STATEMENT OF

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BEFORE THE

SUBCOMMITTEE ON MILITARY PERSONNEL

OF THE

HOUSE ARMED SERVICES COMMITTEE

SUBJECT:

MENTAL HEALTH RESEARCH

APRIL 10, 2013

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

Chairman Wilson, Ranking Member Davis, distinguished Members of the Subcommittee, thank you for the opportunity to appear before you today to discuss mental health research, including our progress, opportunities and challenges. We are grateful for your leadership and support in this area as it has positively impacted our ability to care for our service members and their families. All of us in military medicine are dedicated to ensuring that the resources you have provided us translate into effective treatment modalities and advances in caring for our Sailors and Marines. Within Navy Medicine, our priority is to develop efficient frameworks to quickly move demonstrated proven research and innovations to our clinicians as they promote, protect and improve the health of those entrusted to their care.

Strategic Priorities and Resources

Navy Medicine Research, Development, Testing and Evaluation (RDT&E) is foundational to our mission of force health protection. Cutting-edge RDT&E programs bolster both our current and future capabilities and help sustain a culture of excellence. Recognizing how important it is to keep pace with emerging requirements and leverage opportunities in these areas, I established a new flag officer-led Headquarters code for research and development, Deputy Chief for Research and Development. This strategy-driven realignment targets improved policy development, assessment, oversight and resource management in our RDT&E portfolio.

Our 2013 Navy Medicine Charted Course reflects strategic goals of (1) Readiness; (2) Value; and (3) Jointness. These key priorities are fully synchronized with our RDT&E efforts, particularly those focused on psychological health, traumatic brain injury and suicide prevention. All of us recognize the impact on our force and families brought about by 12 years of war and the increased operational tempo. In response to these challenges, we continue to invest in programs of support, treatment and research which are focused on building resiliency, navigating

operational stress and fostering psychological health. Navy Medicine's psychological health programs support the prevention, diagnosis, mitigation, treatment, and rehabilitation of post-traumatic stress disorder (PTSD) and other mental health conditions, including the seamless transition of service members throughout the recovery and reintegration process. Our efforts have targeted ensuring appropriate staffing, meeting access standards, identifying recommended and standardized evidence-based practices, reducing stigma and barriers to care and making sound investments in research. Within the context of our Psychological Health and Traumatic Brain Injury (PH-TBI) portfolio, we fund a broad variety of programs and projects, all falling under one of five priorities: Access to Care; Quality of Care; Resilience; Surveillance and Screening and Transition of Care

Our Clinical Investigations Programs (CIPs) are the core of the Navy Medicine PH-TBI translational research efforts. CIPs result in actionable intelligence for our providers on resilience building, stress reduction, prevention efforts, and psychological treatment interventions. These findings are disseminated via policies and clinical practice guidelines. Several of our military treatment facilities (MTFs) are actively engaged in PTSD and TBI clinical investigations studies. Over the last ten years, 39 human subject research projects have been completed, with 34 currently active.

Progress and Evaluation

Our priority remains translating our investments into advancements in caring for our service members and their families. Collectively, military medicine has done this exceptionally well in combat casualty care as evidenced by the unprecedented battlefield survival rates in our recent conflicts. We have leveraged research, advances in point of injury treatment, evacuation and clinical practices throughout the continuum of care to save lives. Our commitment remains to realize the same level of progress and success in caring for our personnel with PTSD, TBI and other related injuries. All of us must continue to undertake these efforts with a sense of urgency since it is our obligation to those entrusted to our care. We are making progress and I will briefly highlight some of our efforts:

- The *Traumatic Brain Injury and Related Disorders (TBIRD) Mobile Assessment Unit (MAU)* contains two fully equipped neuropsychological labs with computer technology. The MAU is capable of extending neuropsychological assessment services and providing surge-related services to bases where there is an established need. Most recently deployed to Naval Hospital Camp Lejeune, the TBIRD MAU has decreased wait time for neuropsychological evaluation (from three months to approximately two weeks for initial evaluation), and reduced the number of referrals to the community.

- The *Behavioral Health Needs Assessment Survey (BHNAS)* was initiated in 2007 to evaluate the mental health of deployed Individual Augmentee Sailors, including medical providers. BHNAS data are used to identify high-risk missions, develop counter-stress interventions that target specific missions and locations, direct research in operational stress, and provide in-theater estimates of the mental health need. The BHNAS is administrated by Naval Health Research Center (NHRC) for implementation by the Navy Mobile Care Teams (MCTs). The Navy MCT travels extensively throughout Afghanistan, regularly "outside the wire," providing training, consultation, focus groups, and unit-specific surveillance using the BHNAS. NHRC verifies, analyzes, and evaluates the BHNAS data and prepares reports promulgating findings and recommendations to Navy and Navy Medicine leadership to inform enterprise-wide policy and program development. Over 8,400 surveys have been completed to-date, with over 96% of the data being collected during deployment.

- *Impact of Marine Suicide on Family Survivors* is examining the post-suicide adjustment and needs of Marine spouses and families. A portion of the study includes interviews with spouses to determine, if in retrospect, they may have seen signs, symptoms, or signals that their Marine spouse was at risk for self-harm.

- *Psychological Health Pathways (PHP)* is an initiative managed by the Naval Center for Combat and Operational Stress Control (NCCOSC) to assess the treatment of PTSD and improve the psychological care of patients with PTSD and other disorders. PHP uses a standard assessment process to collect patient demographics, outcome measures, and treatment reviews, which inform treatment planning and progress, and assist in programmatic evaluation, resource allocation, clinic management, and population health questions. It provides real-time, evidence-informed data to improve the care provided to service members. Over 3,000 service members have participated in the PHP program, providing data that has enabled clinics to modify treatment to target symptoms that were not responding to prior treatment methods. For example, using PHP data at Naval Medical Center San Diego (NMCSD), we identified previously unknown significant sleep and depression symptoms. The providers were then able to implement changes to their programs to address these issues.

- *A Head-to-Head Comparison of Virtual Reality Treatment for Post-traumatic Stress Disorder:* This study compares Virtual Reality Exposure Therapy (VRET) to Augmented Exposure Therapy (AET). Thus far, 61 patients have completed treatment and multiple providers have been trained to deliver the therapy, impacting the availability of evidenced based care for service members.

- *Combat Stress Burden in Marine Infantry Personnel* (*Marine Resiliency Study; MRS)* documents the prevalence of PTSD and related conditions in combat-deployed Marines, along with the causes and clinical course of psychological disorders. Detailed analyses of biological, psychosocial, and environmental risk for post-traumatic stress (PTS) among ground combat forces is provided. As a result of this project's findings, it has garnered an endorsement by the I MEF Commanding General as a tool for maintaining visibility on emerging health concerns in combat deployers. Currently, the Marine Resiliency Study is completing analyses of the associations between TBI and PTSD. Longitudinal data indicates that, after controlling for other deployment factors such as combat intensity, deployment-related TBI generates (on average) a 27% increase in PTSD symptom severity.

In addition, NCCOSC-facilitated studies have been completed or are currently underway in several key areas. These include: (1) Effects of Antidepressants on Neuropsychological Function Related to Combat Performance; (2) Attention Retraining for Post-Traumatic Stress Patients; and (3) Military Detention Operational Prevention for Stress (MD-OPS).

NHRC has supported a variety of translational research projects related to PTSD and TBI. Of particular interest are NHRC findings (through BHNAS data) that leadership style and unit cohesion serve as protective factors in the development of PTSD after a traumatic event. These

findings have been briefed to Navy leadership, and have helped create a culture in which the prevention of PTSD is considered a leadership issue, as well as a clinical issue. NHRC is also attempting to ascertain the impact of neurofeedback therapy in helping resident PTSD patients at the Overcoming Adversity & Stress Injury Support (OASIS) clinic at NMCSD. Preliminary results suggest that biofeedback is an effective adjunct during PTSD treatment to lower anxiety and irritability during sessions. Work continues to assess how this translates to brain activity and longer term outcomes. NMCSD has also collaborated with several leading alternative medicine institutions on PTSD and related symptoms research, including research on complementary medicine interventions for active duty personnel who have been exposed to combat.

NHRC serves as the Department of Defense (DoD) Center for Deployment Health Research responsible for the Millennium Cohort Study (MILCO), the largest long-term health study in U.S. military history. The MILCO study began in 2001 and will continue through 2022, with a participation goal of 200,000 service members and 10,000 military family members. More than 50 percent of the participants have been deployed in support of the wars in Iraq and Afghanistan. Their input will enable researchers to evaluate data from before, during, and long after their deployments. Some of the areas we are analyzing include PTSD, TBI, depression, alcohol misuse, and respiratory illnesses.

Our Naval Medical Research Center (NMRC) laboratory has a robust program combining clinical work, operational assessment, and laboratory models characterizing the effects of repeated blast exposure, including linkages to PTSD and chronic traumatic encephalopathy. Some of these studies are designed to parallel the human studies research conducted with USMC high-risk populations (Breacher). Significantly, a single Breacher study in 2008 has grown into a program that includes seven separate multi-institutional studies. These studies make up a

platform for test and evaluation of emerging, field-able technologies in the assessment of exposure to blast and commensurate biological effects. In addition, Naval Hospital Camp Pendleton, Naval Hospital Camp Lejeune and Navy Medicine Operational Training Center are participating in DoD clinical research studies on the use of hyperbaric oxygen for symptoms following mild TBI, or post-concussion syndrome, in military personnel.

Our work continues to demonstrate promise and we see progress in several key areas including:

- Identifying new therapies and strengthening the evidence for existing prevention and treatment interventions.
- Utilizing surveillance practices to enhance communication, coordination, and detection.
- Integrating innovative technologies and alternative therapies with treatment and prevention efforts (e.g., telemedicine services).
- Developing and validating risk and resilience screening tools to guide interventions and mitigate negative behavioral health outcomes following traumatic exposure(s).
- Providing clinical and operational leaders information and strategies to facilitate early detection as well as improve outcomes after traumatic exposure(s).
- Capitalizing on data signals and surveillance outcomes to optimize effective decision-making and guide future mental health operations.

Careful monitoring and assessment is inherent in our on-going evaluation process. We are applying critical reviews through each phase and milestone to help ensure that our funded projects meet the intended objectives, and provide the potential for long-term value to our clinicians and patients. These assessments, which include internal evaluations, peer reviews and larger third-party evaluations, help us evaluate the efficacy of our investments and reduce potential redundancies.

Sound partnerships and collaborations are critical to our efforts in deriving best value from our research efforts in mental health, traumatic brain injury and suicide prevention. Within Navy Medicine, we are working in close collaboration with the Army, Air Force, DoD and the Centers of Excellence. We recognize that we must continue to work collaboratively with our

Department of Veterans Affairs colleagues, other federal agencies and leading academic and private institutions in addressing some of the most challenging issues facing our returning service members. There is no doubt that the complex problems of delivering care to a growing beneficiaries population in a resource-constrained environment demands that we leverage our partnerships, deploy best clinical and business practices, and make full use of rapidly accelerating technologies.

Way Forward

Our strategic priorities of Readiness, Value and Jointness will guide the way forward for mental health research funding, collaboration, dissemination and application. Our efforts must continue to support our mission of force health protection, provide value in quality and outcomes, and support our collaborative efforts. Collectively, our investments must build on existing research, capitalize on the synergy of coordinated studies and trials, and transition our efforts from "the bench to the bedside". The challenging work that Navy Medicine researchers are performing has a direct impact on the treatment we are able to provide our service members now and will be instrumental in shaping our future. Maintaining our mission readiness, meeting the needs of our beneficiaries, and deriving best value from our research investments will require careful planning, sharp execution and good stewardship of our RDT&E resources. We are committed to finding solutions to challenging problems and providing significant innovations and discoveries to enhance clinical diagnostics, therapies and procedures to improve the outcomes of our injured Sailors and Marines.

On behalf of the men and women of Navy Medicine, I want to thank the Committee for your tremendous support, confidence and leadership. It has been my pleasure to testify before you today and I look forward to your questions.