



Defense Health Agency

BIAM Podcast Series: *Picking Your Brain*

Episode 3 “Exploring DVBIC’s Mission, Part 1”

Featuring: Stephanie Turner, Dr. Seth Kiser, Allison Grant, Johanna Smith, Amanda Ganno, and Stacy Harcum

Host: Kate Perelman

(Kate) The views, opinions, and findings contained in this podcast are those of the host and subject matter experts. They should not be construed as official Department of Defense positions, policies, or decisions unless designated by other official documentation.

This week’s *Picking Your Brain* will be a little different. Due to the amount of information from DVBIC’s Research, Clinical Affairs, and Education Branches, we had to split this episode into two parts. So, this is part one, which explores DVBIC’s Research Branch and its work in military relevant clinical research.

The research conducted at Defense and Veterans Brain Injury Center, or DVBIC, primarily takes place inside the vast organizational structure of the U.S. Department of Defense and Military Health System. The MHS is the umbrella organization that provides medical care for more than nine and a half million active-duty and retired military personnel and their families. Falling under the MHS is the Defense Health Agency, or DHA. Director of the DHA, Lieutenant General Ronald Place, testifying before the House Armed Services Subcommittee on Military Personnel.

(Gen. Place) Our principal mission is enabling readiness. And within that mission are two distinct responsibilities. First, to ensure every person in uniform is, in fact, medically ready to perform their job anywhere in the world. And then secondarily, to ensure our military medical personnel are individually and collectively prepared to support the full range of military medical operations. The Defense Health Agency serves as the supporting agency in this readiness mission to the combatant commands and to the military departments.

(Kate) Like most military units, the DHA is comprised of different staff sections that are responsible for the administrative, operational, and logistical needs of its units. For example, the joint-nine section of DHA, or J-9, is the Research and Development Directorate which leads the discovery, development, and delivery of enhanced pathways to military health and readiness. DVBIC, and ultimately this podcast, operates within DHA’s J-9 section.

The mission of DVBIC’s Research Branch is to provide evidence-based knowledge by conducting and supporting hypothesis-driven, clinically-focused research that improves the treatment and outcome for service members, veterans and their beneficiaries affected by a TBI.

(Stephanie Turner) My name is Stephanie Turner, I am the research portfolio manager at DVBIC.. of currently 70 studies... and in a nutshell all of the studies that we track ...



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(Kate) As the research portfolio manager, Stephanie has a birds-eye-view of all DVBIC's active clinical investigations and helps to ensure they align with the current and future needs of the DHA and DoD. She also is well situated to provide an overview of the clinical research process.

(Stephanie Turner) So our whole DVBIC network is 21 sites. Eighteen of those have research... we work with five VA hospitals, and then the rest are military treatment facilities. ...We have a process for them to be able to, to use the DVBIC staff and our assets to conduct that study. So they submit a pre-proposal up to headquarters. And that helps gauge - does it fit with our gaps? So DVBIC has ...

(Kate) Research gaps is a phrase you'll hear a lot in this episode.

(Dr. Kiser) So the gaps, the gaps, the gaps, they are actually quite essential to DVBIC's mission, right? And they're updated quite regularly...

(Kate) Dr. Seth Kiser is a research scientist at DVBIC whose role includes designing clinical studies and reviewing projects submitted to headquarters for approval. He says that the gaps ensure that...

(Dr. Kiser) ...we are performing the most cutting edge research out there, and that's to support our service members and veterans. I think the first step really in the development of those gaps is to get a core group of people who really understand traumatic brain injury and understand what's most relevant because their up to date on the literature... But we also want to compare that against, you know, the needs of our military.

(Allison Grant) And the gaps are actually quite essential and informing

(Kate) Allison Grant is a research associate at DVBIC. She supports and tracks the various DVBIC studies across multiple different areas.

(Allison Grant) ...And what these gaps propose are areas that research is needed. So it helps keep everyone in line with the mission...

(Dr. Kiser) Yeah, and I think that's an important point. Allison, you brought up the fact that, you know, we have a bunch of independent researchers in our network. They often canvas a very wide array of different aspects related to TBI. You know, it isn't all just one thing. There's many little components that make up TBI research.

(Kate) In addition to the gaps that arise from scientific inquiry itself, DVBIC clinical investigations are also shaped by external factors such as government mandates. For example, in a 2012 executive order, President Obama directed agencies to develop a coordinated action plan for posttraumatic stress disorder and TBI to "reduce the number of affected men and women through better prevention, diagnosis, and treatment."



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(News Anchor) Commander in Chief Barak Obama and Army Chief of Staff General Ray Odierno hosted a healthy kids and safe sports concussion summit Thursday at the White House. The President said to effectively diagnose and treat brain injuries, we must begin to think differently about those injuries.

(President Obama) We have to change a culture that says “you suck it up.” Identifying a concussion and, and being able to self-diagnose that this is this is something that I need to take care of doesn't make you weak. It means you're strong...

(News Anchor) The President says last year the White House directed \$100 million dollars in new research to prevent, diagnose, and treat mental health conditions and traumatic brain injuries.

<news closing music>

(Kate) Congress can also set TBI research agenda. Over the past decade, the clinical investigators in DVBIC's Research Branch have been focusing on two such mandates. The first came with section 721 of a 2007 National Defense funding bill.

(Johanna Smith) Hi, my name is Johanna Smith and I'm the longitudinal studies program analyst in the DVBIC Research branch. I oversee and coordinate the work mainly of the 15-year studies. So, in the 2007 National Defense Authorization Act, Congress decided the DoD needs to do a study and understand what are going to be the long-term impacts of traumatic brain injury in service members, veterans and their family members. We have all kinds of moving parts and various aspects that are trying to address the long-term impact of TBI in the armed forces. So, the 15-year studies, so it's a constellation of studies or a group of studies that have been formulated to address this mandate. The mandate itself asks for us to look at the physical and mental health effects of traumatic brain injury, the healthcare, mental health care and rehab needs, the type and availability of long-term rehab needs, programs and services that are available to our service members and then the effect on the family. So, from that a series of studies were developed to address these four elements of the mandate.

I think it's been a big push in general in the research world for years, to figure out the best way to communicate complex research findings up our chain of command and out to the public. It's a big push for headquarters right now to just be thinking about what is the clinical impact? What are those actionable take home items? So, it's a constant work in progress.

DVBIC on the whole, works very hard in its clinical, education and research missions to have that holistic approach. So, focusing on the end user, focusing on the stakeholder, focusing on the folks that use this info day-to-day. And when the opportunity to work on the 15-year studies presented



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itself, it was this perfect combination of the research and clinical work that I had done. I've never worked with a greater population. So it was certainly solidified by and reinforced by the service members and veterans I got to talk to on a daily basis. With everything they have going on in their world that they were willing to give back to this research study and gave all that they had, uh, you know, I just was incredibly struck by that and realized I had found the right field.

(Kate) The second congressional mandate involves blast exposure on service members. Senator Elizabeth Warren of Massachusetts speaking in a Senate Armed Services Subcommittee on personnel.

(Sen. Warren) And while most people think of TBI as being the result of exposure to an IED explosion on the battlefield, we're now learning that it is not the only or even the most common source of blast exposure for service members. So I was very glad to get an amendment into this year's defense bill that requires the Pentagon to begin a longitudinal study of the blast exposure that our service members experience on the battlefield and when firing larger weapons during training.

(Kate) The amendment that Senator Warren was referring to was section 734 of the National Defense Authorization Act for Fiscal Year 2018. Here's Stephanie to explain...

(Stephanie Turner) So in the NDAA FY18' section 734 mandated that the Secretary of Defense shall conduct a longitudinal medical study, which was ultimately determined to be a four-year longitudinal medical study, on blast pressure exposure for members of the armed forces during combat and training, including members who train with any high overpressure weapon systems. So more specifically, it mandates that we determine how to monitor, record, and analyze blast pressure exposure. The feasibility of creating some kind of record of that blast exposure that could be incorporated into a service member's records...And then lastly, review the safety precautions surrounding heavy weapons and whether any modifications could be made regarding safety standards, or maybe even the weapon itself based on health performance data that we evaluate.

(Kate) Congressional mandated studies are only a portion of DVBIC's research agenda. Recently, clinical investigators have tested the usability of DVBIC's own products and have revised its clinical tools based on end-user feedback. For example, in a recent publication, clinical investigators tested whether the use of one of DVBIC's Progressive Return to Activity clinical tool would lead to changes in provider behavior and improved patient outcomes. The Progressive Return to Activity, or PRA, is a step-by-step approach medical providers can use to monitor service members during TBI recovery and gradually guide them as they return to full duty. Subject matter expert Dr. Keith Stuessi discussed the PRA in a recent DVBIC interview.

(Dr. Stuessi)...And so the great thing about this study is that it's really one of the first ones where DVBIC has taken one of their clinical recommendations and looked at how people are utilizing it. So with this study, there were really two big parts...We interviewed providers, about how they



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treat concussions. And then we looked at patients that they were treating and what kind of outcomes did they have? My major role was to come up with a two hour PowerPoint presentation... and I taught all of them about PRA. And then we took a new set of patients, after they got the education, and looked at their outcomes. So the wonderful thing about this is that we took a clinical recommendation, a guideline, and we validated it. And we said, “hey, if you use this product, and you get taught on it, and know what it's about and where to get it, and have it at your desk, when you train your patient, that we actually can make people better faster.”

(Kate) Once the PRA clinical recommendation was validated, the clinical practice and clinical recommendations team at DVBIC began updating the guidelines.

(Amanda Gano) I'm Amanda Gano, I'm a physician assistant here with the Clinical Affairs Branch. I work with the Clinical Practice and Clinical Recommendations team at DVBIC. We had the opportunity to use the feedback that we collected from the DVBIC PRA study. And that study gave us a lot of information that showed that training medical providers on the PRA does expedite recovery time in patients. And so the focus of the PRA revision is on usability and increasing the primary care provider's confidence in treating concussion within the clinic to help provide patients with the most expedited recovery.

(Stacy Harcum) My name is Stacy Harcum. I'm a Neuroscience Clinician with Clinical Practice and Clinical Recommendations. For the Progressive Return to Activity, one of the most important aspects in its design is the timely return of service members to duty. And it's important to strike a delicate balance because if we return service members too quickly, it can be a danger both to the service member and to the rest of their unit. But we also want to return them as quickly as is safe and possible in order to ensure mission readiness.

(Amanda Gano) It's really important to provide medical providers with evidence-based tools to help them manage traumatic brain injury and manage the symptoms that are associated with concussions.

(Kate) Next time, in part two of this episode, we'll highlight the impact of clinical investigations on medical providers, and the efforts by DVBIC to educate the military and civilian medical communities, service members, veterans, and caregivers on TBI prevention, recognition, and recovery. For more information on the studies featured in this episode, please visit our website at dvbic.dcoe.mil. That's d-v-b-i-c dot d-c-o-e dot mil. We'll also have the link in the episode description.

Picking Your Brain is a four-part series from the Defense and Veterans Brain Injury Center that focuses on the care and recovery of service members and veterans who have sustained a TBI. It's produced and edited by Vinnie White. It was hosted today by me, Kate Perelman. Special thanks to Stephanie Turner for providing information on the Research Branch, and to Dr. Rosser Mathews for his help in writing this episode.