewart, Patrice, PhD, Deployment Health Clinical Center. *Care Facilitation and Behavioral Health Supervision Demonstration.*

Duda, Roger, MD, MAJ, USA, Walter Reed Army Medical Center, Barry, Sheila and Stewart, Patrice, PhD, Deployment Health Clinical Center. *Key Players of the RESPECT-Mil Program: A Unique Collaborative Team.*

Duncan, Alaine, MAc, LAc, DiplAc, Executive Director, Crossings Healingworks. *Acupuncture: A Comprehensive Approach to the Treatment of Traumatic Stress.*

Duncan, Alaine, MAc, LAc, DiplAc, Executive Director, Crossings Healingworks. *Restore & Renew Wellness Clinic: A Systems Approach to Traumatic Stress in Military Hospitals.*

Eisen, Seth A., MD, MSc, VA Health Services Research and Development Service. *"...to care for him who shall have borne the battle": A Collaborative DoD/VA Research Agenda Imperative for Veterans with War Wounds.*

Engel, Charles, MD, MPH, COL, USA, DoD Deployment Health Clinical Center, Uniformed Services University of the Health Sciences. *Developing Plans to Implement RESPECT-Mil: A Group Exercise.*

Engel, Charles, MD, MPH, COL, USA, DoD Deployment Health Clinical Center, Uniformed Services University of the Health Sciences. *Evaluating the Efficacy of Acupuncture as a Treatment for Posttraumatic Stress in Military Personnel.*

Engel, Charles, MD, MPH, COL, USA, DoD Deployment Health Clinical Center, Uniformed Services University of the Health Sciences. *Focusing Care on Populations & Systems: Deployment Health Seen Through a Progressive Lens.*

Appendix D: Deployment Healthcare Track Presentations

Engel, Charles, MD, MPH, COL, USA, DoD Deployment Health Clinical Center, Uniformed Services University of the Health Sciences. *Implementation Plan Presentations.*

Engel, Charles, MD, MPH, COL, USA, DoD Deployment Health Clinical Center, Uniformed Services University of the Health Sciences. *RESPECT-Mil: History, Early Findings and the Road Ahead.*

Engel, Charles, MD, MPH, COL, USA, DoD Deployment Health Clinical Center, Uniformed Services University of the Health Sciences. *Screening for Preventive Healthcare and Disease Detection: Addressing Individual and Population Level Needs? Discussant.*

Engel, Charles, MD, MPH, COL, USA, DoD Deployment Health Clinical Center, Uniformed Services University of the Health Sciences. *The Psychosocial Effects of Screening.*

Engel, Charles, MD, MPH, COL, USA, DoD Deployment Health Clinical Center, Uniformed Services University of the Health Sciences and all plenary speakers. *Panel Discussion: Best Practices in Facilitating Growth and Healing After Combat Trauma.*

Fortunato, John, PhD, Restoration and Resilience Center, Fort Bliss, Texas. *The Fort Bliss Restoration and Resilience Center: Lessons Learned from Our First Year of Operation.*

Freed, Mike, PhD, DoD Deployment Health Clinical Center. *Estimating the Burden of Combat PTSD in the VA and DoD.*

Granado, Nisara, MPH, PhD, Maj, USAF, DoD Center for Deployment Health Research, Naval Health Research Center. *The Relationship of Hypertension and Military Deployment in a Large Cohort.*

Greene, Carroll, PhD, Col, USAF, USAF Special Operations Command, Hurlburt Field, Florida. *The Sky is not Falling!: Communicating with Warriors to Facilitate Resilience and Recovery After Combat.*

Grieger, Thomas, A., MD, DFAPA, CAPT, USN, (Ret.), Uniformed Services University of the Health Sciences and Warner, Christopher, MD, MAJ, USA, 3ID. *Recent Updates in Real Time Management of Deployment-Related Health.*

Hines, Claude Jr., MS, COL, USA, Program Manager, Theater Medical Information Program-Joint (TMIP-J), Military Health Systems. *Wounded Warrior: Medical Information Management from the Battlefield to the Homefront.*

Hoge, Charles, MD, COL, USA, Walter Reed Army Institute of Research. *PTSD Screening Among Service Members Returning from Iraq and Afghanistan.*

Hollifield, Michael, MD, University of New Mexico and the University of Louisville. *Acupuncture as an Intervention for Visible and Invisible Pain: A Review of Initiatives and Future Directions.*

Jacobson, Isabel, MPH, DoD Center for Deployment Health Research, Naval Health Research Center. *Prospective Analysis of Posttraumatic Stress Disorder and Depression Among Caregivers Deployed to the Wars In Iraq and Afghanistan.*

Jaffee, Michael S., MD, Col (S), USAF, National Director, DoD/VA Defense and Veterans Brain Injury Center. *Screening for Traumatic Brain Injuries in OIF/OEF Combat Veterans.*

Jaffee, Michael S., MD, Col (S), USAF, National Director, DoD/VA Defense and Veterans Brain Injury Center. *Traumatic Brain Injury in OIF/OEF.*

Kotwal, Russ, MD, MPH, LTC, USA, Regimental Surgeon for the 75th Ranger Regiment, Ft. Benning and Wenzel, Robert, MD, LTC, USA, U.S. Army Graduate Program in Health and Business Administration. *An Outbreak of Malaria in U.S. Army Rangers Returning From Afghanistan.*

LeardMann, Cynthia, MPH, Maj, USAF, DoD Deployment Health Research, Naval Health Research Center. *Lower Functional Health Status Predicts Vulnerability to Posttraumatic Stress Disorder Symptoms Following Combat Deployment.*

Lougee, Douglas, MD, MPH, LTC, USA, Brooke Army Medical Center. *Tuberculosis Transmission in a Joint US-Iraqi Security Station.*

Magruder, Kathryn, PhD, Medical University of South Carolina, Ralph H. Johnson VA Medical Center, Charleston, NC. *Screening for Depression in Primary Care.*

Martin, Christopher, MHS, Armed Forces Surveillance Center, U.S. Army Center for Health Promotion and Prevention. *Compassion Fatigue in Deployed Military Caregivers: Measurement and Risk Factors.*

Mayer, Andrew, PhD, The Mind Institute. *Biomarkers of Cognitive Dysfunction and Recovery Following Mild Traumatic Brain Injury.*

Murray, Kelly, MD, LTC(P), USA, MEDCOM, HP&S, Clinical Services Division. *Rebuilding a Healthcare System: Experiences from Iraq.*

Niemtzow, Richard, MD, PhD, MPH, FS, Col, USAF, Malcom Grow Medical Center, Andrews AFB, MD and Burns, Stephen, MD, FS, Col, USAF, Malcom Grow Medical Center, Andrews AFB, MD. *Battlefield Acupuncture.*

Oxman, Thomas, MD, Dartmouth Medical School and Wilson, Robert, PsyD, LtCol, USAF, DoD Deployment Health Clinical Center. *Development of an Implementation Plan and Introduction to Scenarios.*

Oxman, Thomas, MD, Dartmouth Medical School and Wilson, Robert, PsyD, LtCol, USAF, DoD Deployment Health Clinical Center. *Key Principles of Effective Collaborative Care in Primary Care.*

Pietrusiak, Paul, MHS, U.S. Army Center for Health Promotion and Preventive Medicine. *Operational Epidemiology of Deployed Personnel.*

Rhon, Daniel, DPT, PT, MS, CPT, USA, Brooke Army Medical Center. *Physician Sentiment on the Impact of Physical Therapist Augmentation During Wartime Level I and II Patient Care.*

Rhon, Daniel, DPT, PT, MS, CPT, USA, Brooke Army Medical Center. *The Challenge of Musculoskeletal Diagnostic Imaging on the Battlefield: Can Evidence-Based Algorithms Make A Difference?*

Roesel, Thomas, MD, PhD, FACP, DoD Deployment Health Clinical Center. *Vitamin D Deficiency in OEF/OIF Veterans with Chronic Musculoskeletal Pain and Healing Fractures.*

Rogut, Dori, APRN, BC, DeWitt Health Care Network, Fort Belvoir and panel. *The Identification and Treatment of Psychological Trauma in Post-Deployment Service Members at Fort Belvoir VA.*

Scoville, Stephanie, DrPH, USACHPPM Directorate of Epidemiology and Disease Surveillance, Walter Reed Army Institute of Research. *Epidemiology of Q Fever Among U.S. Military Personnel in OIF.*

Sheliga, Vivian, DSW, BCD, LTC, USA, (Ret.), DoD Deployment Health Clinical Center. *Putting Soldier Satisfaction Data to Work: An Exploratory Study of the Specialized Care Alumni Perceptions of Follow-up.*

Smith, Besa, PhD, MPH, DoD Center for Deployment Health Research, Naval Health Research Center. *Prospective Investigation of Mental Health Outcomes Associated with Individual Military Assignment in Support of Wars in Iraq and Afghanistan.*

Stephens, Mark, MD, MS, FAAFP, CDR, USN, Uniformed Services University of the Health Sciences. *Military Medical Informatics: Accessing Information in the Deployed Environment.*

Sutton, Loree, MD, BG, USA, Special Assistant to the Assistant Secretary of Defense (Health Affairs) for Psychological Health and Traumatic Brain Injury. *Improving Care to Returning Warfighters: The Defense Centers of Excellence (DCoE) for Psychological Health and Traumatic Brain Injury.*

Terrio, Heidi, MD, MPH, COL, USA, Ft. Carson. *Deployment Health: Lessons Learned from Three Years of Screening for War-Related Traumatic Brain Injury.*

Terrio, Heidi, MD, MPH, COL, USA, Ft. Carson. *Deployment Health: Transforming the Ft. Carson Soldier's Readiness Center into a "Best Practices" One Stop Occupational Health Clinic.*

Appendix D: Deployment Healthcare Track Presentations

Treloar, Susan, PhD, MSW, MSc, Deployment Health Surveillance Program and Centre for Military and Veteran's Health, University of Queensland, Australia. *The Australian Deployment Health Surveillance Program in Action.*

Wandeloski, Donna L., LTC, USAR, USARC. *Army Reserve Warrior and Family Assistance Center.*

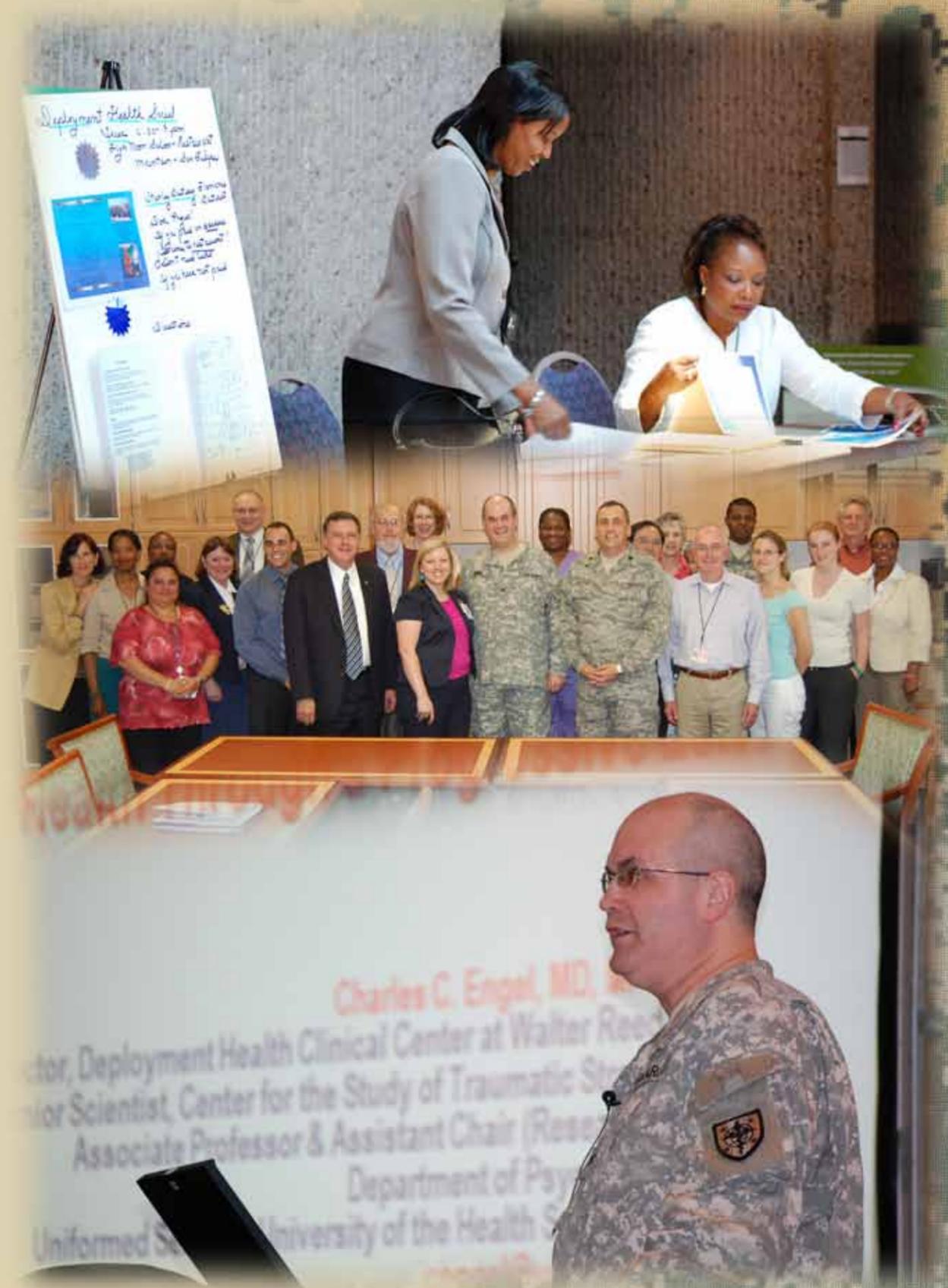
Warrington, Heidi, RN, BSN, PMH, Bc-ARNP, COL, USA, Tripler Army Medical Center and the Kupulau Medical Readiness Center. *Health Threat Insomnia: The Silent Epidemic of OIF/OEF.*

Wells, Timothy, DVM, PhD, Col, USAF, Biosciences and Protection Division, Human Effectiveness Directorate, Wright-Patterson Air Force Base. *Depression is Prospectively Associated with Combat Deployment in Support of Wars in Iraq and Afghanistan.*

Wenzel, Robert, MD, LTC, USA, U.S. Army Graduate Program in Health and Business Administration. *Reflections on Deployment Support: Views from Both Sides.*

Wilson, Robert, PsyD, LtCol, USAF, DoD Deployment Health Clinical Center, and the Fort Bliss and Fort Stewart RESPECT-Mil Teams. *RESPECT-Mil: The Successes and Challenges of Implementation in the Field.*

Wong, Charlene, MPH, DoD Center for Deployment Health Research, Naval Health Research Center. *Prospective Examination of New-Onset Respiratory Illness in Military Service Members Deployed to Iraq and Afghanistan.*





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