

# Deployment Health Clinical Center

## Annual Report 2011



DEFENSE CENTERS OF EXCELLENCE  
For Psychological Health & Traumatic Brain Injury



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This DHCC 2011 Annual Report is dedicated to Army Lt. Col. David Cabrera, who in October 2011 was the first military social work officer killed in action by enemy fire, and to all medical personnel and mental health providers who serve our Soldiers, Sailors, Airmen, Marines, and Coast Guard personnel as they perform their duties in harm's way.

*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.*

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# ACKNOWLEDGEMENTS

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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

Northern Regional Medical Command

Walter Reed Army Medical Center

Walter Reed National Military Medical Center

Uniformed Services University of the Health Sciences

U.S. Army Public Health Command

U.S. Army Medical Command (MED-COM)

Our Soldiers, Sailors, Airmen, Marines, and Their Families



DEFENSE CENTERS OF EXCELLENCE  
For Psychological Health & Traumatic Brain Injury



Walter Reed  
National Military  
Medical Center





## 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 this time of overseas operations and of returning service members seeking care after multiple deployments.

The **core mission** of DHCC is to **improve deployment-related healthcare** through caring assistance and health advocacy for military personnel and families, while simultaneously serving as a military health system resource center and catalyst for deployment-related healthcare innovation, evaluation, and research. The Center accomplishes this mission through a five-fold strategy consisting of:

- **RESPECT-Mil:** Primary healthcare quality improvement programs to improve care at the MTF level
- **Direct Health Service Delivery:** Tertiary referral care for individuals with deployment-related health issues, clinical consultation and evaluation
- **TriOPS:** Tri-service integration, quality improvement programs, and mentoring to specialty care for deployment-related psychological health concerns
- **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

- **Health Systems Research and Evaluation:** Clinical and health services research that uses science to advance the effective delivery of deployment-related healthcare.

This Annual Report covering the calendar year 2011 summarizes DHCC's accomplishments in support of this mission.

## 2011 Focus Items

- **Re-Engineering Systems of Primary Care Treatment** (for Depression and PTSD) in the **Military** (RESPECT-Mil) entered its fifth year in 2011. In coordination with the U.S. Army Medical Command, the program was originally implemented at 42 primary care clinics at 15 Army Medical Department sites beginning in 2007, and the RESPECT-Mil Implementation Team (R-MIT) continued to provide support to an additional 53 clinics at 21 more Army sites and one Navy/Marine Corps site in 2011 to get the clinics staffed, trained, and operational. To this end, the R-MIT delivered a three-day Site Champion training session in 2011 attended by 20 individuals. Champions at all 37 sites have now been trained in the RESPECT-Mil system of care. The team also

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conducted six training sessions attended by 37 new RESPECT-Mil Care Facilitators and 23 Administrative Assistants.

- From program inception through the end of 2011, 85 clinics at 35 active RESPECT-Mil sites provided 1,924,142 primary care visits to active duty soldiers with 1,569,358 of those visits screened for PTSD and depression. This represents an overall 81.5% screening rate for active duty primary care visits to participating clinics since February 2007. Of screened visits, 200,170 (or 12.75%) resulted in a positive screen and 48% of positive screens resulted in a primary care diagnosis of depression, possible PTSD, or both.
- In 2011, 736,012 visits were screened (90.9% of total visits), 94,335 visits generated positive screens and 45,871 resulted in a diagnosis. Program participation continues to increase with approximately 50,357 visits screened per month in 2011. Over the life of the project, more than 14,000 soldiers have been referred to and followed by RESPECT-Mil, and more than 33,180 (nearly 14,650 in 2011) soldiers with previously unmet behavioral health needs were referred for care. To date more than 14,800, or 1.4% of screened visits (approximately 6,250 in the past year) involved suicidality and received appropriate and timely mental health intervention.
- Meetings with representatives from the other Services on a blended offering for tri-service dissemination called Re-Engineering Healthcare Integration Program (REHIP) continued in 2011. The REHIP working group approved two Army, two Navy, and two Air Force sites as designated demonstration sites. The demonstration project is a blending of the Army RESPECT-Mil, the Air Force Behavioral Health Optimization Program (BEHOP), and the Navy Behavioral Health Integration Program (BEHIP). The project is expected to commence at the demonstration sites in 2012.
- DHCC's research programs are funded by institutions such as the Department of Veterans Affairs, the Department of Defense, the U.S. Congress, and the National Institute of Mental Health. Funding is coordinated through the Henry M. Jackson Founda-



tion for the Advancement of Military Medicine. This health services delivery research focuses on innovative ways to improve deployment-related healthcare including the primary care detection and treatment of combat-related traumatic stress.

- DHCC staff delivered two sessions of a one-week educational program for spouses and significant others of military personnel with PTSD in 2011.
- DHCC successfully moved its growing RESPECT-Mil and research teams to leased space in Silver Spring, MD, while the balance of DHCC staff moved to the new Walter Reed National Military Medical Center in Bethesda, MD in August 2011 in accordance with the Base Realignment and Closure (BRAC) initiative.

## 2011 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

# INTRODUCTION

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 to 4,200 by the end of 2011.
- The staff responded to 200 electronic inquiries through its website and email address and more than 4400 inquiries received through its helplines in 2011 from military personnel, families, and providers.
- DHCC offered nine cycles of its Specialized Care Program Track II for posttraumatic combat-related stress. One cycle of the Specialized Care Program Track I for medically unexplained physical symptoms was also offered.
- The Center was represented at six national and international meetings, conferences, and symposiums attended by an aggregate 13,500 participants in 2011.
- DHCC sponsored the Deployment Healthcare Track at the Inaugural Armed Force Public Health Conference in Hampton Roads, VA in March. The track involved a total of 87 presenters and 44 presentations and represented a collaboration with 51 different organizations.
- The Center's clinicians and scientists submitted or published eight articles in peer-reviewed periodicals, submitted or published two book chapters, created 10 published abstracts for conference presentations, delivered 11 invited presentations, and exhibited three poster presentations at conferences in 2011.



# RESPECT-MIL



RESPECT-Mil, the three-component program managing treatment for depression and PTSD in the primary care setting, entered its fifth year in 2011. First implemented at 42 primary care clinics at 15 Army Medical Department sites starting in 2007, U.S. Army MEDCOM OPORD 10-25 directed the RESPECT Mil Implementation Team (R-MIT) to implement RESPECT-Mil at an additional 53 clinics at 21 sites. Implementation activities at these sites continued in 2011. In 2012–2016 the program will transition to become the Behavioral Health component of the U.S. Army Patient Centered Medical Home (APCMH-BH).

## Results

From program inception through the end of 2011, 85 clinics at 35 active RESPECT-Mil sites provided 1,924,142 primary care visits to active duty soldiers with 1,569,358 of those visits screened for PTSD and depression. This represents an overall 81.5% screening rate for active duty primary care visits to participating clinics since February 2007. Of screened visits, 200,170 (or 12.75%) resulted in a positive screen and 48% of positive screens resulted in a primary care diagnosis of depression, possible PTSD, or both.

In 2011, 736,012 visits were screened (90.9% of total visits), 94,335 visits generated positive screens and 45,871 resulted in a diagnosis. Program participation continues to increase with approximately 50,357 visits screened per month in 2011. Over the life of the project, more than 14,000 soldiers have been referred to and followed by RESPECT-Mil and more than 33,180 (nearly 14,650 in 2011) soldiers with previously unmet behavioral health needs were referred for care. To date more than 14,800, or 1.4% of screened visits (approximately 6,250 in the past year) involved suicidality and received timely mental health intervention.

## Implementation

Site preparation for implementation of new sites consists of selection and training of Site Primary Care and Behavioral Health Champions, the hiring of RN RESPECT-Mil Care Facilitators (RCFs) and administrative staff, and the training of personnel in new clinic processes and workload. Site preparation usually takes about four months. RESPECT-Mil is then begun at select clinics at the site to refine local protocols for an additional four months. Finally, RESPECT-Mil is fully disseminated to all clinics at the site. The RESPECT-Mil Implementation

Team (R-MIT) mentors each site through this process during monthly site calls.

The R-MIT makes periodic site visits in support of these efforts and delivers Champion Training Sessions and RESPECT-Mil Care Facilitator (RCF) training courses. The R-MIT conducted seven site visits and one assistance visit during 2011. The R-MIT conducted a Champion Training session in Silver Spring, MD for 20 individuals including new Primary Care and Behavioral Health Site Champions, Care Facilitators and Administrative faculty, guests from Regional Medical Commands, U.S. Navy and Air Force representatives, and selected personnel from DCoE and U.S. Army MEDCOM. Champions have now been trained for all 37 RESPECT-Mil sites (which includes MCAS Beaufort). Additionally, the R-MIT conducted six formal training sessions attended by 37 new RESPECT-Mil Care Facilitators and 23 Administrative Assistants.

## Measurement and Oversight

RESPECT-Mil launched its electronic case management tracking system, FIRST-STEPS (Fast Informative Risk & Safety Tracker and Stepped Treatment Entry & Planning System) in August 2009, releasing an update in 2010. The system ensures care facilitator adherence to the RESPECT-Mil protocol and offers real-time program evaluation and benchmarking. It enhances the R-MIT's capacity to monitor program-related quality of care and manage the program at participating sites.

Using FIRST-STEPS data, the R-MIT began generating Periodic Performance Reports (PPRs) in 2011 for all RESPECT-Mil MTFs to help site leadership and the R-MIT clearly assess how implementation is proceeding and the program performing to facilitate timely adjustments. From 2012–14, the team intends to expand the functionality of FIRST-STEPS to enhance program monitoring and evaluation.

In January 2011, the R-MIT completed the initial technical review process for FIRST-STEPS to be registered as a system of record and to apply for certification under the Defense Business Transformation (DBT) process. The R-MIT began weekly work sessions in May with

MEDCOM Information Management (IM) to complete the DBT processes necessary for certification, and these meetings will continue into 2012. As part of the DBT process, the R-MIT successfully completed reviews by the U.S. Army MEDCOM Capability Advisory Forum, Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) Assessment, Integrated Capability Portfolio Council, and Chief of Staff. FIRST-STEPS ranked fourth out of 27 on the IM Investment Review Board Order of Merit List (OML) in September 2011, and as a result it was one of 10 programs receiving approval/funding from the Investment Review Board, which will maintain the current system. The system has been reviewed by the Military Health System (MHS) and will be represented by MHS for final Defense Business Systems Management Committee (DBSMC) approval in June 2012. Further development of the system may occur upon DBT certification.

## Training

The RESPECT-Mil OPORD 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 was released in December 2008 and revised in fall 2011 to include developments under the Army Patient Centered Medical Home (APCMH). These modules are available on the DHCC website at <http://www.pdhealth.mil/respect-mil/index.asp>.

In 2011, 2,333 individuals completed the depression module, and 2,448 completed the PTSD module. The



# RESPECT-MIL

R-MIT worked closely with 3CM consultants, Contrast Creative, and Synaptis to launch an edited/condensed version of this training in September 2011.

An annual refresher course is currently being created and will focus on case studies and psychopharmacology for primary care providers for treatment of patients with depression and/or PTSD. The refresher course will be completed in early 2012. The course introduces new changes under APCMH for the addition of embedded behavioral health consultants (Internal Behavioral Health Consultants—IBHCs) to the current RESPECT-Mil behavioral health team.

In September 2011, the R-MIT and Department of Veterans Affairs conducted a joint DOD/VA Conference entitled *Behavioral Health/Mental Health Services Roll Out in the Medical Home: Clinical, Administrative and Implementation Priorities and Best Practices* in Alexandria, VA. The conference was attended by approximately 220 individuals from DoD (100 Army, 90 Air Force, and 30 Navy) and 100 from the VA. Agreement was made to pursue additional opportunities for information sharing and collaboration.

## Patient Centered Medical Home

As the Army Patient Centered Medical Home (APCMH) rolls out to all Army sites in 2012–16, RESPECT-Mil is slated to be the basis of the behavioral health portion of APCMH or APCMH-BH. Under the APCMH OPORD, the caseload and roles of care facilitators will change, and the program will expand to all adult beneficiaries. RCFs will be titled Behavioral Health Case Managers (BHCMS) and together with the new Internal Behavioral Health Consultants (IBHCs) will form the Behavioral Health Team (BHT) in primary care. Further, the R-MIT will become the primary training organization for the new IBHCs, who will receive three and half days of training in the treatment model. The IBHCs will provide evidence-based, focused assessments and time-limited interventions in primary care, while the BHCMS will focus on individuals expected to benefit from longer term contact.

Five new Army sites will begin implementation of this APCMH-BH model with BHCMS being added to their teams. The R-MIT will continue to train Champions at all sites but with modifications to training as required to meet APCMH-BH goals. The R-MIT is also slated to provide data collection and program evaluation services for APCMH-BH. The September 2011 edition of the semiannual RESPECT-Mil newsletter communicated information on this upcoming transition to RESPECT-Mil field staff.

## Re-Engineering Healthcare Integration Program (REHIP)

Representatives from RESPECT-Mil began meeting with tri-service subject matter experts beginning in the fall of 2009 to create **Re-Engineering Healthcare Integration Programs (REHIP)**, a blended model for integrating behavioral healthcare into primary care. This blended model includes facets of the Army RESPECT-Mil, the Air Force BHOP (Behavioral Health Optimization Program), and the Navy BHIP (Behavioral Health Integration Program) by blending RESPECT-Mil Care Facilitator patient monitoring with an approach that embeds readily accessible behavioral health providers directly into the primary care setting. A Concept of Operations and a Memorandum of Understanding have been completed for a two site pilot of this model, and clinical services at these sites should commence in 2012.

# DIRECT HEALTH SERVICE DELIVERY



DHCC is a component center of the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE) and for more than 15 years has provided direct, tertiary care to service members; expert referral care for complex deployment-related health concerns; and consultation services to clinicians, service members, and families.

## 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 that includes an internist, clinical psychologist, physical therapist, registered nurse, and clinical social worker. Alternative and complementary practices of yoga, acupuncture, and relaxation therapy are employed as well.

### Track I

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*“Being in the medical field for 21 years, I’ve seen the good and bad of the Army Medical Department. I was skeptical that anyone cared about the pain I was in. I found that care here. We all struggled before we got here.” — Specialized Care Program Track I Graduate*

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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 patients who experience treatment failure and 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 care and multiple visits with primary and specialty care physicians. Originally designed to care for soldiers from the Operations Desert Shield/Desert Storm, 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. Empowered to better cope with their illness, they are taught useful tools and positive health behaviors. Each program member receives an individualized symptom management plan, and the members of each cycle encourage one another through development of mutually supportive relationships. The program emphasizes clinical follow-up and primary care

# DIRECT HEALTH SERVICE DELIVERY



management after return to the local healthcare system. DHCC delivered one cycle of the Specialized Care Program Track I in 2011.

## Track II

The Specialized Care Program Track II is designed to benefit service members with PTSD and trauma spectrum symptoms. The program uses evidence-based treatments for PTSD including cognitive behavioral therapy and relaxation training. In daily exposure therapy sessions, each cohort of six-to-eight combat-tested service members support one another as they explore their difficult memories and dissipate powerful emotions from their combat experiences. This intensive therapy is followed daily by physical therapy, where the participants “let off steam” and recover their physical fitness. Participants also receive daily integrative therapies such as acupuncture and yoga to help them calm and manage their physical and mental stress reactions.

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*“Thanks for pushing us hard and for not giving up on us. You were there for us when no one else was. I plan to use these tools for the rest of my life to become a better person.”—Specialized Care Program Track II Graduate*

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Psychoeducation is an important element of the SCP Track II program. DHCC clinicians teach patients to understand the ways their war experience has affected them and how to handle the various symptoms they may be experiencing in a more constructive way. The milieu-based program is designed to facilitate bonding among program participants, as they share their experiences and continue to build these relationships in the off-base lodging where all program members are housed.

DHCC delivered nine cycles of the Specialized Care Program Track II program to 69 participants in 2011.

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 to monitor status and provide on-going support for 40 weeks or longer if needed.

## One-Week Educational Program for Military Spouses

In April 2009 DHCC piloted an educational program to support spouses and significant others of military personnel with PTSD. While spouses and family members have always been welcome to accompany their service member to Walter Reed and encouraged to attend some aspects of the SCP Track II curriculum while making use of therapeutic resources available from the Walter Reed Department of Social Work, funding was not previously available to underwrite the travel and expenses for these spouses and family members.

An offer was made to DHCC by the Walter Reed Society to provide funding for a program that would bring military spouses to Walter Reed to attend a one-week program specifically designed to assist them. Designed to give military spouses an understanding of their service

# DIRECT HEALTH SERVICE DELIVERY

member's experiences and state of mind, the program also gives them tools to help them care for themselves so that the whole family benefits.

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*"It makes you feel good that people you don't even know would give you something like this. I'm so glad my husband made me come."*— Spouse and Significant Other Program Participant

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In 2011, DHCC offered two sessions of this program—for 11 spouses and significant others in January and 14 in May. In the milieu-based program, participants shared with one another in a daily support group what it's like to have a family member with combat-related PTSD, received education on the mind-body effects of combat stress on their loved one, attended seminars on family relationships and parenting, and learned self-care. Participants received stress relieving acupuncture treatments and relaxation/meditation sessions led by a yoga instructor.

The program garnered some press attention in June. The DHCC director was interviewed for a segment on the *CBS Evening News*, and he also participated in an hour-long discussion about military families on NPR's

*OnPoint with Tom Ashbrook* along with the director of the Spouse and Significant Other Program and two military spouses.

## Specialized Care Program Evaluation

DHCC collects data on 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 420 patients at entrance, 428 patients at exit, 165 patients at one-month follow-up, and 110 patients at three-month follow-up.

A series of 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 ( $t = 3.43, p < 0.01$ ). The PTSD Checklist (PCL) scores also decreased (from 67.6 to 64.0), to a statistically significant degree ( $t = 3.66, p < 0.01$ ). Additionally, the Transformed Physical Score (PCS), using the SF-12 Health Survey to measure physical health improvement,

*Participants in the May 2011 Spouse and Significant Other Program received stress relieving acupuncture treatments and relaxation/meditation sessions led by a yoga instructor.*



# DIRECT HEALTH SERVICE DELIVERY



differs slightly, 38.4 versus 37.9, which is not statistically significant ( $t = 0.60$ ,  $p = 0.54$ ). On the other hand, the Transformed Mental Score (MCS), measuring mental health improvement, increased fairly strongly from 28.6 to 34.3, and this enhancement is statistically significant ( $t = -7.72$ ,  $p < 0.01$ ). 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.

SCP participants report considerable satisfaction with their SCP care. Patients are asked to rate their satisfaction with the care they receive in the three months prior to program entry, and they are then asked at exit to rate the care they received during the SCP. Only 17.3% of the participants reported their healthcare in the three-months prior to entry was “very good” or “excellent,” while 91.1% report the healthcare they receive in the SCP is “very good” or “excellent.” This remarkable increase in the rate of patient satisfaction is highly statistically significant ( $\chi^2 = 454.55$ ,  $p < 0.01$ ).

## Worldwide Ambulatory Referral Care Program

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, sometimes with unclear etiologies, that present challenges to 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 as well as from the military services of U.S. allies. 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.

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. Candidates for the Specialized Care Program Track II also receive intensive clinical evaluations since co-morbid physical injuries often accompany and exacerbate post-deployment stress or depression symptoms. DHCC’s internal medicine physician provided approximately 500 evaluations with 130 follow-up visits in 2011. The most common physical complaints were related to musculoskeletal injuries, war-related chronic pain conditions, and sleep disorders, including sleep apnea.

## 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 website. Service members most often call for help in completing their Deployment Health Assessments (DD 2795, 2796, and 2900) or getting a copy of forms they completed previously. They also ask for information regarding specific deployment-related health concerns and medical policies.

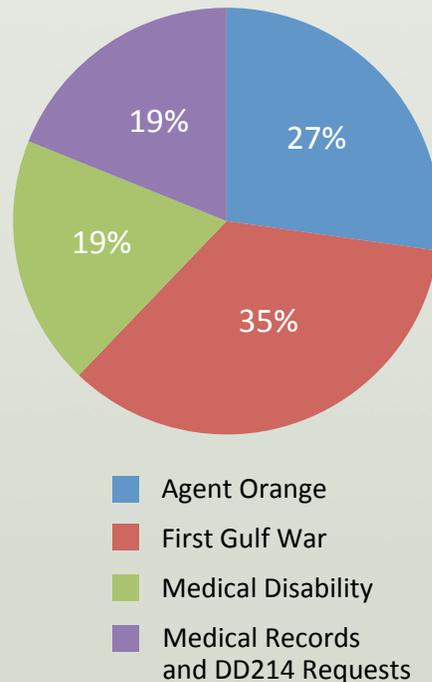
DHCC’s Clinician Helpline provides access for clinical consultation, referral services for post-deployment health issues, and guideline implementation information. In

# DIRECT HEALTH SERVICE DELIVERY

2011 the most common reasons that healthcare providers called DHCC were: for assistance with the deployment mental health assessment training and the Deployment Health Assessments (DD 2795, 2796, and 2900), to order Post-Deployment Health Clinical Practice Guideline Desk Reference Toolboxes, to ask questions about interpretation of specific deployment-related military healthcare policies, to inquire about treatment for specific health conditions and for coding guidance for deployment-related visits. DHCC staff responded to nearly 1200 phone inquiries through these two helplines in 2011 in addition to more than 200 email inquiries.

DHCC staffs the 1-800 DoD-HA Deployment Health Support Contact Center located at Force Health Protection & Readiness, Office of the Assistant Secretary of Defense for Health Affairs. 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 more than 3300 questions on this helpline in 2011.

Figure 1. Inquiries to the DoD/HA Helpline CY 2011



# TRI-SERVICE INTEGRATOR OF OUTPATIENT PROGRAMMING SYSTEMS (TRIOPS)



## Synchronizing Efforts to Treat PTSD

DHCC is leveraging more than 15 years experience treating deployment-related health concerns in veterans and eight years of operating a highly successful intensive outpatient program (IOP) for PTSD and combat trauma spectrum symptoms through its new initiative to support IOPs in the military. The mission of the Tri-service Integrator of Outpatient Programming Systems (TriIOPS) team, kicked off in early 2011, is to coordinate efforts, synchronize, standardize care, and share information and knowledge among intensive outpatient programs (IOPs), partial hospitalization programs (PHPs), and other specialty care programs for PTSD and psychological health concerns in the military.

The process began in 2010 with a U.S. Army MED-COM memo calling for the optimizing and synchronizing of efforts of Army PTSD programs. In August of that year, a meeting was held with representatives from 13 specialty care programs (IOPs and PHPs) from across the Army. The meeting revealed a lack of communication and connectedness among these programs, as well as a broad range and differing levels of knowledge and understanding of treatment modalities and measurement methodologies. The TriIOPS team worked proactively to create a collaborative network of these IOPs and PHPs across the DoD. The TriIOPS initiative was ahead of

the curve when the RAND Corporation published its 2011 Technical Report: *Programs Addressing Psychological Health and Traumatic Brain Injury Among U.S. Military Servicemembers and Their Families*, which, among other recommendations, called for a “full accounting of what programs exist.”

## Data Collection and Management

### Program Descriptor Survey (1.0)

As a means of characterizing outpatient specialty care programs in a systematic manner, DHCC staff developed a data collection tool known as the Program Descriptor Survey (PDS). The 34-item PDS covered numerous domains including:

- Basic information including mission and program inclusion/exclusion criteria
- Enrollment information such as referral sources and number of individuals typically enrolled
- Interventions details such as staffing number and mix and therapeutic services offered
- Tracking and measurement such as outcome measures and frequency of follow-up
- Program challenges and needs.

The PDS was administered via the Internet. Thirteen Army programs completed the survey by September 2011.

# TRI-SERVICE INTEGRATOR OF OUTPATIENT PROGRAMMING SYSTEMS (TRIOPS)

Data from the PDS was aggregated and cleaned in October of 2011 prior to a preliminary analysis. TriOPS staff discovered that two of the original 13 programs surveyed did not meet the criteria for inclusion in the analysis. After the initial survey launch, TriOPS staff identified two additional programs which met the criteria for survey inclusion. These programs should complete the PDS in early 2012, and a report depicting the results of both rounds of data collection will be finalized in 2012.

## Program Descriptor Survey (1.1)

A revised version of the PDS will be developed in 2012. The purpose of the revision is to streamline the survey based on lessons learned from previous administration. The updated survey will be used to collect data from three identified Navy IOPs during 2012.

## Strategic Partnerships

The TriOPS team established strategic partnerships with 13 Army programs, discovered a number of other sites considering establishing a program, and recently engaged with the other Services in order to include them into the growing TriOPS network. Additionally, TriOPS staff reached out to several external agencies and organizations to further advance its mission. In late 2011, TriOPS developed a relationship with the U.S. Army Medical Department Patient Administration Systems and Biostatistics Activity (PASBA). The TriOPS

team currently has the lead in revising the IOP/PHP chapter in the coding manual.

## Site Visits

In August 2011, the TriOPS director and deputy director visited the Restoration and Resiliency Center at Fort Bliss. The director and deputy met with staff and patients to discuss the structure, needs, and pending reorganization of the Fort Bliss program. In 2012, TriOPS representatives plan to visit two programs at Fort Hood: the Intensive Outpatient Program/Day Treatment Center and the Warrior Combat Stress Reset Program. The purpose of the visit will be to formally present the mission and goals of TriOPS and to follow up on the data obtained through the PDS. The TriOPS team also plans to visit the IOP at Fort Carson in 2012.



## OUTREACH AND PROVIDER EDUCATION



DHCC's charter includes the mission to create deployment-related health education programs for military providers. DHCC's 2011 outreach to military healthcare providers included developing web content, sponsoring the Deployment Healthcare Track at the Inaugural Armed Forces Public Health Conference, and delivering presentations at conferences. DHCC continued to help support use of the DoD/VA clinical practices guidelines and to provide expert consultation to DoD working groups reviewing deployment cycle assessments and deployment health concerns.

### **Web-Based Outreach to Providers and Military Personnel**

DHCC's website, [www.PDHealth.mil](http://www.PDHealth.mil), is fundamental to the Center's communication function. The website has information for a wide audience, which includes clinicians, active and reserve component service members, veterans, and family members. The content covers the deployment cycle; the Post-Deployment Health Clinical Practice Guideline and other deployment-related clinical practice guidelines; health conditions and concerns related to deployment; healthcare and support services; education and training;

risk communication; deployment-related research; news; and a forms library.

The types of material contained on the website include tri-service policies and directives; clinical guidance; provider/patient education material including manuals, fact sheets, and videos; deployment-related health research; relevant news articles; forms and measures; and links to websites with related information. All the print, online, and video-enabled outreach products developed by DHCC are made available for worldwide access on the site.

### ***The Deployment Health News***

DHCC published the *Deployment Health News* for the ninth year in 2011, and subscriptions to this daily electronic newsletter increased to 4,200 from 3,800. Covering health issues related to military service, deployments, homeland security, and terrorism and disasters, the newsletter includes topics such as environmental and occupational health, medications, immunizations, the psychological sequelae of combat, and medically unexplained symptoms. Information is gathered from the news media and publicly available sources including

# OUTREACH AND PROVIDER EDUCATION

periodicals, professional journals, and government and private sector websites. Provision of these articles is intended to rapidly inform clinicians of information to which patients may be exposed, in part, because that information sometimes causes patients to seek medical advice and care.

## Strategic Communications Program

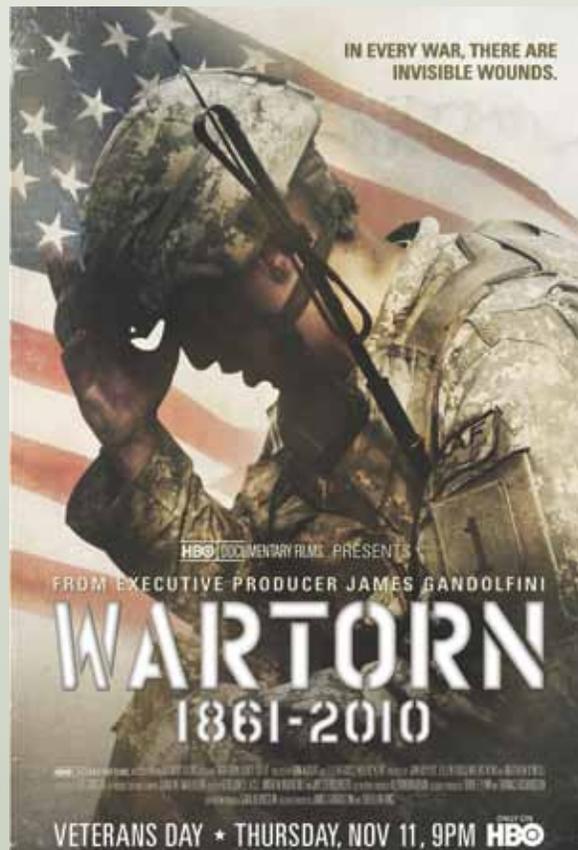
DHCC initiated its strategic communications program in 2010 to build public awareness and to promote discussion about deployment-related health concerns such as PTSD, TBI, and medically unexplained physical symptoms (MUPS). The program also seeks to educate military personnel and the wider community about relevant clinical and education programs to optimize enrollment and to help those who could benefit take advantage of these programs. Strategic communications activities in 2011 included responding to media requests by facilitating interviews with Center staff and by placing articles in mass media outlets as well as in scientific and medical publications and websites.

DHCC's director and Specialized Care Program graduates were interviewed as part of an HBO documentary on the history of posttraumatic stress disorder. *Wartorn* first aired on Veterans Day 2010. Previous releases from the HBO team include *Baghdad ER* and *Section 60*. The DHCC military spouses program was featured in an Armed Forces Press Service article in February. In June, the DHCC director, a staff member, and two military spouses spoke on NPR's hour-long program *OnPoint with Tom Ashbrook* in June on the challenges faced by spouses of service members with PTSD, and an interview appeared on *CBS Evening News* in June.

## Deployment Healthcare Track at the Inaugural Armed Forces Public Health Conference

DHCC staff coordinated the Deployment Healthcare Track for the ninth year at the Inaugural Armed Forces Public Health Conference in Hampton Roads, VA in March. This is the successor public health conference to the U.S. Army Medical Department's Force Health Protection Conference, and it represented a joint effort of the U.S. Army Public Health Command and

the Navy & Marine Corps Public Health Center. The Deployment Healthcare Track was one of 19 tracks at the conference, which was attended by professionals from the Army, Air Force, Navy, Public Health Service, Veterans Administration, academia, non-government organizations, and foreign military medical services. An aggregate 3300 attendees participated in the track's 44 presentations.



*The 2011 Deployment Healthcare Track plenary session was a screening of the HBO special Wartorn, which presents the history of the effects of war on combat veterans from the U.S. Civil War to the present.*

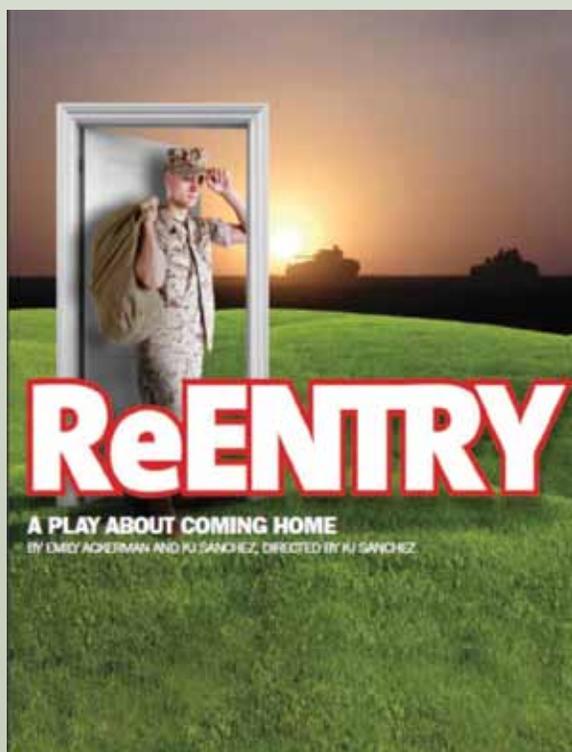
The track's plenary session, the HBO special *Wartorn*, drew 170 attendees. The film presents the history of the effects of war on combat veterans from the time of the U.S. Civil War to the present. The film's director and DHCC's director along with the head of the WRAMC Department of Psychiatry facilitated an hour-long audience discussion after the screening.

## OUTREACH AND PROVIDER EDUCATION

Themes and sub-tracks of this year's Deployment Healthcare Track include:

- Total Force Fitness
- Resilience
- Post-Deployment Reintegration
- Traumatic Brain Injury
- Military Women: Now and In the Future
- Integrative Care in the Military
- Moral Injury
- Healing After War From Generation to Generation
- Animal-Assisted Interventions

The track also featured a reading of the play, *ReEntry*. Written and acted by theater professionals, the play is made up of dialogue drawn from interviews with Iraq and Afghanistan war veterans and their family members. In unvarnished language, the play probes the experience of coming home from war. One hundred eighty individuals attended the play reading, which was followed by a facilitated audience discussion.



*The 2011 Deployment Healthcare Track featured a reading of the play, ReEntry, and an audience discussion facilitated by an expert panel.*



*First Sergeant Maverick, Eisenhower Army Medical Center's Ambassador of Resilience and Rehabilitation, attended the 2011 Deployment Healthcare Track with his handler during a two-part session about establishing animal-assisted intervention programs at military treatment facilities.*

Animal-assisted therapy was also featured during this year's track, with a visit by First Sergeant Maverick, a six year old Yellow Labrador Retriever Therapeutic Service Dog, who is Eisenhower Army Medical Center's Ambassador of Resilience and Rehabilitation.

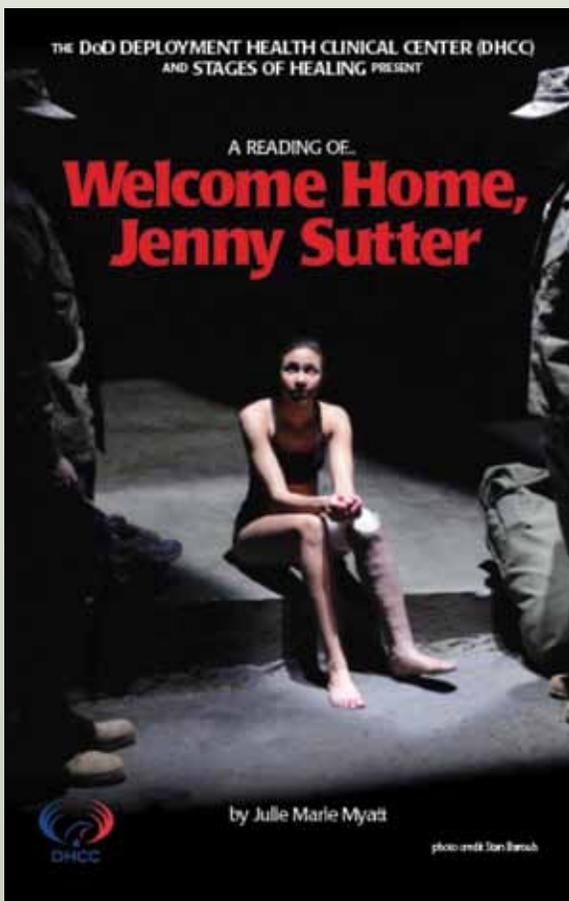
Overall, the Deployment Healthcare Track involved a total of 87 presenters and 44 presentations and represented a collaboration with 51 different organizations including VA staff; universities; volunteer/non-profit initiatives; Navy, Air Force and Army active duty personnel; the Samuelli Institute; DCoE; the Uniformed Services University of the Health Sciences; theater/documentary arts organizations; medical schools; and other DoD agencies. A listing of track presentations can be found in Appendix D.

### Stages of Healing

In anticipation of DHCC's Base Realignment and Closure (BRAC) move to the Walter Reed National Military Medical Center (WRNMMC) Bethesda in August, DHCC staff reached out to the *Stages of Healing* initiative at the Bethesda campus in the spring and early summer of 2011. *Stages of Healing*, initiated

## OUTREACH AND PROVIDER EDUCATION

in January 2011 by the Department of Behavioral Health at the then National Naval Medical Center, brings visual, musical, theatrical, and literary artists to engage an audience of patients, families, and staff to promote the healing process. These performances facilitate a dialogue about emotions and thoughts that might otherwise be difficult. This promotes healing and provides an opportunity for caregivers and care receivers to become one community.



*DHCC sponsored and coordinated a reading of the play, **Welcome Home Jenny Sutter**, to patients and staff at the National Military Medical Center in Bethesda.*

DHCC sponsored, coordinated, and marketed two performances. The first was the April reading of the play, *Welcome Home Jenny Sutter*, which was written and presented by faculty and students from the University of Maryland Theater Performance department. The play is about a female Marine Iraq

War veteran and amputee, who experiences healing and self-knowledge during a sojourn at Slab City. The eccentric inhabitants of this makeshift community in the California desert give her the homecoming and social connection she needs to return back to her previous life.

The second performance was a June reading of *ReEntry*, a play that has been performed at repertory theatres across the country. *ReEntry* was also performed at WRAMC. After each performance, a facilitated panel and audience discussion encouraged lively discussion on the experiences of combat veterans and their families during the reintegration process after deployment.

# HEALTH SYSTEMS RESEARCH AND EVALUATION



DHCC's deployment-related clinical and health systems 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 systems and services for post-deployment medical concerns. Current projects are and have been competitively funded by the U.S. Congress, the National Institute of Mental Health, the Department of Defense, and the Department of Veterans Affairs.

DHCC's clinicians and scientists submitted or published eight articles in peer-reviewed periodicals, submitted or published two book chapters, created 10 published abstracts for conference presentations, delivered 11 invited presentations, and exhibited three poster presentations at conferences in 2011.

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 deployment-related 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

## 2011 Research Portfolio

DHCC's 2011 research portfolio consisted of the following nine projects.

### 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 current 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 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 of active duty military personnel with posttraumatic stress disorder was to determine the effectiveness of acupuncture for alleviating symptoms associated with PTSD. Two-hundred forty-five potential participants were screened for entrance into the study, seventy-five were enrolled after meeting preliminary criteria, and 55 met full eligibility criteria and were randomized to the study condition. Forty-three of the 55 randomized soldiers (78%) provided complete follow-up data.

Data 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. The mean score on the primary outcome measure, the PTSD Checklist (PCL), dropped 19.7 points in ACU, compared to 9.6 points in UC. Effect sizes ranged from 1.41 to 1.66 in ACU versus 0.32 to 0.74 in UC. Similar significant decreases in symptoms of depression and pain as well as increases in mental functioning were seen in ACU compared to UC.

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. Study results are expected to be published in 2012.

### **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.

DESTRESS-PC (**D**elivery of **S**elf **T**raining and **E**ducation for **S**tressful **S**ituations—**P**rimary **C**are version) is a brief Internet-based online self-management tool for posttraumatic stress disorder based on empirically valid cognitive behavioral therapy strategies. A small controlled trial of DESTRESS in service members with PTSD found greater improvements in PTSD, depression, and high end-state functioning versus web-based supportive care.

This primary care-based two-parallel-arm randomized controlled trial assessed the feasibility and efficacy of DESTRESS-PC for reducing the posttraumatic stress disorder symptoms of Iraq and Afghanistan 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 were randomly assigned to either the DESTRESS-PC intervention or optimized usual PTSD care (the control condition).

DESTRESS-PC consisted of logins to a secure (non-military) website three times per week for six weeks with monitoring by a study nurse. All participants received nurse care management in the form of phone check-ins every two weeks along with feedback to their primary care providers. Blinded raters assessed outcomes 6, 12, and 18 weeks post-randomization. DESTRESS Nurses were supervised by mental health professionals.



# HEALTH SYSTEMS RESEARCH AND EVALUATION

By the end of 2011, recruitment was complete at all three study sites—Charleston VA (Goose Creek, DC), Charleston VA (Savannah, GA), and Womack Army Medical Center (WAMC). In total, 133 combat veterans meeting preliminary study criteria were consented with 80 meeting full eligibility criteria randomized to the study condition. Sixty-six participants completed the full study protocol.

## **DESTRESS-T: Telephonic Psychotherapy for PTSD**

DHCC and its partner the VA National Center for PTSD in Boston were awarded a \$1.3 million dollar grant to develop and evaluate **D**elivery of **S**elf **T**raining and **E**ducation for **S**tressful **S**ituations—**T**elephone (DESTRESS-T): an intensive, low stigma, and low burden psychosocial intervention for service members seeking mental health treatment. DESTRESS-T consists of a six-week telephone-based structured psychotherapy intervention along with care managers who will monitor and support participants' treatment adherence telephonically for war-zone exposed service members diagnosed with PTSD.

A two-site randomized controlled trial, comparing the DESTRESS-T package to optimized usual PTSD treatment for service members in primary care, will be conducted to determine the efficacy of DESTRESS-T. Patients will be followed up by telephone at 12, 18, and 24 weeks post-randomization. Findings will examine PTSD symptom severity, mental and occupational functioning, and severity of depression, generalized anxiety, and somatic symptoms.

During 2011, the study protocol was developed and submitted to the Walter Reed National Military Medical Center Institutional Review Board. In this effort, a study site was recruited, methodological procedures were designed, measures were identified, and an analysis plan was developed. Once IRB approval is granted, the study protocol will be submitted to the site IRB for additional approval. Upon final IRB approval, study recruitment will begin. In addition to the study protocol, draft manuals for the patient workbook, therapist, and care facilitator were developed. These manuals are currently being revised as a result of expert and investigator



feedback. Study materials (e.g., questionnaires, tracking documents) were also developed in preparation for study execution.

## **Multiple Somatic Symptoms (MSS) in U.S. Military Personnel**

Multiple somatic symptoms (MSS) are common among individuals seeking healthcare in the general population. Physical symptoms account for more than 400 million clinical visits in the United States each year, and, at least one-third of the time, these symptoms remain idiopathic after evaluation. Physicians are traditionally taught to view multiple somatic symptoms without a medical explanation as “somatization.” While considerable research has been devoted to the substantial effects of MSS on health-related quality of life, there is a dearth

# HEALTH SYSTEMS RESEARCH AND EVALUATION

of research on whether or not these syndromes are associated with differences in mortality rates. A previous study (Engel et al., 2002, *American Journal of Psychiatry*, 159, 998–1004) found (1) that most individuals with MSS recovered over the ensuing year, (2) the incidence of MSS among those without such symptoms at baseline was 1.7%, and (3) the predicted mortality among those with MSS at baseline was higher than for those not having such symptoms at baseline (0.28% versus 0.18%).

Although many service members present with unexplained physical symptoms, the prevalence of MSS and its longitudinal clinical course remain unclear among U.S. military personnel. Several policy groups have suggested that the Department of Defense achieve a better understanding of the expected rates of MSS among its personnel. The DHCC research team believes that careful and systematic efforts to understand MSS and its prevalence, incidence, and risks to death among military personnel will provide useful data for fashioning health policies and programs, especially for those who are seeking care with deployment-related health concerns. Intensified efforts to understand MSS in the military may also foster trust between service members and the government agencies that provide benefits and healthcare for them.

The proposed study aims to conduct a competing risks analysis of three wave MSS incidence, mortality, and resolution among the 76,924 U.S. service members participating in the Millennium Cohort Study—a prospective health project launched in 2001 at the DoD Center for Deployment Health Research and designed to evaluate the long-term health effects of military service, including deployments.

## **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 (WRIISC) 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 three 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 from 790 service members was completed the fall of 2008. By the end of 2011, 419 service members had completed phase II (once non-deployed service members were removed from the data set), 296 completed phase III, and 328 finished phase IV. Participation in phases I-IV is now complete. The study remains open for data analysis.

## **Refining a Single Item PTSD Screener (SIPS) for Primary Care**

PTSD is frequently under-diagnosed in military primary care. To facilitate screening among primary care providers, DHCC developed and evaluated the Single Item PTSD Screener (SIPS) in a DoD primary care population during a previous research study. DHCC has been awarded additional grant funding to further refine and evaluate the SIPS. The goal of the current project is to improve the SIPS sensitivity and specificity with the desired outcome that the item will perform as well as or better than the widely used four-item screen, the PC-PTSD.

During 2011, the study protocol was developed and submitted to the Walter Reed National Military Medical



# HEALTH SYSTEMS RESEARCH AND EVALUATION

Center (WRNMMC) Institutional Review Board (IRB). In this effort, a study site was recruited, methodological procedures were designed, measures were identified, and an analysis plan was developed. The WRNMMC IRB approved the protocol in December, and the study team awaits approval from the Uniformed Services University of the Health Sciences (USUHS) IRB in early 2012. When that approval is obtained, multiple versions of the SIPS as well as the original version will be tested with a representative sample of 500 DoD primary care patients recruited from three DoD primary care clinic waiting rooms. Comparisons of the three SIPS versions to an independently assessed standard structured research PTSD diagnostic interview will be performed.

## **STEPS UP: A Randomized Effectiveness Trial for PTSD and Depression in Primary Care**

Approximately one-fifth of returning service members from the wars in Iraq and Afghanistan have been identified as having symptoms of PTSD and/or depression. Many service members with these symptoms are referred for specialty mental healthcare, but less than half actually follow through with the referral. With 90–95% of service members visiting their military primary care provider annually, primary care is an ideal platform to manage PTSD and depression. Empirically tested systems strategies for treating depression and other mental disorders can fill the urgent need to improve access, quality, and outcomes of mental healthcare in the military health system. These strategies include care manager coordination (connecting patient, provider, and specialist), collaborative care (negotiated patient-provider problem definition, monitoring of status and treatment response, self-management support, tele-health sustained follow-up), and stepped care (logical, patient-centered and guideline-concordant treatment sequencing). These strategies are unstudied in the military health system and virtually unstudied for PTSD.

**ST**epped **E**nhancement of **P**ost-Traumatic Stress Disorder **S**ervices **U**sing **P**rimarily Care (STEPS UP) integrates (1) in-person and telephone-based telephone care management, with (2) a stepped evidence-based treatment package for PTSD and depression. In this treatment package, service members can receive (1) web-based, (2) telephone-delivered, and/

or (3) in-person therapy, along with (4) medication. All components of this treatment package will be delivered within a primary care setting by nurse-level care managers, primary care providers, and mental health specialists. The effectiveness of the STEPS UP package will be compared against optimized usual care at six Army posts.

The RESPECT-Mil collaborative care management program for PTSD and depression already exists as the standard of care. Although similar in some ways, STEPS UP is poised to offer significant enhancements to the optimized usual care by way of these stepped and evidence-based non-pharmacological interventions along with centralized telephone care management.

The STEPS UP team plans to randomize 1500 active duty OIF/OEF returnees with PTSD to either STEPS UP or optimized usual care at six Army posts: Forts Bliss, Bragg, Carson, Campbell, Stewart, and Joint Base Lewis-McChord. Research participants will be assessed four times over a one-year period. The study team



# HEALTH SYSTEMS RESEARCH AND EVALUATION

hypothesizes that STEPS UP will improve (1) PTSD and depression symptom severity (primary hypothesis) and (2) other anxiety and somatic symptom severity, alcohol use, mental health functioning, and work functioning. The team further hypothesizes that (3) STEPS UP will be deemed a cost-effective management package for PTSD and depression and (4) patients, their family members, and clinicians will find the approach acceptable, effective, and a satisfying way to deliver and receive care.

This \$14.6 million project is funded through the Department of Defense Deployment Related Medical Research Program. The award was made to the Henry M. Jackson Foundation for the Advancement of Military Medicine, Inc., RAND Corporation, and RTI International. Army COL Charles C. Engel, M.D., M.P.H., is the initiating PI and partnering PIs include Robert M. Bray, Ph.D., from RTI International and Lisa Jaycox, Ph.D., from RAND Corporation. Other study Co-Investigators and Collaborators are from the University of Washington, VA Boston Healthcare System, 3CM, RAND Corporation, RTI International, DHCC, and the Uniformed Services University of the Health Sciences.

## **Veteran Status, Health and Mortality in Older Americans**

This study was funded by the National Institute on Aging and extended 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, multinomial logit regression, mathematical simulation, and mixed models with repeated measures. Some new statistical models have been developed in the project.



Project findings suggest 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 seem to experience a long-standing process of convergence. 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. However, veteran status does not have significant influences on transitions in functional status among those functionally independent at baseline.

The study shows that the application of different statistical models leads to distinct variations in the predicted values of health transition scores at a series of time points, providing evidence that without considering the selection bias in the process of health transitions, estimation of the effects on health transitions of older persons could be severely biased.

Because of this finding, the study team is attempting to construct several advanced longitudinal models on

# HEALTH SYSTEMS RESEARCH AND EVALUATION



health transitions in older persons using updated data on health dynamics. Specifically, two newly developed longitudinal models were presented at the International Network on Health Expectancy (REVES) 2009 and 2011 meetings, held in Copenhagen, Denmark and Paris, France, respectively. Additionally, a summary of survival models on unobserved heterogeneity was presented at the celebration of Population Studies at 50, a special academic event at the Population Studies Center, Institute for Social Research (ISR), University of Michigan. The same manuscript has been invited for presentation at an international conference on advances in methodology and applications to be held in October 2012 in Beijing and Hangzhou, China.

To date, four manuscripts have been published in scientific journals and a fifth, a book on survival analysis, is being developed. Publication of results will continue into 2012.

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

Vitamin D has been long recognized as essential to bone health. Primarily generated by the skin through sunlight exposure, vitamin D can also be acquired through fortified milk consumption. Vitamin D deficiency is prevalent in the general population. As much as 5–36% of the U.S. population, nineteen 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, time spent indoors, the amount consumed through milk, food, or supplements, or the degree of their skin pigmentation.

The exact prevalence of vitamin D deficiency in the U.S. military population is not known, however an Army multiple sclerosis study suggests that it reflects that of the general population. 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 with 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. Since vitamin D receptors have been found in pain control areas in the human brain, it has been proposed that the central nervous system plays a role in vitamin D deficiency-related chronic pain. The degree of anxiety found in patients with fibromyalgia has been correlated to low vitamin D levels. Experimental knockout mice for the vitamin D receptor reveal anxiety behaviors, further 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.

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. At present, data abstraction for a total of 99 OIF/OEF veterans has

# HEALTH SYSTEMS RESEARCH AND EVALUATION

been completed and is awaiting final analysis. Initial evaluation revealed no correlation between self-report of anxiety with low vitamin D levels.

## Program Evaluation

In 2011, the DHCC program evaluation team significantly enhanced the Center's internal program monitoring and evaluation capacity. Data collection forms were standardized, and monitoring was automated. These steps removed previous sources of data transcription error and will improve data consistency. Updated and improved reporting formats make providing consistent and standardized data to client sites more timely and efficient.

The RESPECT-Mil Implementation Team (R-MIT) provides systematic evidence-based reviews of installation and program staff performance. These reviews improve the quality and relevance of installation-specific feedback and technical assistance calls. Routine examination of rates of suicide assessments being performed at RESPECT-Mil sites provides the (R-MIT) the opportunity to work closely with specific installations and clinics that are not providing these assessments when they should, so that this issue can be corrected in near real-time.

The DHCC program evaluation team also supports research efforts by developing tools and providing data about subject recruitment rates. The team leverages program implementation and monitoring data methodologies from one program for use in other programs that operate in a similar manner allowing efficient reuse of these systems and strategies.

In the coming year, the DHCC program evaluation team will be integrated more fully across Center operations. DHCC will develop a formal strategy for internal program monitoring and evaluation activities as well as for managing external program evaluation efforts. The Center will continue to develop its capacity to make evidence-based evaluative decisions regarding program management and new program development.



## 2012 OUTLOOK



In 2012, 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 healthcare.

### **RESPECT-Mil and the Patient Centered Medical Home—Behavioral Health (PCMH-BH)**

RESPECT-Mil implementation and program sustainment will continue at 88 clinics at 36 Army sites and one Marine Corps site with significant modifications as the Patient Centered Medical Home (PCMH) rolls out to all Army sites in 2012–16. As RESPECT-Mil begins its transition into the behavioral health portion of PCMH or PCMH-BH, the RESPECT-Mil Implementation Team (R-MIT) will formulate training for the new Internal Behavioral Health Consultants (IBHCs) in the PCMH-BH. Five new Army sites will begin implementation of this PCMH-BH model with care facilitators being added to their teams. R-MIT will continue to train Champions at all sites but with modifications for PCMH-BH. The R-MIT is also slated to provide data collection and program evaluation services to the PCMH-BH. REHIP will roll out to tri-service sites as approvals are granted.

### **Direct Health Service Delivery**

During the TRICARE Management Activity (TMA) review of direct patient care, it was determined that all clinical programs should be realigned under one of the Services as part of a Medical Treatment Facility. Due to this requirement, the Specialized Care Programs will be realigned under the National Intrepid Center of Excellence at the Walter Reed National Military Medical Center in 2012.

### **TriIOPS**

The Tri-service Integrator of Outpatient Programming Systems (TriIOPS) team is positioned to be the resource center and evidence base of products and services for PTSD specialty care program improvement. In the next year, TriIOPS will continue to develop professional and collegial relationships with programs, continue collection and analysis of organizational and operational information on programs, conduct site visits to advise and consult, and expand its network to include Navy and Air Force programs.



## Outreach and Provider Education

DHCC will provide input into clinical practice guideline development and update efforts as required. The redesigned DHCC website should be certified and ready for launch in 2012. DHCC staff will coordinate the Deployment Healthcare Track at the next Armed Forces Public Health Conference. The outreach team will continue to explore outreach modalities for service member reintegration. The strategic communications team will continue to facilitate interviews and articles about deployment-related health concerns and creative systems-level treatment strategies for PTSD and the psychological sequelae of combat.

## Health Systems Research and Evaluation

In 2012, the DHCC Research Team will continue to administer its portfolio of existing research projects as they progress according to the approved protocol for each effort. Opportunities for additional studies will be pursued through the appropriate channels. DHCC will begin recruitment for *STEPS UP: Stepped Enhancement of PTSD Services Using Primary Care: A Randomized Effectiveness Trial*, *DESTRESS-T: A Randomized Trial of Telephonic Psychotherapy for Combat-Related Posttraumatic Stress Disorder*, and *Refining a Single Item PTSD Screener (SIPS) for Use in DoD Primary Care* in 2012. The team will continue data analyses on its other projects.

The DHCC Health Systems Research and Evaluation Team will continue to prepare manuscripts detailing research findings for submission to peer-reviewed publications as well as presenting these findings at conferences.

## DHCC Integration with DCoE and USAMRMC

In 2012, as DHCC moves towards greater integration with DCoE, DCoE will be realigned under the U.S. Army Medical Research and Materiel Command when the Secretary of the Army becomes the DoD Executive Agent for DCoE. DHCC is slated to become the Center of Excellence for Psychological Health in the DoD.

# APPENDIX A: COLLABORATIONS

## 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
- Department of Defense Deployment Related Medical Research Program
- Force Health Protection & Readiness, Office of the Assistant Secretary of Defense for Health Affairs
- Military Health System Clinical Quality Management
- National Intrepid Center of Excellence (NICoE)
- 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 Medical Support Agency
- U.S. Armed Forces Health Surveillance Center
- U.S. Army Public Health Command
- U.S. Army Medical Command Quality Management Directorate
- U.S. Army Medical Research and Materiel Command
- U.S. Army Proponency Office for Preventive Medicine
- Vaccine Healthcare Centers Network
- Walter Reed Army Institute of Research



### 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, Mississippi
- 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

- 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
- International Society for Traumatic Stress Studies (ISTSS)
- Medical University of South Carolina
- NATO Research and Technology Organisation Panel on Medically Unexplained Physical Symptoms in Military Health
- 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 Washington School of Medicine
- University of Western Ontario
- Walter Reed Society

# APPENDIX A: COLLABORATIONS

## Detailed List of DHCC Collaborations

### Collaborations to Improve the Quality of Deployment-Related Healthcare

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 Vaccine Healthcare Centers Network, 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 website, and in FY 2007 another module on the Major Depressive Disorder Clinical Practice Guideline was added. By the end of 2011, 4,226 Toolboxes had been distributed to Army providers, 1,872 to Air Force, and 2,663 to Navy providers.

Federal Clinician Education and Consultation: Ongoing support is provided to all DoD medical treatment facilities through DHCC's website, 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 and for patients with questions about care, a daily electronic newsletter highlighting current events and newly developed information in the area of deployment-related 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:** For a quarter of a century, the Center for the Study of Traumatic Stress (CSTS) has been on the forefront of translational research on the psychological effects and



health consequences of exposure to traumatic events, especially those related to war, disasters, terrorism and public health threats. The Center, part of the Department of Psychiatry in the School of Medicine of the Uniformed Services University, has been uniquely attuned and responsive to our nation's trauma history encompassing events of national and international impact such as 9/11, the anthrax attacks, major hurricanes and H1N1. DHCC's director and several members of DHCC's research staff share their expertise with CSTS as USUHS professors and scientists. CSTS brings scholarly and research-oriented problem solving to the mental and behavioral health problems of the Department of Defense and the nation.

**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,

# APPENDIX A: COLLABORATIONS

the U.S. Army Public Health Command, the Armed Forces Institute of Pathology, and the Veterans Health Administration's Depleted Uranium Follow-up Program continues. DHCC archived 182 test results in 2011 bringing the total archived to 4170. In addition to archiving DU records, DHCC's role is to facilitate referral of patients with positive DU exposure to the VA's Depleted Uranium Follow-up Program and to help coordinate follow-up medical management for them, as needed. In November 2009, DHCC updated the Medical Management of Depleted Uranium Provider Reference Pocket Card for the PDH-CPG Desk Reference Toolbox.

## **DoD Deployment Mental Health Assessments**

**Training:** The National Defense Authorization Act for Fiscal Year 2010, Section 708 (Public Law 111-84) mandated the provision of "person-to-person" mental health assessments for each member of the Armed Forces deployed in connection with a contingency operation. Deployment Mental Health Assessments are completed to identify and assess symptoms of PTSD, depression, suicidality, or any other mental health concern before or after deployment. If concerns are identified, indicated referrals are made for further evaluation, care, and follow-up. To train and certify medical personnel to implement these pre- and post-deployment mental health assessments, the Office of Force Health Protection & Readiness (Health Affairs) and DHCC collaborated to develop a web-based learning module and post-test.

## **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 DHCC, is the first step in establishing a procedure for tracking and medically managing DoD personnel exposed to potentially hazardous embedded fragments. DHCC maintains information on its website including Service-specific policies on embedded frag-

ments as well as fact sheets and current research. When requested, DHCC consultants participate in discussions on removal guidelines, fragment analysis, and the development of a registry.

**Walter Reed Society:** Throughout the year the DHCC staff members provide volunteer support to the Walter Reed Society (WRS), which was established in 1996 to assist the Walter Reed Army Medical Center (WRAMC) command with issues related to patient care, education, and family support for staff and patients. The Society sponsors events, funds projects, and purchases goods that enhance patient care services and that support the welfare and morale of soldiers and other staff. Projects including refurbishing waiting rooms, providing playground equipment at Fisher House, building a healing garden in the hospital courtyard, adding amenities to the patient recreation center, as well as furnishing equipment for physical therapy and wheelchairs for patient use. In response to the current overseas operations, the Society set up the Operation Iraqi Freedom Warrior/Family Support Fund to provide assistance to service members and/or their families when support provided through Invitational Travel Orders (ITO) does not meet immediate needs during the patient's treatment at WRAMC, and since September 2011, Walter Reed National Military Medical Center (WRNMMC). Funding is approved on a case by case review of the applications, after a personal meeting with a WRS representative, and it is considered a grant. Scores of wounded warriors and their family members have received assistance from this fund. Help with travel, lodging and subsistence expenses are frequent needs. DHCC personnel support the Society's efforts spending many volunteer hours 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 service members and helps the staff understand their experiences and their needs.

# APPENDIX B: PUBLICATIONS

## Articles in Peer-Reviewed Publications

Bruner V., Woll P. (2011). The battle within: Understanding the physiology of war-zone stress exposure. *Social Work Health Care*, 50, 1, 19–33.

Cox D., Ghahramanlou-Holloway M., Szeto E., Greene F., Engel C., Wynn G., et al. (2011). Gender differences on documented trauma histories: inpatients admitted to a military psychiatric unit for suicide-related thoughts or behaviors. *Journal of Nervous and Mental Disease*, 199, 3, 183–190.

Engel C. (2011). Tailored cognitive-behavioral therapy plus exercise training improved clinical and functional outcomes in fibromyalgia: a commentary. *American College of Physicians Journal Club*, 154, 4.

Li B., Mahan C., Kang H., Eisen S., Engel C. (2011). Longitudinal Health Study of US 1991 Gulf War Veterans: Changes in Health Status at 10-Year Follow-up. *American Journal of Epidemiology*, 174, 7, 761–768.

Mansfield A., Engel C. (2011). Understanding substance use in military spouses. *Journal of Clinical Psychology in Medical Settings*, 18, 198–199.

Mansfield J., Kaufman J., Engel C., Gaynes B. (2011). Deployment and Mental Health Diagnosis among Children of US Army Personnel. *Archives of Pediatrics & Adolescent Medicine*, 165, 999–1005.

Wells T., Miller S., Adler A., Engel C., Smith T., Fairbank J. (2011). Mental health impact of the Iraq and Afghanistan conflicts: a review of US research, service provision, and programmatic responses. *International Review of Psychiatry*, 23, 2, 144–152.

Zatzick D., Rivara F., Jurkovich G., Russo J., Trusz S., Wang J., et al. (2011). Enhancing the population impact of collaborative care interventions: mixed method development and implementation of stepped care targeting posttraumatic stress disorder and related comorbidities after acute trauma. *General Hospital Psychiatry*, 33, 2, 123–134.



## Book Chapters

Bruner V., Woll P. (2011). The battle within: Understanding the physiology of war-zone stress exposure. In J. Beder (Ed.), *Advances in Social Work Practice in the Military*. New York: Haworth Press, Taylor & Francis Group.

Campbell J., Greenberg J., & Weil J. (in press). Confronting mild-TBI co-occurring PTSD symptoms in combat deployed service members. In J. Tsao (Ed.), *Traumatic Brain Injury: A Neurologic Approach to Diagnosis, Management, and Rehabilitation*. New York: Springer Publishers.

## Published Abstracts

Bruner V., Woll P. The physiology of war-zone exposure helping warriors understand and normalize post-deployment stress. Armed Forces Public Health Conference, Hampton, Virginia, March 20, 2011.

Engel C., Freed M., Jaycox L., Bray R., Litz B., Zatzick D., Unützer J., Katon W., Tanielian T., Brambilla D., Eibner C., Kuesters P., Novak L., Cooper J., Delaney E., Rae Olmsted K., Weil J., Gore K. Stepped Enhancement of PTSD Services Using Primary Care (STEPS UP). Armed Forces Public Health Conference, Hampton, Virginia, March 20, 2011.

Engel C., Jaycox L., Bray R., Freed M., Litz B., Tanielian T., Zatzick D., Unützer J., Katon W. Improving primary care for US troops with PTSD and depression in military primary care clinics: RESPECT-Mil and STEPS-UP, ISTSS, Montréal, Québec, Canada, November 3, 2010.

## APPENDIX B: PUBLICATIONS

Engel C., Hunter C. Behavioral health in the patient-centered medical home (PCMH): An important part of meeting the quadruple aim and achieving level II & III NCQA PCMH recognition. Military Health System Conference, National Harbor, MD, January 24, 2011.

Liu X. Predicting longitudinal trajectories of health probabilities with random-effects multinomial logit model. 23rd REVES Meeting, Paris, France, May 25–27, 2011.

Millegan J., Engel C., Dinneen M., Liu X. Parental Combat Deployment and Child Psychiatric Hospitalization in US Armed Forces [NR7-15]. Transforming Mental Health Through Leadership, Discovery, and Collaboration. 163rd Annual Meeting of the American Psychiatric Association, Honolulu, HI, May 16, 2011.

Novy P., Roesel T., Hunter L., Crowley B., Friedman K., Stano L., Brown S., Carnes R. Deployment Health Clinical Center Specialized Care Programs (SCP). Armed Forces Public Health Conference, Hampton, Virginia, March 20, 2011.

Roesel T. Pharmaceutical formulation for fatigue and forgetfulness in PTSD. Society of General Internal Medicine Annual Meeting, Phoenix, Arizona, May 4–7, 2011.

Roesel T. A proposed observational study to determine whether vitamin D deficiency mitigates progesterone effectiveness in traumatic brain injury treatment. 63rd Annual Meeting of the American Academy of Neurology, Honolulu, HI, April 9–16, 2011.



Roesel T. Pharmaceutical formulation for fatigue and forgetfulness in PTSD. General Internal Medicine Annual Meeting, Phoenix, AZ, May 4–7, 2011.

### Invited Presentations

Barry S., Engel C. IT solutions to support measurement-based care. Behavioral/Mental Health Services Roll out in the Medical Home: Clinical, Administrative and Implementation Priorities and Best Practices, Alexandria, Virginia, September 13–15, 2011.

Bruner V. Healing war exposure, integrative care and native connections. American Indian Institute Conference, Albuquerque, New Mexico, March 28–30, 2011.

Crowley B. Difficult forensic cases. American Academy of Psychiatry and the Law Annual Meeting, Private Practice Committee, Boston, Massachusetts, October, 2011.

Curry J. Key components to effective centralized program evaluation. Behavioral/Mental Health Services Roll out in the Medical Home: Clinical, Administrative and Implementation Priorities and Best Practices, Alexandria, Virginia, September 13–15, 2011.

Dobson D. Adding Post traumatic Stress in Primary Care. Behavioral/Mental Health Services Roll out in the Medical Home: Clinical, Administrative and Implementation Priorities and Best Practices, Alexandria, Virginia, September 13–15, 2011.

Engel C. Depression and anxiety care management. Behavioral/Mental Health Services Roll out in the Medical Home: Clinical, Administrative and Implementation Priorities and Best Practices, Alexandria, Virginia, September 13–15, 2011.

Engel C. Measurement-based care and looking forward. Behavioral/Mental Health Services Roll out in the Medical Home: Clinical, Administrative and Implementation Priorities and Best Practices, Alexandria, Virginia, September 13–15, 2011.

Engel C. Stuck in the elevator: What managers should hear about integrated care. Behavioral/Mental Health Services Roll out in the Medical Home: Clinical,

## APPENDIX B: PUBLICATIONS

Administrative and Implementation Priorities and Best Practices, Alexandria, Virginia, September 13–15, 2011.

Liu X. Survival models on unobserved heterogeneity and their applications in analyzing large-scale survey data. 50th Anniversary Reunion at the Population Studies Center, University of Michigan, Ann Arbor, Michigan, October, 2011.

McCarthy T. Building a community of practice: Lessons we've learned from the world of internet and social media. Behavioral/Mental Health Services Roll out in the Medical Home: Clinical, Administrative and Implementation Priorities and Best Practices, Alexandria, Virginia, September 13–15, 2011.

Roesel T. Progesterone effectiveness in traumatic brain injury treatment. 15th Congress of European Federation of Neurological Societies, Budapest, Hungary, September 2011.

### Poster Presentations

Engel C., Freed M., Jaycox L., Bray R., Zatzick D., Litz B., Unützer J., Katon W., Tanielian T., Brambilla D., Eibner C., Kuesters P., Novak L., Cooper J., Delaney E., Rae Olmsted K., Weil J., Gore K. Stepped Enhancement of PTSD Services Using Primary Care (STEPS UP): Design and Methods of a DoD Funded Randomized Effectiveness Trial. Uniformed Services University of the Health Sciences Research Week, Bethesda, MD, May 17–18, 2011.

Engel C., Weil J., McCarthy T., Barry S., Baliton L. Quality and outcomes of RESPECT-Mil systems-based primary care for PTSD and depression: The first 18 months of US Army implementation. Uniformed Services University of the Health Sciences Research Week, Bethesda, MD, May 17–18, 2011.

McCutchan P., Freed M., Gore K., Engel C. Improving recruitment and retention in clinical trials: A questionnaire to determine the motivations and perceived barriers to participation in clinical trials among Active Duty service members. International Society of Traumatic Stress Studies, Baltimore, Maryland, November 2011.



## APPENDIX C: RESEARCH PROJECTS

**Name of Project:**

A Randomized Trial of Telephonic Psychotherapy for Combat-Related Posttraumatic Stress Disorder.

**Funding Organization:**

Defense Medical Research and Development Program (DMRDP).

**Principal Investigator:**

Charles Engel, M.D., M.P.H., COL, MC, USA.

**Collaborating External Personnel and Organizations:**

Brett Litz, Ph.D., M.A., VA Boston Healthcare System, Boston University School of Medicine.

**Status:**

Waiting for IRB approval.

**Name of Project:**

Multiple Somatic Symptoms (MSS) in U.S. Military Personnel: Competing Risks Analysis of Three Wave Incidence, Mortality, and Resolution.

**DHCC Staff Assigned:**

Xian Liu, Ph.D.

Kristie Gore, Ph.D.

Michael C. Freed, Ph.D.

Phoebe McCutchan, M.P.H.

**Principal Investigator:**

Charles Engel, M.D., M.P.H., COL, MC, USA.

**Collaborating External Personnel and Organizations:**

Tyler C. Smith, M.S., Ph.D., National University.

Besa Smith, Ph.D., Naval Health Research Center.

Cynthia LeardMann, M.P.H., Naval Health Research Center.

Edward J. Boyko, M.D., M.P.H., Naval Health Research Center.



Timothy S. Wells, D.V.M., M.P.H., Ph.D., Naval Health Research Center.

Gary D. Gackstetter, D.V.M., M.P.H., Ph.D., Naval Health Research Center.

**Status:**

The protocol for this study has been approved by the Walter Reed National Military Medical Center IRB and the Naval Health Research Center. Data analyses 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:**

Charles Engel, M.D., M.P.H., COL, MC, USA.

**Collaborating External Personnel and Organizations:**

Karen S. Quigley, Ph.D., Bedford (MA) Memorial VA Hospital, Bedford, MA.

Elizabeth A. D'Andrea, Ph.D., Department of Veterans Affairs, Philadelphia, PA.

Karen G. Raphael, Ph.D., New York University College of Dentistry.

Chin-Lin Tseng, Ph.D., University of Medicine and Dentistry of New Jersey.

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

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

Lisa M. McAndrew, Ph.D., War Related Illness and Injury Study Center, Department of Veterans Affairs, East Orange, NJ.

**Presentations:**

Quigley K.S., D'Andrea E.A., Ackerman A.J., Hamtil H. & Engel C.C. Health and Psychological Features of Soldiers Deploying to Iraq and Afghanistan. Association of Military Surgeons of the United States Annual Meeting, San Antonio, TX, November 2006.

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.

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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.

Quigley K., D'Andrea E., Ackerman A., Yen C., Hamtil H., Engel C.C. Blood Pressure Reactivity and Recovery to a Lab Stressor in Soldiers Deploying to Iraq and Afghanistan Predicted Self-Reported Physical Health at Return from Deployment. 48th Annual Meeting of the Society for Psychophysiological Research, Austin, TX, October 1–5, 2008.

D'Andrea E.A., Ackerman A., Yen C., Hamtil H., Engel C.C., Quigley K.S. Social Support in Soldiers Returned from Deployment in Iraq or Afghanistan: Predicting Physical Symptoms. 114th Annual Meeting of the Association of Military Surgeons of the United States, San Antonio, TX, November 9–14, 2008.

Quigley K., D'Andrea E., Ackerman A., Yen C., Raphael K., Engel C.C. Unit Cohesion and Pre-War Stress Reactivity: What Makes Soldiers More Resilient After Deployment to Iraq or Afghanistan. Annual Meeting of the American Psychosomatic Society, Chicago, IL, March 7, 2009.

Quigley K.S., D'Andrea E.A., Ackerman A., Hamtil H., Engel C.C. Stress Reactivity During Preparation for Combat Deployment: Resilience and Risk Factors for Post-Deployment Physical Health. Annual Meeting of the Association of Applied Psychophysiology and Biofeedback, Albuquerque, NM, April 3, 2009.

Quigley K.S., D'Andrea E., Engel C.C., Lyons J., Raphael K. The HEROES Project: Prospective Study of Post-Deployment Health in Iraq and Afghanistan Veterans. Evolving Paradigms II: A National VA/DoD OEF/OIF Conference, Las Vegas, NV, September 23, 2009.

McAndrew L., D'Andrea E.A., Ackerman A., Chandler H., Yen C., Batorsky B., Engel C.C., Quigley K. Impact of Combat Deployment on Weight. Society for Behavioral Medicine, Seattle, WA, April 7–10, 2010.

Quigley K.S. Prospective Study of Physical Symptoms and Functional Status in Reservists Deploying to OEF/OIF. The Center for Integrated Healthcare, Syracuse VA Medical Center, June 2010.

McAndrew L., D'Andrea E.A., Engel C.C., Batorsky B., Yen C., Quigley K. Gender Differences in Psychological and Deployment Factors Immediately After OEF/OIF

Deployment. HSR&D National Meeting on Building the Evidence Base to Improve Healthcare Outcomes for Women Veterans, Washington, DC, July 14–16, 2010.

Quigley K.S. Assessing Resilience Through Functional Status: Pre- to Post-Deployment Changes in Reservists Deploying to OEF/OIF. Academy Health Annual Research Meeting, Seattle, WA, June 2011.

Quigley K.S. Healthy Resilience After Operational and Environmental Stressors (HEROES): Phases 1 & 2. VA/DoD Deployment Health Working Group Workshop, July 2011.

### **Status:**

Active. Data analysis with follow-up surveys planned.

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### **Name of Project:**

Randomized Effectiveness Trial of a Brief Course of Acupuncture for Posttraumatic Stress Disorder in the U.S. Military.

### **Funding Organization:**

U.S. Congress (VET HEAL allocation).

### **Principal Investigator:**

Charles Engel, M.D., M.P.H., COL, MC, USA.

### **Collaborating External Personnel and Organizations:**

David M. Benedek, M.D., Center for the Study of Traumatic Stress (CSTS) and Department of Psychiatry, Uniformed Services University of the Health Sciences.

Christine Goertz, D.C., Ph.D, Palmer Center for Chiropractic Research.

Wayne Jonas, M.D., Samueli Institute.

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

### **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. Evaluat-

## APPENDIX C: RESEARCH PROJECTS

ing the Efficacy of Acupuncture as a Treatment for Posttraumatic Stress in Military Personnel. 11th Annual Force Health Protection Conference, Albuquerque, NM, August 2008.

Engel C.C., Harper Cordova E., Benedek D., Gore K., Osuch E., Grieger T., Choate C., Jonas W., Ursano R. A Randomized Controlled Trial Evaluating the Efficacy of Acupuncture as a Treatment for Posttraumatic Stress Disorder in a Military Population. Institute on Psychiatric Services, Chicago, IL, October 2–5, 2008.

Engel C.C., Harper Cordova E., Benedek D., Jonas W., Ursano R. Acupuncture for Posttraumatic Stress Disorder: A Randomized Trial in a Military Population. 24th Annual Meeting of the International Society of Traumatic Stress Studies, Chicago, IL, November 13–15, 2008.

Engel C.C., Harper Cordova E., Benedek D., Jonas W., Ursano R. A Randomized Controlled Trial Evaluating the Efficacy of Acupuncture as a Treatment for Posttraumatic Stress Disorder in a Military Population. Uniformed Services University of the Health Sciences Research Week, Bethesda, M.D., May 11–13, 2009.

**Status:**

Manuscript complete; submission for publication in 2012.

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**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.

**Principal Investigator:**

Charles Engel, M.D., M.P.H., COL, MC, USA.

**Collaborating External Personnel and Organizations:**

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

Kathryn Magruder, M.D., M.P.H., Medical University of South Carolina and the Charleston VA.

T. Ray Coe, Ph.D., LTC, MC, USA, Womack Army Medical Center, Fort Bragg.

**Presentations:**

Magruder K., Engel C.C., Litz B., Gore K., Yeager D. Primary Care Intervention for PTSD in Operation Iraqi

Freedom and Operation Enduring Freedom Veterans: A VA and DoD Randomized Controlled Trial of a Novel Web-Based Approach. 114th Annual Meeting of Association of Military Surgeons of the United States, San Antonio, TX, November 9–14, 2008.

Engel C.C., Harper Cordova E., Gore K., Litz B., Magruder K.M., Coe T.R., Yeager D., Liu X., Ursano R. Randomized Trial of a Web-Based Nurse-Assisted PTSD Self-Management Intervention for Primary Care: Study Design and Status. Mental Health Research Forum, Kansas City, MO, August 31–September 3, 2009.

**Status:**

Recruitment ended in early 2011 and all follow-up data have been collected. Data analysis and manuscript preparation are underway.

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**Name of Project:**

Refining a Single Item PTSD Screener (SIPS) for Use in DoD Primary Care

**Funding Organization:**

Uniformed Services University of the Health Sciences

**Principal Investigator/Site Investigator:**

Charles Engel, M.D., M.P.H., COL, MC, USA.

**Presentations:**

Russell L., Weil J., Gore K., Freed M., Liu X., Arnold M., Melvin K., & Engel C. Refining a Single Item Screener (SIPS) for Use in DoD Primary Care. Poster presentation at the Uniformed Services University of the Health Sciences Research Week, Bethesda, MD, May 10–12, 2010.

Weil J., Gore K., Liu X., Freed M., Arnold M., Russell L., Melvin K., & Engel C. Refining and Evaluating a Single Item Screener (SIPS) for Use in DoD Primary Care. Poster presentation at the International Society for Traumatic Stress Studies, Montreal, Quebec, November 2010.

**Status:**

Waiting for IRB approval.

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**Name of Project:**

Stepped Enhancement of PTSD Services Using Primary Care: A Randomized Effectiveness Trial.

**Funding Organization:**

Department of Defense Deployment Related Medical Research Program.

## APPENDIX C: RESEARCH PROJECTS

### **DHCC Staff Assigned:**

Michael C. Freed, Ph.D. (Clinical Research Psychologist; Program Director)

Phoebe Kuesters, M.P.H. (Clinical Research Coordinator)

### **Principal Investigator:**

Charles Engel, M.D., M.P.H., COL, MC, USA.

### **Collaborating Co-Investigators, External Personnel and Organizations:**

Robert M. Bray, Ph.D., RTI International (Partnering Principal Investigator).

Lisa Jaycox, Ph.D., RAND Corporation (Partnering Principal Investigator).

Donald Brambilla, Ph.D., RTI International.

Christine Eibner, Ph.D., RAND Corporation.

Wayne Katon, M.D., University of Washington.

Becky Lane, Ph.D., RTI International.

Brett Litz, Ph.D., M.A., VA Boston Healthcare System, Boston University.

Terri Tanielian, M.A., RAND Corporation.



Jürgen Unützer, M.D., M.P.H., University of Washington.

Douglas Zatzick, M.D., University of Washington.

### **Presentations:**

Engel C.C., Bray R.M., Jaycox L., Litz B., Zatzick D., Tanielian T. A Randomized Effectiveness Trial of a Systems-Level Approach to Stepped Care for War-Related PTSD. Uniformed Services University of the Health Sciences Research Week, Bethesda, MD, May 11–13, 2009.

Engel C., Jaycox L., Bray R., Freed M., Litz B., Tanielian T., Zatzick D., Unützer J., Katon W. Improving Primary Care for U.S. Troops with PTSD and Depression in Military Primary Care Clinics: RESPECT-Mil and STEPS-UP. International Society for Traumatic Stress Studies (ISTSS) Conference, Montréal, Québec, Canada, November 3, 2010.

Engel C., Freed M., Jaycox L., Bray R., Litz B., Zatzick D., Unützer J., Katon W., Tanielian T., Brambilla D., Eibner C., Kuesters P., Novak L., Cooper J., Delaney E., Rae Olmsted K., Weil J., Gore K. Stepped Enhancement of PTSD Services Using Primary Care (STEPS UP). Armed Forces Public Health Conference, Hampton, VA, March 20, 2011.

Engel C., Freed M., Jaycox L., Bray R., Zatzick D., Litz B., Unützer J., Katon W., Tanielian T., Brambilla D., Eibner C., Kuesters P., Novak L., Cooper J., Delaney E., Rae Olmstead K., Weil J., Gore K. Stepped Enhancement of PTSD Services Using Primary Care (STEPS UP): Design and Methods of a DoD Funded Randomized Effectiveness Trial. Poster presentation at the Uniformed Services University of the Health Sciences Research Week, Bethesda, MD, May 17–18, 2011.

### **Status:**

IRB approval pending. Participant enrollment to commence in early 2012.

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### **Name of Project:**

Veteran Status, Health and Mortality in Older Americans.

### **Funding Organization:**

National Institute on Aging.

### **DHCC Staff Assigned:**

Xian Liu, Ph.D.

### **Principal Investigator:**

Xian Liu, Ph.D.

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### Presentations:

Liu X., Engel C.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, MA, 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, SC, 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, MS, 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, NY, 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, AL, 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, LA, April 16–19, 2008.

Liu X., Engel C.C., Kang H., Gore K. Reducing Selection Bias in Longitudinal Analysis of Functional Status Transitions in Older Persons. Southern Demographic Association 2008 Annual Meeting, Greenville, SC, October 30–November 1, 2008.



Liu X., Engel C.C., Kang H. Health Conditions and Functional Status Transitions in Older Americans. Population Association of America 2009 Annual Meeting, Detroit, MI, April 30–May 2, 2009.

Liu X., Engel C.C., Kang H. Longitudinal Impact of Specific Health Conditions on Functional Limitations of Older Americans. Population Association of America Annual Meeting, Detroit, MI, April 30–May 2, 2009.

Liu X., Engel C.C., Kang H., Gore K. Reducing Selection Bias in Analyzing Longitudinal Health Data with High Mortality Rates. 2009 REVES Meeting of the International Network on Health Expectancy, Copenhagen, Denmark, May 27–29, 2009.

Liu X., Engel C.C. Predicting Longitudinal Trajectories of Health Probabilities with Random-Effects Multinomial Logit Regression. 2011 REVES Meeting of the International Network on Health Expectancy, Paris, France, May 25–27, 2011.

Liu X. Survival Models on Unobserved Heterogeneity and their Applications in Analyzing Large-Scale Survey Data. Celebration of Population Studies Center at 50, the Population Studies Center, Institute for Social Research, University of MI, October 20–23, 2011.

### 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

## APPENDIX C: RESEARCH PROJECTS

crossover for two population subgroups. *Population Research and Policy Review*, 27, 3, 293–306.

Liu, X., Engel, C.C., Kang, H., Gore, K. (2010). Reducing selection bias in analyzing longitudinal health data with high mortality rates. *Journal of Modern Applied Statistical Methods*, 9, 2, 403–413.

**Status:**

Manuscript preparation.

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**Name of Project:**

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

**Funding Organizations:**

n/a.

**Principal Investigators:**

Thomas Roesel, M.D., Ph.D., FACP.  
Charles Engel, M.D., M.P.H., COL, MC, USA.

**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.

Roesel T. Vitamin D Deficiency in Active Duty War Veterans with Chronic Musculoskeletal Pain and Stress Fractures: Implications for Measures to Reduce Occupational and Environmental Health Risks. American Occupational Health Conference, San Diego, CA, April 26–29, 2009.

Roesel T. A Novel Hypothesis Explains the Syndrome of Chronic Musculoskeletal Pain and Comorbid Painful Healed Fracture Sites in Vitamin D Deficiency. Uniformed Services University of the Health Sciences Research Week, Bethesda, MD, May 11–13, 2009.

Roesel T. Vitamin D and the Central Nervous System. 12th Annual Force Health Protection Conference, Albuquerque, NM, August 16–21, 2009.

Roesel T. Can Vitamin D Potentiate Gabapentin and Pregabalin Efficacy in Vitamin D Deficiency Related Chronic Musculoskeletal Pain? American Society for Bone and Mineral Research, Denver, CO, September 11–15, 2009.

Roesel T., Gorham E. Optimal Vitamin D Levels for Force Health Protection and Cancer Prevention. 13th Annual Force Health Protection Conference, Phoenix, AZ, August 7–13, 2010.

Roesel T. A Proposed Observational Study to Determine Whether Vitamin D Deficiency Mitigates Progesterone Effectiveness in Traumatic Brain Injury Treatment. 63rd Annual Meeting of the American Academy of Neurology, Honolulu, HI, April 9–16, 2011.

**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.

Roesel T. (2009). Does the central nervous system play a role in vitamin D deficiency related chronic pain? [Letter to editor]. *Pain*, 143, 1, 159–160.

Roesel T. (2009). Does vitamin D potentiate gabapentin and pregabalin efficacy in vitamin D deficiency related chronic musculoskeletal pain? *Journal of Bone and Mineral Research*, 24, S1.

Roesel T. (2011). A Proposed Observational Study to Determine Whether Vitamin D Deficiency Attenuates Progesterone Effectiveness in Traumatic Brain Injury Treatment. [Abstract] *European Journal of Neurology*, 18, S2, 315.

**Status:**

Data analysis is ongoing.

## APPENDIX D: DEPLOYMENT HEALTHCARE TRACK PRESENTATIONS

Blandford, Caitland, M.P.H., Analyst, Accession Medical Standards Analysis, Walter Reed Army Institute of Research. *Challenges in Characterizing the Epidemiology of Disability Amidst Changing Department of Defense Policy: An Exploratory Analysis of Traumatic Brain Injury-Related Disability Retirement Among Army and Marine Personnel.*

Chapman, Paula, M.D., Traumatologist and Research Health Scientist, Tampa VA Polytrauma Rehabilitation Center; Maiers, Alan, Psy.D., Assistant Director, Clinical Outcomes and Program Evaluation Division, Warrior Resiliency Program, San Antonio Military Medical Center; Mayer, Paul, M.D., LTC, USA, Director, Department of Combat Medic Training, AMEDD Center and School, Fort Sam Houston, TX; Baker, Monty, Ph.D., Maj, USAF, Warrior Resiliency Program Director of Research, Lackland Air Force Base, TX and Escolas, Sandra, Ph.D., LTC, USA, Assistant Dean for Research, AMEDD Center and School, Fort Sam Houston, TX. *Research with Psychological Risk and Resiliency Factors of Combat Medics and Corpsmen.*

Childers, Thomas, Ph.D., Professor of History, University of Pennsylvania. *Soldier from the War Returning: A Legacy to Inform our Care Now—The Troubled Homecoming of World War II Veterans.*

Childers, Thomas, Ph.D., Professor of History, University of Pennsylvania; Musgrave, John, USMC (Ret.), Vietnam Veteran; Magruder, Kathryn, Ph.D., Associate Professor, Public Psychiatry Division, Medical University of South Carolina and Preventive Medicine Coordinator, Charleston VA Medical Center; Hoge, Charles, M.D., M.P.H., COL (Ret.), USA, Office of the Surgeon General; Hall, Jeffrey, MAJ, USA, Iraq Combat Vet and Engel, Charles, M.D., M.P.H., COL, USA, Director, DoD Deployment Health Clinical Center and Associate Chair (Research) Department of Psychiatry, the Uniformed Services University of the Health Sciences. *Panel: Healing War Generation to Generation—What Have We Learned?*

Crawford, Cindy, B.A., Research Associate II, Samuelli Institute; Wallerstedt, Dawn, M.S.N., CRNP, Scientific Program Manager, Samuelli Institute and Khorsan, Raheleh, M.A., Research Associate, Military Medical

Research Program, Samuelli Institute. *Biopsychosocial Training Programs for the Self-Management of Emotional Stress: Potential Applications for the Military.*

Dolter, Kathryn, Ph.D., Clinical Quality Program Analyst, Evidence-Based Practice, Office of Quality and Performance, Veterans Health Administration; Bowles, Amy, M.D., Chief, Traumatic Brain Injury Service, Brooke Army Medical Center, San Antonio, TX and Goldberg, Gary, M.D., Medical Director, Polytrauma Network Site Clinic and Polytrauma Transitional Rehabilitation Program, Richmond VA Medical Center. *Evidence-Based Management of Concussion/ Mild Traumatic Brain Injury: The VA/DoD Concussion/Mild Traumatic Brain Injury Clinical Practice Guideline.*

Dolter, Kathryn, Ph.D., Clinical Quality Program Analyst, Evidence-Based Practice, Office of Quality and Performance, Veterans Health Administration; Jeffreys, Matthew, M.D., Ph.D., PCT, Medical Director, South Texas Veterans Healthcare System; Foster, Joel, Ph.D., Chief, Alcohol and Drug Abuse and Prevention Program, David Grant Medical Center, Travis AFB and Lowry, Patrick, M.D., COL, USA, Munson Army Health Center, Fort Leavenworth, KA. *Evidence-Based Management of Post Traumatic Stress: 2010 VA/DoD Post Traumatic Stress Guideline Update.*

Dolter, Kathryn, Ph.D., Clinical Quality Program Analyst, Evidence-Based Practice, Office of Quality and Performance, Veterans Health Administration; Kemp, Janet, M.D., National VA Mental Health Director for Suicide Prevention, VISN 2, Canandaigua, NY and Bradley, John, M.D., COL, USA, Chief, Integrated Health Services, Department of Psychiatry, Walter Reed Army Medical Center. *Development of a VA/DoD Suicide Clinical Practice Guideline: Background, Development Process, and Issues.*

Engel, Charles, M.D., M.P.H., COL, USA, Director, DoD Deployment Health Clinical Center and Associate Chair (Research) Department of Psychiatry, Uniformed Services University of the Health Sciences. *RESPECT-Mil: Early Intervention and Outcomes of PTSD and Depression in Primary Care.*

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Engel, Charles, M.D., M.P.H., COL, USA, Director, DoD Deployment Health Clinical Center and Associate Chair (Research) Department of Psychiatry, the Uniformed Services University of the Health Sciences; Bradley, John, M.D., COL, USA, Chief, Integrated Health Services, Department of Psychiatry, Walter Reed Army Medical Center and O'Neill, Matthew, Producer and Director, "Wartorn," "Baghdad ER," and "Alive Day." *Screening of "Wartorn: 1861-2010"—An HBO Special About War Zone Exposures from the Civil War to Present and the Effects of Post-Deployment Functional Difficulties in Military Personnel and Families.*

Engel, Charles, M.D., M.P.H., COL, USA, DoD Deployment Health Clinical Center and Associate Chair (Research) Department of Psychiatry, Uniformed Services University of the Health Sciences; Bradley, John, M.D., COL, USA, Chief, Integrated Health Services, Department of Psychiatry, Walter Reed Army Medical Center and O'Neill, Matthew, Producer and Director, "Wartorn," "Baghdad ER," and "Alive Day." *"Wartorn" Audience Discussion.*

Engler, Renata, M.D., COL, USA, Director, Vaccine Healthcare Centers Network and Uniformed Services University of the Health Sciences and With, Catherine, J.D., MAJ, USA, Legal Counsel, Armed Forces Institute of Pathology. *Updates in Complementary and Alternative Medicine (CAM): Chronic Fatigue and Individualized Therapies with Benefit Risk Assessments Considering Medical Ethics.*

Freed, Michael, Ph.D., Clinical Research Psychologist, DoD Deployment Health Clinical Center. *Stepped Enhancement of PTSD Services Using Primary Care (STEPS UP).*

Glasheen, Christine, M.P.H., Navy and Marine Corps Public Health Center; Phillips, Jennifer, M.P.H., Epidemiologist, Navy and Marine Corps Public Health Center and Slosek, Jean, Psy.D., Epidemiologist, Navy and Marine Corps Public Health Center. *Trauma Unseen: Current Trends in Mild Traumatic Brain Injury (mTBI) and Post Traumatic Stress Disorder (PTSD) Surveillance.*

Hammer, Paul, M.D., CAPT, USN, Director, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE); Westphal, Richard, RN, Ph.D., Psychological Health Policy Advisor, Bureau of Medicine and Surgery Wounded, Ill, and Injured and Sanchez, K. J., CEO, American Records. *"ReEntry": A Documentary Play About Coming Home.*

Helmick, Kathy, M.S., CNRN, CRNP, Senior Executive Director, Traumatic Brain Injury, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE) and Robinson, Chris, Ph.D., Col(S), USAF, Senior Executive Director, Psychological Health, DCoE. *DCoE Tools You Can Use: What You Need to Know About Psychological Health and TBI—Part I.*

Charles, Hoge, M.D., M.P.H., COL (Ret.), USA, Office of the Surgeon General. *Rethinking PTSD in Warriors: An Occupational Model.*

Hughes, Julie, B.A., Onsite Program Manager, Real Warriors Campaign, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE) and Krause, Megan, SSG, USA, Real Warriors Campaign, DCoE. *Promoting Resilience and Encouraging Help-Seeking Behavior with the Real Warriors Campaign.*

Hunter, Christopher, Ph.D., LCDR, USPHS, DoD Program Manager for Behavioral Health in Primary Care, TRICARE Management Activity (TMA). *Re-Engineering Healthcare Integration Programs (REHIP): Blending Embedded Behavioral Health Providers (BHPs) and Care Managers (CMs) in Tri-Service Primary Care (PC) Clinics.*

Kessler, Ron, Ph.D., Professor of Health Care Policy, Harvard Medical School. *Army Study to Assess Risk and Resilience in Service Members (STARRS) Overview.*

Krakow, Barry, M.D., Medical Director, Sleep and Human Health Institute and Maimonides Sleep Arts and Sciences, Ltd. *War Zone-Related Sleep Disorders Treatment Strategies.*

## APPENDIX D: DEPLOYMENT HEALTHCARE TRACK PRESENTATIONS

Kudler, Harold, M.D., Associate Director, VA Mid-Atlantic Mental Illness Research, Education, and Clinical Center (MIRECC) for Deployment Mental Health; Sommers, Daria, B.F.A., Director, “Lioness” and Wardleigh, Amanda, HMC, USMC, Marine FET, Camp Pendleton, CA. *Addressing the Needs of Women OEF/OIF Veterans: Lessons from “Lioness.”*

Law, Wendy, Ph.D., Staff Neuropsychologist, National Naval Medical Center, Bethesda, MD. *Current Research Directions and Innovations in Treatment with OIF/OEF Service Members Reporting mTBI and Functional Symptoms.*

Lillis-Hearne, Patricia, M.D., COL, USA, Office of the Surgeon General. *Pain Management Across the DoD: A Shifting Paradigm.*

Ludman, Evette, Ph.D., Senior Research Associate, Group Health Research Institute and Affiliate Associate Professor of Psychiatry and Behavioral Sciences, University of Washington School of Medicine. *A Public Health Approach to Psychotherapy: Telephone Psychotherapy for Depression in Primary Care.*

Magruder, Kathryn, Ph.D., Associate Professor, Public Psychiatry Division, Medical University of South Carolina and Preventive Medicine Coordinator, Charleston VA Medical Center. *The Prevalence of Post Traumatic Stress Disorder Across War Eras.*

Maguen, Shira, Ph.D., Staff Psychologist, San Francisco VA Medical Center and Assistant Professor, Department of Psychiatry, University of California, San Francisco School of Medicine. *The Impact of Killing on Mental Health and Functioning in Veterans of War.*

Milliken, Charles, M.D., COL, USA, Research Psychiatrist, Walter Reed Army Institute of Research. *Incorporating Alcohol Screening and Brief Intervention into Primary Care for Active Duty Soldiers Via RESPECT-Mil.*

Novy, Pamela, Ph.D., Maj, USAF, Director, Specialized Care Programs (SCP), DoD Deployment Health Clinical Center (DHCC) and SCP Staff. *Integrated Intensive Care for War Zone Exposures: The Deployment Health Clinical Center Specialized Care Programs.*

O’Hara, Christiane, Ph.D., Co-Chair of ArtReach Project America and Consulting Psychologist, Eisenhower Army Medical Center (EAMC), Fort Gordon, GA and Williams, Jennifer, LCSW, EAMC. *A Template for Family Training Within a TBI Functional Recovery Program: Strengthening Wounded Warrior Family Bonds.*

O’Hara, Christiane, Ph.D., Co-Chair of ArtReach Project America and Consulting Psychologist, Eisenhower Army Medical Center (EAMC), Fort Gordon, GA; Anderson, Susan, Founder, The ArtReach Foundation; Patrocínio, Hugo, SGT, USA, OIF Combat Veteran, Purple Heart Recipient, ArtReach Trainer and Walker, Melissa M.A., ATR, Healing Arts Program Coordinator, National Intrepid Center of Excellence (NICoE). *ArtReach Project America: Restoring Resilience in Troops, Families, and Service Providers Using the Creative Arts.*

Rhodes, Cynthia, CTRS, Ph.D., Recreational Therapist, Eisenhower Army Medical Center (EAMC), Fort Gordon, GA; 1SG Maverick (canine); Staff, Residential Treatment Facility, EAMC: Steele, Susanne, COTA; Hines, Christopher, M.D.; Bartley, John, RN; Shoenholz, Jon, JAG and Thompson, Judith, OT-R. *Establishing Animal-Assisted Intervention Programs at Military Facilities: Process, Problems, and Therapeutic Benefits: Part I.*

Rhodes, Cynthia, CTRS, Ph.D., Recreational Therapist, Eisenhower Army Medical Center (EAMC), Fort Gordon, GA; 1SG Maverick (canine); Staff, Residential Treatment Facility, EAMC: Steele, Susanne, COTA; Hines, Christopher, M.D.; Bartley, John, RN; Shoenholz, Jon, JAG and Thompson, Judith, OT-R. *Establishing Animal-Assisted Intervention Programs at Military Facilities: Process, Problems, and Therapeutic Benefits: Part II.*

Rigg, John, M.D., Director, Traumatic Brain Injury Program, Eisenhower Army Medical Center, Fort Gordon, GA. *The Physiologic Basis of Post Traumatic Stress Disorder (PTSD) and mild TBI (mTBI) That Gives Rise to the Symptoms and Invites Development of Treatments to Alleviate Them.*

## APPENDIX D: DEPLOYMENT HEALTHCARE TRACK PRESENTATIONS

Riggs, David, Ph.D., Executive Director, Center for Deployment Psychology; Crowder, Alicia, Ph.D., Chief of Staff, Defense and Veterans Brain Injury Center and Gahm, Gregory, Ph.D., COL (Ret), USA, Director, National Center for Telehealth and Technology. *DCoE Tools You Can Use: What You Need to Know About Psychological Health and TBI—Part II.*

Sharp, Stephen, M.D., Col, USAF, Deputy Director, Traumatic Brain Injury Standards of Care, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury and Assistant Professor of Neurology and Pediatrics, Uniformed Services University of the Health Sciences. *Concussion and Co-Occurring Psychological Health Conditions Toolkit.*

Simmons, Erin, Ph.D., LCDR, USN, Head, Mental Health Department, Naval Health Clinic, Cherry Point, NC. *Addressing the Needs of Women Returning from Combat.*

Tarantino, David, M.D., M.P.H., CDR, USN, Director of Clinical Programs, US Marine Corps. *Advancing Care for Service Members with Traumatic Brain Injury: Inter-Service Coordination and Collaboration.*

Vythilingam, Meena, M.D., M.P.H., CDR, USPHS, Deputy Director, Psychological Health Strategic Operations, Force Health Protection and Readiness, Office of the Assistant Secretary of Defense (Health Affairs) and DeFraites, Robert, M.D., M.P.H., COL, USA, Director, Armed Forces Health Surveillance Center. *Department of Defense Deployment Mental Health Assessments: A Review and Update.*

Walter, Joan, PA-C, J.D., VP Military Medical Research Director, Samueli Institute. *Total Force Fitness for the 21st Century.*

Westphal, Richard, RN, Ph.D., Psychological Health Policy Advisor, Navy Bureau of Medicine and Surgery Wounded, Ill, and Injured and Friedlander, Joshua, Psy.D., Assistant Chief, Psychiatry Continuity Service, Walter Reed Army Medical Center. *Trauma, Loss, and Moral Injury: Different Approaches for Prevention and Treatment.*

Westphal, Richard, RN, Ph.D., Psychological Health Policy Advisor, Navy Bureau of Medicine and Surgery Wounded, Ill, and Injured; Friedlander, Joshua, Psy.D., Assistant Chief, Psychiatry Continuity Service, Walter Reed Army Medical Center; Maguen, Shira, Ph.D., Staff Psychologist, San Francisco VA Medical Center and Assistant Professor, Department of Psychiatry, University of California, San Francisco School of Medicine and Sanchez, K. J., CEO, American Records. *“ReEntry” Panel and Audience Discussion.*

Wlodarczyk, Renee, B.S., Senior Program Associate, Institute of Medicine of The National Academies. *Returning Home from Iraq and Afghanistan: Preliminary Assessment of Readjustment Needs.*

Yarvis, Jeffrey, Ph.D., LTC, USA, Deputy Commander of Behavioral Health, Dewitt Army Community Hospital and Assistant Professor, Family Medicine, Uniformed Services University of the Health Sciences and Browder, Laura, Ph.D., Author of “When Janey Comes Marching Home.” *When Janey Comes Marching Home: Narratives, Research, and the Latest Experiences of Women Serving in the Global War on Terror.*



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