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STATEMENT BY

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THE DEPARTMENT OF DEFENSE TRAUMATIC BRAIN INJURY PROGRAM

BEFORE THE
SENATE VETERANS' AFFAIRS COMMITTEE

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Mr. Chairman, Members of the Committee, thank you for the opportunity to come before you today to discuss progress made in the diagnosis and treatment of traumatic brain injury (TBI), and the highly collaborative and fruitful relationship between the Department of Defense (DoD) and the Department of Veterans Affairs (VA) in this vital area of medical research and treatment. Accompanying me today is Ms. Katherine Helmick, Interim Senior Executive Director for TBI at the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE).

I am honored to be able to represent DoD, and the men and women who serve in our Military Health System. I am the National Director of the Defense and Veterans Brain Injury Center (DVBIC), a congressionally mandated collaboration between DoD and VA which is organized as a network of excellence across 17 DoD and VA sites with more than 225 professionals representing more than 20 different clinical disciplines. For the past two and a half years, the DVBIC has also operated as the primary operational TBI center of DCoE. Through these collaborations, I have been fortunate to work closely and collaboratively with our colleagues across DoD and VA for the last several years. I am proud of what we have accomplished together to advance the prevention, diagnosis, and treatment of Service members and veterans with TBI. I am confident in our organization's ability to serve as a national asset for helping Service members and veterans maximize their functional abilities and decrease or eliminate their TBI-related disabilities.

The high rate of TBI and blast-related concussion events resulting from current combat operations directly impacts the health and safety of individual Service members and subsequently the level of unit readiness and troop retention. The impacts of TBI are felt within each branch of the Service and throughout both the DoD and VA health care systems. Since January 2003, over 134,000 Service members have been identified within our surveillance

system as having sustained a clinician-confirmed TBI, most of which are considered mild TBI or a concussion (mTBI). It is important to note almost 90 percent of individuals who sustain mTBI will have complete resolution of their symptoms within days or weeks of the incident. Our in-theater management guidelines for TBI emphasize safety and prevention of recurrent injuries until recovery has occurred.

With the support of Congress, both Departments have dedicated significant resources to the prevention, early detection, treatment, and rehabilitation of Service members and veterans with TBI. Ongoing medical research continues to contribute to our understanding of each of these activities. I will describe our efforts in these areas. I will also highlight the comprehensive professional medical education and family outreach undertaken to ensure our military and VA practitioners and the families who must help with managing this condition are aware of the most current findings and tools to assess and treat TBI. All of these activities support the direction of this Committee as reflected in the Veterans Traumatic Brain Injury and Health Programs Improvements Act of 2007.

Prevention

Prevention of TBI is a critical component of our overall strategy. Central to the preventative approach is the continued development of state-of-the-art personal protective equipment (PPE). The army combat helmet/light weight helmet was developed for today's battlefield environment, and a next generation enhanced combat helmet is under development. The Headborne System – a joint Service future initiative – is being engineered to provide added protection from blast injury.

Along with PPE investments, the Department has engaged in a broad-based awareness campaign to provide Service members with strategies to mitigate risks both in a deployed location and at home to include ballistics protection and adherence to use of seatbelts.

Early Detection

Our early detection efforts are focused on identifying potential TBI as close to the time of injury as possible. Mandatory concussion screening occurs at four levels to maximize treatment opportunities for Service members who may have sustained a concussion: in-theater, at Landstuhl Regional Medical Center, Germany (for all medically evacuated personnel); during Post Deployment Health Assessments and Reassessments; and at VA facilities when veterans are treated.

DoD has developed and proliferated – with the input of the Services, VA, and civilian subject matter experts – a systematic method for conducting these screenings with the appropriate tools. The Military Acute Concussion Evaluation (MACE) has been used for in-theater screening following an incident. This evaluation tool has been independently reviewed by the Institute of Medicine and recommended for continued use in assessing combat-related TBI. We continue a cycle of process improvement for in-theater screening and management. The latest proposed guidelines include a transition to mandatory evaluation of all Service members involved in an incident considered associated with risk of concussion. DoD and VA jointly developed and are using a screening tool in the Post-Deployment Health Assessment and Reassessment and the VA TBI Clinical Reminder. This tool is an adaptation of the Brief TBI Screen and has been recommended to DoD by the Institute of Medicine for this purpose.

Treatment

DoD has published clinical practice guidelines for both in-theater and CONUS-based management of mTBI (“Mild TBI Clinical Guidelines in the Deployed Setting” and “Mild TBI Clinical Guidance”), and developed tailored algorithms for use by medics/corpsmen, an initial evaluation, and a more comprehensive evaluation. NATO countries have used adaptations of the MACE and DoD clinical guidelines as a template for their own militaries.

For providers delivering care in the combat theater, we have introduced an electronic consult service for use by all Service providers to connect them with a TBI expert – jointly manned by DoD and VA specialists. This consult service has proven to be a useful tool to deployed medical staffs.

DoD and VA worked closely on developing and issuing evidence-based CONUS guidelines for management of mTBI. We issued these guidelines in April 2009, to providers in both organizations, assisting them with patients having subacute or chronic (more than 90 days) mTBI. These guidelines allow Service members to receive care from their primary care providers, closest to home and family support. When required, referrals are made to TBI specialists at designated facilities.

For more severe categories of TBI, we have disseminated several guidelines for use in theater, and have sponsored the development of specialist guidelines such as those from the American Association of Neuroscience Nurses. We have also provided consultation in the development of civilian guidelines such as those developed by the American College of Emergency Physicians.

To advance our understanding of changes in neurocognitive abilities, we have implemented a program of baseline, pre-deployment cognitive evaluation. Introduced in 2008, this baseline test better informs return-to-duty determinations in theater following a concussion injury.

The DVBIC also facilitated a consensus conference on programs for minimally conscious TBI patients which included DoD, VA, and civilian subject matter experts. This conference was instrumental in helping inform further development of relevant programs to manage this population.

Finally, our clinical guidelines recognize there are often co-morbidities with TBI cases, to include depression, post-traumatic stress and substance use disorders, and other extremity injuries. To better understand this, the DVBIC co-sponsored with the Congressional Brain Injury Task Force, an international symposium on behavioral health and TBI. TBI case management demands an interdisciplinary endeavor that must incorporate and meld various clinical elements including neurology, neurosurgery, psychiatry, neuropsychology, and physical medicine and rehabilitation. DoD and VA have worked to ensure our TBI clinical guidelines represent the input from this diverse set of medical specialists.

An independent article published by the Journal of Head Trauma Rehabilitation cited the DVBIC collaboration between DoD and VA as the most fully developed system of care in the United States for brain injury.

Rehabilitation / Recovery / Reintegration

Rehabilitation is an essential component of our TBI program, with a focused approach on cognitive rehabilitation. In 2009, we hosted the leading experts in this country – from DoD, VA, and the civilian sector – to develop and issue clinical guidance for cognitive rehabilitation programs based on available evidence. Fourteen DoD military treatment facilities will use these guidelines in a controlled, step-wise process to assess the effectiveness of these guidelines on patient outcomes.

The DVBIC has worked with VA on the Assisted Living for Veterans with TBI project. We have collaborated with VA in their exploration of means to contract with civilian facilities to serve veterans. We helped establish a pilot age-appropriate TBI-specific assisted living program with multidisciplinary rehabilitation and assistive technology at one of nine state-owned comprehensive rehabilitation facilities. I was pleased to see VA issuance of a Request for Information from the industry just last month to continue to move forward with this initiative.

Ongoing Research

The short and long-term effects of blast injury on the brain are still not completely known. DoD has made important contributions to the medical literature with our own research, to include a history of published, successful randomized-controlled clinical trials and several awards from national professional organizations.

The Medical Research and Materiel Command and DVBIC convened a consensus conference with 75 experts identifying scientific evidence supporting the importance of blast injury. Last year, DVBIC published the largest randomized controlled trial of cognitive rehabilitation for moderate-severe patients. The Department's TBI research contributions were recognized in the external technical report on mTBI in DoD conducted by the Survivability/Vulnerability Information Analysis Center which stated in its conclusion:

“Even within the limited existing literature, it is evident that researchers are now making use of screening criteria, instruments, and other resources developed and made available through DVBIC. The DVBIC now plays a central role in performing and advancing research that will directly benefit military Service members and veterans with TBI.”

With the support of Congress, DoD is leveraging national expertise and resources in TBI research through the Congressionally Directed Medical Research Program by investing more than \$200 million to academic researchers after a process of scientific and programmatic review that included our VA colleagues.

We are working on innovative ways to enhance our system to fast-track promising research initiatives and findings, and rapidly identify gaps such as the paucity of research findings regarding clinical outcomes from cognitive rehabilitation in the concussion population, as well as direct resources to address these gaps.

DoD and VA are collaborating further with other federal agencies on translational biophysics, proteomics, and other blast-related projects.

Professional Education & Patient Outreach

DoD and VA have worked closely to ensure our research into best practices and evidence-based medical guidance is rapidly distributed to the field. Since 2007, we have held annual conferences to educate our providers on the most current research and evidence-based clinical care guidelines for TBI. Our most recent conference in 2009, was attended by over 800 DoD and VA clinicians. In addition, DoD and VA have developed a series of educational modules for providers of all skill levels, which is accessible via our internal web-based educational platform, MHS Learn.

Service member and family outreach is an equally strategic element of our educational efforts. DoD has developed TBI education modules appropriate for all Service members, and include self-help materials for dealing with a range of post-concussive symptoms. At Congress' direction, DVBIC facilitated a panel of the Defense Health Board to oversee development of a Family Caregiver Program to meet the needs of family members, providing them with consistent health information and tools to cope with daily challenges of caregiving.

A recent RAND report recognized DoD and DVBIC educational products for their clinical accuracy and effective risk communication.

Brainline.org is a multimedia project that provides information on preventing, treating, and living with TBI. Funded by DVBIC and delivered by WETA, the public radio and television network in Washington, DC, Brainline.org has reached a very broad audience of TBI patients and families. Additionally, we are using social networking media to connect family members with others who have gone through similar experiences.

Finally, DVBIC has established a national care coordination network, identifying all personnel with TBI who have been evacuated from theater. A care coordinator contacts the Service member at 3, 6, 12, and 24 months following injury, and determines what, if any, additional resources are needed to meet the Service member's needs. DVBIC Regional Care Coordinators (RCCs) work to ensure optimal care and recovery for Service members and veterans with TBI whose rehabilitation and return to community do not always follow a strict linear path, or whose injury may result in cognitive, social, behavioral, or physical deficits which prevent them from accessing available systems of care. RCCs also follow Service members and veterans with TBIs longitudinally to help avert poor outcomes and improve our understanding of the many factors related to outcome following TBI. This program is linked with the VA Polytrauma Federal Care Coordination System and with DCoE's Outreach Center, providing 24 hours a day/7 days per week support to patients, family members, and providers.

Other Federal Collaboration

While our brain injury collaborative efforts with VA have spanned two decades, we have worked across the federal health sector on important national efforts to advance our research base. We worked closely with the Centers for Disease Control and Prevention (CDC) to select the appropriate International Classification of Disease codes for TBI surveillance. We are also working with the CDC to extend our education to rural and medically underserved areas for providers in these communities who may be treating Guard and Reserve members.

DoD, VA, and the Department of Education's TBI Model Systems of the National Institute for Disability Rehabilitation Research are collaborating to coordinate the important TBI registry initiatives we have underway. DoD is collaborating with the Department of Labor's "America's Heroes at Work" initiative providing education to employers enhancing incorporation of veterans with TBI into the workforce.

Conclusion

DoD, VA, and civilian colleagues have performed extraordinary work across this country to advance our understanding of TBI, particularly as it relates to the unique nature of combat.

DoD and VA experience has been one of intense collaboration – typified by open, fact-driven analysis, research, and dissemination of evidence-based findings. I am proud the DVBIC has been at the center of this collaboration – facilitating and deepening our joint efforts, inspired by the sacrifices of the Service members, veterans, and families we serve. We are developing a system that allows for a more rapid and proactive approach to optimizing our systems of care for our wounded warriors with TBI.

Substantive progress has been made to implement the provisions of the 2007 law, and we are pleased to work with our VA colleagues in this endeavor.

Mr. Chairman, Members of the Committee, I want to thank you again for your steadfast support of our Military Health System and your ongoing investment in traumatic brain injury research and care. I look forward to your questions.