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THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT OF

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NAVAL HOSPITAL CAMP LEJEUNE

BEFORE THE

SUBCOMMITTEE ON MILITARY PERSONNEL

OF THE

HOUSE ARMED SERVICES COMMITTEE

SUBJECT:

**POST-TRAUMATIC STRESS DISORDER AND TRAUMATIC BRAIN
INJURY – CLINICAL AND RESEARCH PROGRAM ASSESSMENT**

APRIL 27, 2017

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Introduction

Chairman Coffman, Ranking Member Speier, distinguished Members of the subcommittee, thank you for providing me with the opportunity to share my perspectives as the director of the Intrepid Spirit Concussion Recovery Clinic (Intrepid Spirit) at Naval Hospital Camp Lejeune. We are responsible for the diagnosis and treatment of beneficiaries who have sustained a traumatic brain injury. In addition, I look forward to the opportunity to discuss potential process improvements and promising research in support of these injuries. It is a privilege to be entrusted with the care of service members and their families, and one that I and my colleagues at Camp Lejeune and across Navy Medicine take very seriously.

Background

Marine Corps Base Camp Lejeune is in a sparsely populated, rural part of eastern North Carolina. The base consists of 156,000 acres of open fields, forests, and coastline and is an ideal place for Marines to get the training they need to fight and win on the battlefield. This remoteness also means that it is in an area with limited civilian medical and research assets. The nearest major medical center is approximately a two hour drive away.

Traumatic Brain Injury, or TBI, has been described as the signature injury of the wars of Iraq and Afghanistan. Since 2000, more than 360,000 service members have been diagnosed with a TBI. A TBI is defined as a force applied to the head that temporarily or permanently disrupts brain function. The huge spectrum of severity of injury is often divided into mild, moderate, and severe. Approximately 20 percent of TBIs are classified as moderate to severe. The remaining 80 percent are classified as mild TBIs, otherwise known as concussions. Individuals may or may not have a brief period of loss of consciousness (less than 30 minutes); alteration of consciousness and memory for less than 24 hours; and a minimal alteration in neurological

function as defined by the Glasgow Coma Score. Computerized Axial Tomography or CT scans, as well as other neuro-imaging modalities, typically show no evidence of abnormality in individuals who have sustained a mild TBI. Individuals who have sustained a mild TBI may only experience subtle changes in mood, memory, sleep and balance. There is currently no diagnostic tool that is sensitive and specific for mild TBI. The diagnosis is further confounded by the fact that the event causing the mild TBI often occurs as part of an intense training exercise, or in the chaos of battle and the fog of war.

As a result, the nonspecific symptoms described by the service members may be so subtle that only the service member and those who know him or her well realize that something is wrong. It can be unclear if the problem is due to mild TBI or to other commonly associated etiologies, such as post-traumatic stress (PTS), post-traumatic stress disorder (PTSD), migraine, sleep disorders, substance abuse, chronic pain, or a combination of some or all of the above. These warfighters have no visible sign of their injury but are often struggling to function at work, home, and in the community. Many times they are able to carry on from one deployment to the next, frequently minimizing injuries and occasionally self-medicating to get by – existing, but not really living life to the fullest. They and their families are the people we typically care for at Intrepid Spirit Camp Lejeune.

Caring for Service Members and Their Families

In response to the challenge of caring for these warfighters and their families in an area with scarce health care resources, Naval Hospital Camp Lejeune developed a comprehensive TBI recovery program in 2011 and the Fallen Heroes Fund gifted Camp Lejeune with a state of the art building in 2013. In addition to diagnosis and treatment, there is a research and educational component to the program, but the bulk of our work is clinical in nature. It is important to note

that we care for Sailors, Marines, Soldiers, Airmen, and Coast Guardsmen. Our mission is to treat the physical, emotional, and spiritual injuries of service members and the families of service members who have sustained a brain injury. They may also have other conditions such as PTSD, chronic pain, polypharmacy and substance abuse issues that all contribute to their functional impairment. Irrespective of the exact mechanism of their brain injury, the goal is brain recovery.

When a service member who is stationed at or around Camp Lejeune enters our program they undergo a standardized, comprehensive evaluation by a multi-disciplinary care team that includes: a neurological examination; lab work; hearing; vision and vestibular testing; behavioral health; speech; language; and cognitive evaluations. Additional assessment, such as imaging or consultation with other specialties, is done as clinically indicated. The service members are also offered the opportunity to meet with pastoral care to assess the moral injuries they may have sustained. We also give the service members the opportunity to “tell their story” in an open-ended interview with representatives of their treatment team. They can invite anyone they wish to join them. They are asked three questions: What happened to you? What problems are you having? What can we do to help?

The treatment plan, developed in partnership with the service member, is tailored to meet his or her individual needs and goals. The implementation includes regular treatment team meetings with the service member to review clinical progress and make adjustments to the treatment program. We treat the service members as warrior athletes, with the expectation that they will return to full duty upon completion of their time at Intrepid Spirit. This expectation is based in part on the concept of neuroplasticity, or the brain’s ability to form new connections in order to compensate for injury or changes in the environment. We have learned from the wars in Iraq and

Afghanistan that there is far more potential for neuroplasticity in young, previously healthy individuals than was formerly recognized.

We employ state of the art pharmacology, behavioral health treatments, and rehabilitation to treat service members while they are at Intrepid Spirit. We also employ a great deal of complementary and integrative treatment modalities, such as: acupuncture; alpha stimulation; audio visual entrainment; yoga; biofeedback; art therapy; meditation; and other modalities in an effort to take advantage of neuroplasticity to help heal the brain. Another benefit of complementary and integrative medicine is that it may provide an alternative to medication. Service members are typically hesitant about taking a medication, but are very receptive to complementary and alternative medicine. We rarely use opioids in our treatment.

When the service member and the treatment team determine that they have reached the maximum benefit from the program, which is usually after about 8 to 12 weeks of treatment, they are either returned to full duty or referred for medical evaluation for fitness for duty. To date, we have treated over 2,300 service members stationed at or near Camp Lejeune and greater than 90 percent who complete the program return to full duty from the standpoint of their TBI, although some may be medically retired for other reasons.

Our success has resulted in a demand for our services from active duty members who are not at Camp Lejeune. In response to this demand, about a year ago we added another product line, modeled in part on the program at the National Intrepid Center of Excellence (NICoE) at the Walter Reed National Military Medical Center (WRNMMC). We call this program “Return To Forces.” It is a shorter, more intensive program that consists of a one-week standard evaluation track and a five-week standard evaluation and treatment track. This compressed treatment time allows service members to be sent by their commands on temporary duty to Camp Lejeune and

receive intensive treatment and then return to their commands so they are ready to get back into the fight.

To date, Return To Forces has treated over 80 service members in this program, with all of them going back to full duty. Many of the participants are from special operations commands and potentially have had several TBIs, as well as other injuries associated with many kinetic deployments over their career. They know they are injured, but their command's operational tempos are so high and they are so committed to the mission, that they did not take time to seek medical care for themselves. Their feedback about the Return To Forces program is frank, and insightful. They frequently mention complementary and integrative therapies as the services they found most beneficial during their time at Intrepid Spirit. We realize that this small group of talented, highly trained individuals is bearing a disproportionately large burden of fighting in the current conflicts, and our focus remains ensuring this population of elite warrior athletes have access to state of the art care they need and deserve. While the data on what works in these multi-disciplinary approaches are limited, we have been collecting information across Navy Medicine and partnering with the other Services, to identify improvements to treatment.

The collocation of providers in the Intrepid Spirit facility contributes to our success. Because the treatment team members are co-located with one another, they are able to share information about the service members they are treating and address issues within minutes with their colleagues. The Intrepid Spirit is an integrated practice unit that provides a unique mission critical capability of caring for service members who have sustained a TBI and the comorbidities associated with TBI, especially those that are combat-related.

Research and Collaborations

The Intrepid Spirit is uniquely situated to make significant contributions to TBI research. It has clinical and research assets that are collocated with the service members. The result is that the Intrepid Spirit has become a forum where clinicians, researchers, and warfighters can meet and share ideas, identify needs and gaps in knowledge and develop concepts that grow into research protocols that generate actionable information that actually helps the service members and their families. These endeavors are only possible through our partnerships with many top tier institutions. We are part of a network of Concussion Recovery Centers that include NICoE, at the WRNMMC, as well as other Intrepid Spirits across the Military Health System at Fort Belvoir, Fort Campbell, Fort Hood, Joint Base Lewis-McChord, Fort Bragg and Camp Pendleton. We regularly communicate best practices and lessons learned. We also receive support in the form of staffing and best practices/clinical recommendations from NICoE and the Defense and Veterans Brain Injury Center to help us in our clinical, educational, and research efforts.

We are working with our colleagues in the MHS and academia to identify gaps in knowledge so we can develop and execute protocols that address these gaps. We can then take what we have learned from research and apply it at the deck plate to improve care for services members and their families. We are partnering with institutions to include: East Carolina University; University of California Irvine; Syracuse Veterans Administration Medical Center; University of Pittsburgh Medical Center; Wayne State University; Princeton University; and University of Pennsylvania. These efforts are important to improve collaboration, break down silos, and minimize the impact of distance inasmuch as these academic centers of excellence can bring their tremendous intellectual firepower on the problems facing warfighters by helping us study

the unique populations at places like Camp Lejeune. For example, we have training evolutions that include heavy weapons and breaching exercises that occur at predictable times and places, which to some degree replicate a combat environment. These exercises are just one example of a tremendous opportunity for partnerships between military and academia to study and better understand the mechanisms that cause TBI, as well how to best diagnose and treat it.

We have submitted protocols or have ongoing studies on various topics that include identifying clinical and MRI markers that predict outcome in service members who have sustained a TBI, identification of biomarkers associated with TBI, and the efficacy of various complementary and integrative treatment modalities. Future efforts could include long term longitudinal studies of the late effects of TBI and better understanding the relationship, if any, between TBI and neurodegenerative diseases such as Alzheimer's and Parkinson's disease, Chronic Traumatic Encephalopathy (CTE) and other diseases. Another area that merits further study is what role, if any, gender, plays in TBI – an important question as women play an increasingly prominent role in the Armed Forces.

In my view, prevention remains the best treatment for a TBI, so conjunction with our clinical and research efforts, we sustain a robust education component. This element includes presentations, briefs, and exhibits at various local meetings and events across the installation emphasizing the importance of safety and the use of protective equipment.

Moving Forward

We are encouraged, but not satisfied with the progress we have made in the care of service members who have sustained a TBI at Intrepid Spirit through the use of a holistic, integrated, interdisciplinary treatment model that is tailored to meet the needs of warfighters and their families. It is particularly gratifying to be focused on treatment modalities that minimize the need to use medications, especially narcotics. We continue to see the demand for our services and remain committed to our mission of caring for our injured service members and furthering our research efforts.

Every day, as we work with service members who have sustained a TBI, we are reminded of the urgency and the importance of our mission. On behalf of the staff at Naval Hospital Camp Lejeune, I would like to say we are grateful to the committee for your strong support of our efforts. We are blessed to have the chance to work hard at something that is so important and so rewarding. I am honored to have represented the men and women at Camp Lejeune, and all across Navy Medicine who work to deliver health care anytime, anywhere.