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Prepared Statement

of

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Regarding

Traumatic Brain Injury and Blast Exposure Care

Before the

Senate Armed Services Committee

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Chairwoman Warren, Ranking Member Scott, distinguished Members of the Senate Armed Services Committee, I am pleased to represent the Office of the Secretary of Defense to discuss the Department of Defense's commitment to address Warfighter Brain Health issues and initiatives. We are honored to represent the dedicated military and civilian medical professionals in the Military Health System (MHS), providing direct support to our combatant commanders and delivering or arranging health care for our 9.6 million beneficiaries.

We will inform the Committee about the Department's initiatives to understand the causes and impact of brain injuries, support ongoing training of medical professionals, inform the development of treatment protocols, and improve cognitive and physical performance of the warfighter.

The Department of Defense's (DoD's) primary mission is to defend the Nation. Fulfilling this mission means warfighters need the ability to make expedient and effective decisions on the battlefield. Promoting brain health and mitigating the impact of traumatic brain injury (TBI), in all its forms, is a top priority for DoD. In support of this priority, the DoD established a joint effort between operational and medical forces called the Warfighter Brain Health Initiative (WBHI). Warfighter brain health represents the physical, psychological, and cognitive status that affect a warfighter's capacity to function adaptively in any environment and impacts readiness, operational capability, and mission effectiveness.

The mission of the MHS is to enable the DoD to provide medically ready personnel and ready medical forces by improving the health of all those entrusted to our care. Taking care of our people is a sacred trust, one that we are devoted to earning every day. The MHS brings together advanced research capability, doctors, nurses, other health care professionals such as combat medics and other enlisted staff, medical education, and health care administration,

creating one of the world's largest health care systems, serving more than 9.6 million people.

Add to that our critical research partnerships with other federal agencies, major universities, and industry leaders, and we have tremendous capability.

As the Assistant Secretary of Defense for Health Affairs, my focus is on the health of Service members and their families. My office develops the policies and budgetary priorities for the Defense Health Agency (DHA) and the Military Departments to optimize force health protection and clinical care. I oversee the DHA and the Uniformed Services University of the Health Sciences (USU), and work closely with medical and operational leaders across the Military Departments and DoD. I take this responsibility seriously having worked as an Army doctor, and later as a health care executive in the private sector and have seen first-hand the value of effective policy. This mission is both personal and professional, and I am committed to mitigating the risks of and improving the treatments for Blast Overpressure (BOP) and TBI. I look forward to sharing our approaches to these issues with you.

Between 2000-2023, 485,553 Service members were diagnosed with TBIs. The annual number of TBIs grew from just above 10,000 per year in 2000 to a peak just shy of 33,000 per year by 2011. The DoD responded to this increasing rate of TBI in combat during Operation Iraqi Freedom/Operation Enduring Freedom through rapid expansion of TBI clinical care and research to support military forces around the globe. We recognized, however, that more research and insight was needed in both the care and research dimensions to better understand the risks, better protect warfighters, and treat brain injuries more effectively.

The WBHI was created in 2022 to codify policy and provide direction in support of unified efforts across the military to address TBI and BOP. The WBHI brings together brain health-related efforts and stakeholders throughout DoD to enhance information sharing and

collaboration. The WBHI focuses on cognitive and physical performance, identification of known and emerging brain threats in military environments (*e.g.*, BOP and Anomalous Health Incidents), and development of methods to immediately detect brain injury.

Let me first address our work related to cognitive and physical performance. The future security environment and expected battlespaces are becoming more and more complex. DoD is building on our research investments in TBI and over 20 years of delivering care in unique combat and training environments. We are expanding pre-deployment neurocognitive testing to a broader program for the whole of DoD to identify, monitor, and manage warfighters who suffer cognitive effects from brain exposures or injuries. The expansion of the cognitive monitoring program will improve DoD's ability to manage and excel the total health of the warfighter and impact overall readiness.

Second, regarding the threats in our current military operating environments to brain health, I am grateful for the provisions championed by this committee supporting a longitudinal study on the impact of BOP, including a review of safety precautions to protect Service members. The results and recommendations were recently summarized in a Report to Congress, dated December 19, 2023, and we are determining our approach to implementing the recommendations into the tactics techniques and procedures that guide how we train and fight. We thank Senator Warren, Senator Scott, and the Members of the Subcommittee for leading continued Congressional attention on blast exposures and brain injuries.

Third, I will highlight how the Department is moving from clinical and research insights to continuously updating policy and guidance as more information is gained to enhance WBH. One example is DoD interim guidance, issued November 4, 2022, to raise BOP risk awareness and manage exposure across the force. It provides leaders with guidance on immediate actions

they can take to limit the impact of blast exposure on Service members. We know there is still much to learn about the brain, and that not everyone responds in the same way to similar exposures or injuries. In the clinical domains not yet scientifically mature enough for universal intervention, our policy efforts focus on funding research breakthroughs. We are creating accurate and reliable data sets to document identified injuries, evaluating contributing causes and thresholds for concern, and assessing response to treatment, to optimize care and enable use of that data to inform gap-research investments and treatments.

The Department has codified through policy and programming numerous clinical advances from our research portfolios, as well as real world evidence from the experience of military practitioners across the MHS continuum of care (including combat operations).

Existing efforts include:

- **Acute Concussion Care Pathway:** To ensure standardized comprehensive acute concussion assessment and care across the MHS, the DoD established the Acute Concussion Care Pathway. This care pathway, tailored to each Service member, was established with the goal of improving recovery times and outcomes by utilizing a multi-modal assessment tool at the time of injury—the Military Acute Concussion Evaluation (MACE) 2—to ensure brain health deficits were identified even if only detectable in a subset of clinical domains. These tools also help ensure timely access to repeat evaluations with personalized treatment protocols that are demonstrated to accelerate injury recovery through individualized progressive return to activity processes. This pathway resulted in the clinical screening of approximately 20,000 first time TBI diagnosed Service members across the Military Services in Fiscal Year 2023.

- **MACE 2:** The 2018 MACE 2 is an acute screening and assessment tool for all medically trained personnel who evaluate Service members involved in a potentially concussive event. The clinical tool, which takes about 10 to 15 minutes to administer, incorporates current state-of-the-science traumatic brain injury assessment, including balance, eye movements and cognitive screening. The screening does not require any equipment and can be done in austere environments. This clinical advance was driven by the DoD, first through research to clarify what was needed, and then through early adoption.
- **Defense Intrepid Network:** DoD operates a network of TBI specialty clinics and comprehensive interdisciplinary centers of excellence called the Defense Intrepid Network for Brain Health and TBI, which supports Service members diagnosed with brain injury related injury or illness. This network delivers a holistic patient centered interdisciplinary TBI model of care. Behavioral health services draw upon the disciplines of psychiatry, psychology, and social work. Additional services may draw from neurology, sleep medicine, pain management, and rehabilitation services such as balance and vision therapy to name a few. From 2010 to the present, across the network, there have been over 94,000 patients treated and over 1.3 million clinical encounters. In Calendar Year 2023, there were over 17,000 patients with over 180,000 medical encounters within this network. Our patients have responded favorably to these services – with a patient satisfaction rate of 97.5% for those who have participated in the Intensive Outpatient Programs.
- **Warfighter Brain Health Hub:** Established in December 2023, at health.mil/brain, the Hub serves as a constantly updated single source of information on brain health topics, news and updates, resources, and common questions and answers. Our goal is to make the latest brain

health information easy to access for our Service members, providers, families, and the public.

The MHS sees an estimated 14,000 to 17,000 visits per month for TBI, emphasizing the critical need to standardize tools and invest in research to identify, control, and mitigate TBI. We must and will augment existing work in advanced diagnostics, breakthrough therapies, and long-term monitoring to better identify, care for, and treat Service members and Veterans who are affected by TBI. We are committed to a holistic view of brain health and brain injuries—before, during, and after any blast exposure or injury.

Although there have been critical advances in brain research with many of these advances coming from DoD funded research, such as in the areas of biomarkers, brain imaging, and genome mapping, much remains to be learned about the brain, not only in military medicine, but in the global medical community. Historically, military medical research and experience have benefitted the civilian health care community, academia, and industry partners and we fully intend to maintain that tradition, sharing what we learn.

Partnerships with the operational, safety, outreach, training, education, clinical, and research communities internal and external to the Department are critical, and we are grateful for the participation and support of these entities. Continued engagement with multiple communities of interest will help us achieve our goals and measures of success. The DoD is committed to prioritizing these efforts to evaluate and advocate for technology solutions and provide recommendations to inform and affect change to safety, doctrine, and policy.

Thank you for your continued support of military medicine and for inviting me to be here with you today to discuss the important issues surrounding the brain health of our warfighters. I look forward to your questions.