



The primary operational TBI component of the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury

Brainwaves

DVBIC Brainwaves • Fall 2010

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Message From

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Besides the autumn poets sing
A few prosaic days
A little this side of the snow
And that side of the haze.
~Emily Dickinson

Autumn is the proverbial season of change, opportunity to segue. In that spirit, *DVBIC Brainwaves* highlights the significant personnel and policy changes that have occurred since our last edition.

The National Intrepid Center of Excellence (NICoE), led by Dr. James P. Kelly, has begun evaluating service members this fall. The Defense Centers of Excellence (DCoE) has undergone two changes in Director leadership this summer. At DVBIC now four months, I am daily humbled and honored as the National Director and wish our previous leader, Col Michael S. Jaffee, MC, USAF, FS, well in San Antonio.

Amidst all these changes remains the DoD and Congressional imperative to us all: We must be integrative and collaborative, shunning duplication, redundancy and contradiction that would erode our mission to service members and their families.

The Department of Defense (DoD) has issued new guidance in the Directive-Type Memorandum (DTM), signed June 2010, on the management of concussion/mTBI in deployed settings with mandatory, event-driven protocols. DVBIC has developed training and educational materials to support this pivotal shift in policy. Medical personnel in deployed settings may order wallet cards with the new algorithms and the companion patient educational sheet at info@DVBIC.org.

I look forward to working with you, as DVBIC continues its efforts to meet the needs of service members, veterans and their families. At this dynamic time in history, we have the opportunity to bring to fruition much that has been planted, including the anticipated Head to Head study of neurocognitive assessment tools, Cognitive Rehabilitation Pilot Project begun by DVBIC Wilford Hall Medical Center and BAMC TBI Service, underway comprehensive Care Coordination Database and so much more.

"VA and DoD healthcare professionals will not give up on any service member or Veteran who needs our very best care. That promise defines DVBIC's mission—a mission that is fueled by the combined energies of DoD and VA healthcare professionals who are dedicated to helping all TBI victims recover their lives, and discover their futures."



The Honorable Eric K. Shinseki
Secretary of Veterans Affairs
Keynote Speaker
4th Annual TBI Military Training Conference
August 30, 2010



Polytrauma patients with traumatic brain injury (TBI) may experience loss of function in everyday activities such as verbal communication, driving, memory, ambulation and basic self care. Assistive technology (AT) can help them.

AT is a broad range of devices, services, strategies and practices that are conceived and applied to ameliorate the problems faced by individuals who have disabilities.¹

AT encompasses several areas of intervention: wheeled mobility, adaptive driving, adaptive sports & recreation, augmentative & alternative communication, electronic cognitive devices, adaptive computer access and electronic aids to daily living.

Service members and veterans gained increased access to AT in 2009, when the Veterans Administration directed the four Polytrauma

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On August 30-31, 930 healthcare providers, representing 20+ disciplines from deployed settings and military installations around the world as well as VA treatment facilities, gathered in Washington, DC for high-level networking and state-of-the-knowledge education on the identification, treatment and rehabilitation of TBI.

In his keynote address, The Honorable Eric K. Shinseki, Secretary of Veterans Affairs, recognized the longstanding, integrated collaboration shared by his Department and the Department of Defense. He commended DVBIC's care coordination

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NICoE: Providing Leading Edge Services for Wounded Warriors

The National Intrepid Center of Excellence (NICoE) is a state-of-the-art facility dedicated to advancing the treatment, research and diagnosis of complex combat related traumatic brain injury (TBI) and psychological health (PH) conditions. The NICoE is fully equipped with cutting-edge technologies including the Computer Assisted Rehabilitation Environment (CAREN), virtual reality areas, a Digital Imaging Visualization Environment (DIVE) and advanced neuroimaging equipment. In addition to this unique technology, the NICoE will provide training and education, physical and occupational therapy, and family wellness and spirituality components.

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DVBIC Site Profile:
San Antonio Military Health System

The DVBIC site in San Antonio, Texas is located at both Wilford Hall Medical Center (WHMC), established as the lead US Air Force DVBIC site at Lackland Air Force Base in 1992, and Brooke Army Medical Center (BAMC), added at Fort Sam Houston in 2005. In accordance with BRAC law, the two military medical facilities are integrating. *See more on this integration at www.whmc.af.mil.*

Integrated Clinical Care

San Antonio Military Health System (SAMHS) brings together the Air Force's largest medical facility and BAMC's state-of-the-art, level I trauma center in a unique partnership in traumatic brain injury (TBI) care and research. BAMC's TBI Service provides an interdisciplinary team dedicated to the rehabilitation of wounded warriors with TBI.

DVBIC staff work closely with the BAMC TBI Service, completing the initial screening and assessment of service members and referring for treatment at the TBI clinic. DVBIC is actively involved in post-deployment screening of TBI in the Soldier Readiness Programs. DVBIC SAMHS has an expanded Care Coordination program with two regional care coordinators who track the large TBI patient population at SAMHS and throughout the Southern Great Plains region of the US.

Education and Training

DVBIC regional educators at SAMHS work closely with Fort Sam Houston, home of the US Army Medical Department Center & School, providing

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A traumatic brain injury (TBI) is caused by a blow/jolt to the head or penetrating head injury that disrupts the normal function of the brain. Not all blows/jolts to the head result in a TBI. TBI severity may range from **mild** (a brief change in mental status or consciousness) to **severe** (an extended period of unconsciousness or amnesia after injury). The terms **concussion** and **mild TBI** are interchangeable.



The CAREN, one of only seven in the world, is a system housed in its own room that allows virtual reality to be incorporated into the assessment and rehabilitation of injured service members. The virtual reality areas' capabilities include a sensory room and a physiological room, as well as a fire arms training simulator (FATS) room, used to recreate simulations in over 200 combat scenarios. A driving simulator will be used to detect cognitive, visual and motor skill impairments and will assist in maintaining individual independence and mobility. Neuroimaging technology at the NICoE will include positron emission tomography (PET), computed tomography (CT), magnetic resonance imaging (MRI) and magnetoencephalography (MEG).

The Center will also focus on physical therapy, speech/language pathology and recreational therapy as part of the recovery process. The NICoE will further the

holistic approach through "Central Park," an indoor serene naturalistic center that will provide a place of solace and relaxation for service members and their families.

On June 24, 2010, the NICoE held its Ribbon Cutting Ceremony. This event was attended by more than 1,000 people, including representatives from the DoD, the VA, the Intrepid Fallen Heroes Fund, donors, volunteers, and service members and their families. The NICoE began seeing its first cohort of patients in fall 2010.

For more information about the NICoE, please visit <http://www.dcoe.health.mil/ComponentCenters/NICoE.aspx> or connect with the NICoE at www.facebook.com/NationalIntrepidCenterofExcellence and www.twitter.com/NICoEPage.



and provision efforts, particularly at VA Polytrauma Rehabilitation Centers, and cited recent collaborations such as the TBI Family Caregiver Guide for caregivers of service members or veterans with moderate or severe TBI.

John T. Povlishock, PhD, received the Deborah L. Warden Lectureship Award in recognition of his leadership in neuroscience research, which has contributed to significant advances in the care and treatment of TBI. Dr. Povlishock is Professor and Chair, Department of Anatomy and Neurobiology, and Director, Commonwealth Center for the Study of Brain Injury, Department of Anatomy and Neurobiology, Medical College of Virginia.

The inaugural Col Michael S. Jaffee Leadership Award for Clinical Excellence and Outstanding Achievements in TBI Care was presented to LTC Lynne Lowe, PT, DPT, OCS, by Col Jaffee. As Clinical Staff Officer/TBI Program Manager, Proponency Office for Rehabilitation and Reintegration, Health Policy and Services, OTSG, LTC Lowe's leadership and commitment to excellence led to transformational change in the delivery of care to service members with TBI.

DVBIC distributed several resources, including the new mTBI Pocket Guide (CONUS), which may be requested at info@DVBIC.org.



John T. Povlishock, PhD, delivers Deborah L. Warden Lectureship



LTC Lynne Lowe, PT, DPT, OCS, receives award from Col Michael S. Jaffee, MD, MC, USAF, FS



TBI educational materials to support the instruction of medics and military healthcare providers. DVBIC Neurology staff offer their TBI expertise at training courses such as the tri-service Combat Casualty Care Course and the Air Force Expeditionary Medical Support course. Soon all enlisted medical personnel will be trained in San Antonio at the Military Education and Training Campus, increasing the opportunity for DVBIC to assist with TBI training.

Regional educators participate regularly in the Warrior Transition Unit Training Seminar and outreach to the National Guard and Reserves, attending and serving as a resource at regional Yellow Ribbon events.

State-of-the-Art Research

DVBIC SAMHS has an extensive research program with key collaborations in neuroimaging and neuroscience with the University of Texas Health Science Center at San Antonio Research Imaging Institute, Houston's Michael E. DeBakey Veterans Affairs Medical Center and the Baylor College of Medicine Cognitive Neuroscience Department.

Contact Information

DVBIC SAMHS serves Texas, Oklahoma, Kansas, Missouri, Arkansas and Louisiana. To learn more, please visit the Locations page at www.DVBIC.org.



Rehabilitation Centers to develop AT Centers of Excellence. Each Center includes an AT lab for evaluation and simulated apartments for trial of AT equipment prior to discharge. Apartments are designed to be a small version of a SMART home, using both low-tech aids (e.g., wall calendars and alarm clocks) and high-tech aids (e.g., computer programs that operate lights and television).

Today, the AT Centers enable individuals to increase their level of independence and return to their daily vocational and educational roles. The Human Activity in Assistive Technology (HAAT) Model uses an interdisciplinary approach to evaluate individuals with brain injuries on their overall abilities and skills as well as their ability to engage in activities of self-maintenance, productivity and recreation. Utilizing the AT Hierarchy of Access, the process begins with determining the least amount of technology needed to accomplish a task, first modifying the task if possible and then working up to higher levels of technology as indicated.

AT devices for veterans are provided by the VA Prosthetics Department. Devices for active duty service members are provided through the Computer/Electronic Accommodations Program (CAP), funded through the Department of Defense. Service members and veterans, and their family members, are trained in operating selected AT devices either in the clinic or within their home/work environment.

For more information: www.polytrauma.va.gov or contact one of the VA Polytrauma Rehabilitation Centers

- Richmond, VA: (804) 675-5000
Tampa, FL: (813) 972-2000
Minneapolis, MN: (612) 725-2000
Palo Alto, CA: (650) 493-5000

References

- 1. A.M. Cook and S.M. Hussey, Assistive Technology: Principles & Practice, St. Louis, MO: St. Louis, 2008; p. 545.
2. F. Aldrich. Smart homes past, present and future. In Inside the Smart Home, R. Harper, ed., Springer, London, 2003; p. 17-39.
3. Computer/Electronic Accommodations Program retrieved from www.tricare.mil/cap/wsm on 11/12/09.

Special thanks to Ms. Melissa L. Oliver, MS, OTR/L, Assistive Technology Program Coordinator at McGuire VA Medical Center, Richmond, VA; Assistant Professor, Virginia Commonwealth University Department of PM&R.

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