DEFENSE AND VETERANS BRAIN INJURY CENTER

"YOU ARE YOUNG, YOU HAVE A WHOLE FUTURE AHEAD OF YOU.

WE NEED TO GET YOU WELL RIGHT NOW SO YOU CAN PREPARE FOR IT."

DVBIC
DEFENSE AND VETERANS BRAIN INJURY CENTER

20 YEARS OF SERVICE ★ 1992-2012 ★

2012 ANNUAL REPORT

DVBIC's mission is to serve active duty military, their beneficiaries, and veterans with traumatic brain injuries through state-of-the-art clinical care, innovative clinical research initiatives and educational programs, and support for force health protection services.

The cover quotation by Cynthia Boyd, Ph.D., co-senior scientific director at DVBIC's Naval Medical Center San Diego (NMCSD) site, demonstrates the importance she – and everyone at DVBIC – places on our mission. This annual report details DVBIC's 2012 efforts on behalf of our nation's service members.

Cover photos courtesy of Defense Video & Imagery Distribution System (DVIDS). Although the persons depicted in this report have all experienced TBI, they have not necessarily been treated by, nor are they affiliated with, DVBIC personnel.

Photo credits (left to right): Marine Corps Cpl. Chelsea Anderson, Marine Corps Cpl. Bryan Nygaard, U.S. Navy Petty Officer 1st Class Demetrius Kennon, Army Sgt. Ida Irby, Marine Corps Cpl. Lucas Vega

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LETTER FROM THE NATIONAL DIRECTOR

Dear Colleagues:

In 2012, the Defense and Veterans Brain Injury Center, or DVBIC, commemorated 20 years of service. We have grown and expanded since 1992, but our focus on the mission of helping service members and veterans has stayed the course.

In 2011, I deployed as the theater neurologist to Afghanistan for six months. This connection to advancing theater concussion systems of care helped enhance DVBIC's TBI tools and resources to better support concussion care in the deployment setting and was the catalyst, with the Army surgeon general's support, to launch the fourth update of Military Acute Concussion Evaluation (MACE) in 2012.

Significant external and internal changes impacted DVBIC in 2012. We issued the fourth version of the MACE, with changes requested by medics, corpsmen and other providers. In September the Department of Defense (DoD) issued new policy guidance related to TBI in the deployed setting, DoDI 6490.11, which replaced the previously used Directive-Type Memorandum 09-033.

At our own organizational level, we prepared for a governance change from Tricare Management Activity to that of the Army's Medical Research and Materiel Command (MRMC). We and our higher headquarters, the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, or DCoE, used the opportunity of organizational realignment to undertake an organizational restructuring. We reviewed our mission and staffing plan, and identified areas for improvement of function and efficiency within each division. In October the DCoE TBI Clinical Standards of Care Directorate, and various other staff whose mission was TBI operational, were moved to DVBIC, for a total change of 33 positions. We anticipate these changes will strengthen both organizations and, ultimately, TBI initiatives.

DVBIC's network and central office went through operational changes as well in 2012. DVBIC assigned a regional education coordinator to Joint Base Elmendorf-Richardson near Anchorage, Alaska, thereby expanding our network to 18 sites. In addition, we re-launched our website, started a series of webinars and developed two online courses. We truly are breaking new ground, both literally and virtually.

DVBIC's staff throughout our network and in our central office showed their ingenuity and perseverance this year when federal budget constraints imposed changes on us. Instead of hosting the DVBIC Annual Summit as we had the previous five years, we creatively repurposed its keynote address into a lecture honoring our former national director, Dr. Deborah Warden, having now-retired Col. Geoffrey Ling deliver the Deborah Warden Lecture in August, which was held at the Walter Reed National Military Medical Center. The creativity continued with the hosting of smaller meetings in which separate DVBIC teams met and focused on strengthening their productivity and communication. I am proud of my colleagues for finding alternate ways to collaborate, communicate and improve, no matter what challenges arise.

Through all of these changes, DVBIC experts continued to perform research, deliver care and educate providers, service members and the public. You will read more about these ongoing, seemingly ever-expanding efforts on the following pages, and as you do, I know you will be as inspired as I am to continue working on behalf of our nation's service members, veterans and their families. I will be moving on in 2013, confident that the incoming National Director will be a tremendous successor to further advance our TBI mission, and comforted to know that DVBIC's impactful efforts continue.

With my humblest thanks and deepest respect,

Col. Jamie Grimes, MD
National Director, DVBIC

Col. Jamie Grimes shares the latest TBI research during a panel discussion as part of the U.S. Army All-American Bowl in San Antonio, Texas, January 4, 2013. Army photo by Sgt. Keith Anderson

In 2012, DVBIC RCCs conducted or worked with:

- 1,000 patient intakes
- 565 patients for three-month follow-ups
- 365 patients for six-month follow-ups
- 84 patients for nine-month follow-ups
- 251 patients for 12-month follow-ups
- 41 patients for 18-month follow ups
- 99 patients for 24-month follow-ups
- 41 patients for nonstandard follow-ups

DVBIC's clinical affairs team operates out of DVBIC's central office, working to identify best practices and create resources and tools for use by clinicians. DVBIC's surveillance efforts are part of the clinical affairs office. The clinical affairs team has also established and currently supports a team of regional care coordinators (RCCs). They work at the network sites, ensuring that service members who are changing duty stations, moving to the VA system or returning to civilian life after service transition smoothly and receive care and treatment if and as needed. They follow up with service members at several points post-injury to offer connections and resources.

U.S. Army Sgt. Nathan Martucci of Mount Arlington, N.J., shares his experiences coping with brain injury during Brain Injury Awareness Month at Joint Force Base McGuire-Dix-Lakehurst, N.J., March 11, 2013. Army photo by Sgt. Manda Walters

In 2012, the DCoE Clinical Standards of Care team that transitioned to DVBIC from DCoE released the following new TBI clinical tools that represent best practices in TBI treatment:

- Military Acute Concussion Evaluation (MACE) (version 4.0)
- Concussion Management Algorithms in the Deployed Setting (version 4.0)—provides clinical management of service members with concussions at various points
- Combat Medic/Corpsman Algorithm—guides in-field assessment and management by combat medics
- Initial Provider Algorithm—guides providers located at the forward operating bases on how to further manage service members with head injury or concussion
- Comprehensive Concussion Algorithm—guides more definitive care that involves referral to and management at MTFs with neuroimaging capabilities
- Recurrent Concussion Algorithm—guides providers through a more comprehensive evaluation and specialty assessments for neurobehavioral symptom inventory, neuropsychological assessment, neuroimaging, balance, and functional assessment
- Neuroendocrine Dysfunction Screening Post-mTBI—guides providers through a process to identify patients with mTBI presenting with persistent symptoms such as fatigue, weight gain, low blood pressure, low libido, etc., who may benefit from further endocrine evaluation and care
- Assessment and Management of Dizziness Associated with mTBI—guides providers through evaluation of dizziness after mTBI; utilized for differential diagnosis for vertigo, disequilibrium and light headedness, and appropriate referrals for management of each condition.

In 2012, DVBIC continued its mission of TBI data surveillance, collaborating with other components of the military health system and implementing the Department of Defense Instruction 6490.11, "DoD Policy Guidance for Management of Mild Traumatic Brain Injury/Concussion in the Deployed Setting," which went into effect September 2012. The surveillance team performs thorough analysis of the data to track trends in severity of injury, delivery of care, medical evacuations, and identification of high-risk groups. The team has completed a separate analysis by military occupational specialty and unit to help inform senior leaders of concussion threat and contribute to mitigation strategies.

DVBIC's 2012 Surveillance Reports:

- TBI Surveillance Quarterly Reports; Direct and Purchased Care—a quarterly report from the Office of Surveillance that provides an overview of TBI-related medical encounters, both direct and purchased care for all service members in the continental United States, and excludes Guam and Puerto Rico as well as outside the continental United States.
- Non-Deployment Associated TBIs and Mechanism of Injury
- Blast Exposure Concussion Incident Report (BECIR) Quarterly Report—a quarterly report from the Office of Surveillance that presents data from BECIR providing analysis of the reporting variables and historical comparison of previous quarters reported.

Below is a list of reports derived from more in-depth analysis using BECIR as well as other data sources:

- Medically Evacuated mTBI Incidents by Service (BECIR data)
- DTM Data by Event by Country (Iraq – Afghanistan)
- DTM-BECIR Annual Surveillance Report (Inaugural for 2011)
- Type of Event Exposures for Concussed Service Members (BECIR data)
- DTM Unit Type Analysis for USA, USMC and USN
- DTM Occupational Specialty Analysis for USA, USMC, USN
- Concussion Care Center Admissions for mTBI (BECIR data)

★ ★ 20 YEAR TIMELINE ★ ★

1992 - 2000

1992

- *The Defense and Veterans Head Injury Program, or DVHIP, begins in February as the result of a $3.2 million congressional mandate to treat troops with head and neck injuries.*
- *DVHIP receives joint grant from DoD/VA for first randomized trial of TBI rehabilitation. Patient recruitment begins at Walter Reed Army Medical Center.*
- *Five DVHIP sites open.*

1993-2000

- *DVHIP documented incidences of TBI during peacetime.*

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DVBIC's research division develops and conducts clinical investigations in TBI. The team oversees 65 active research protocols, some of which are mandated by Congress. Following are notable achievements from 2012:

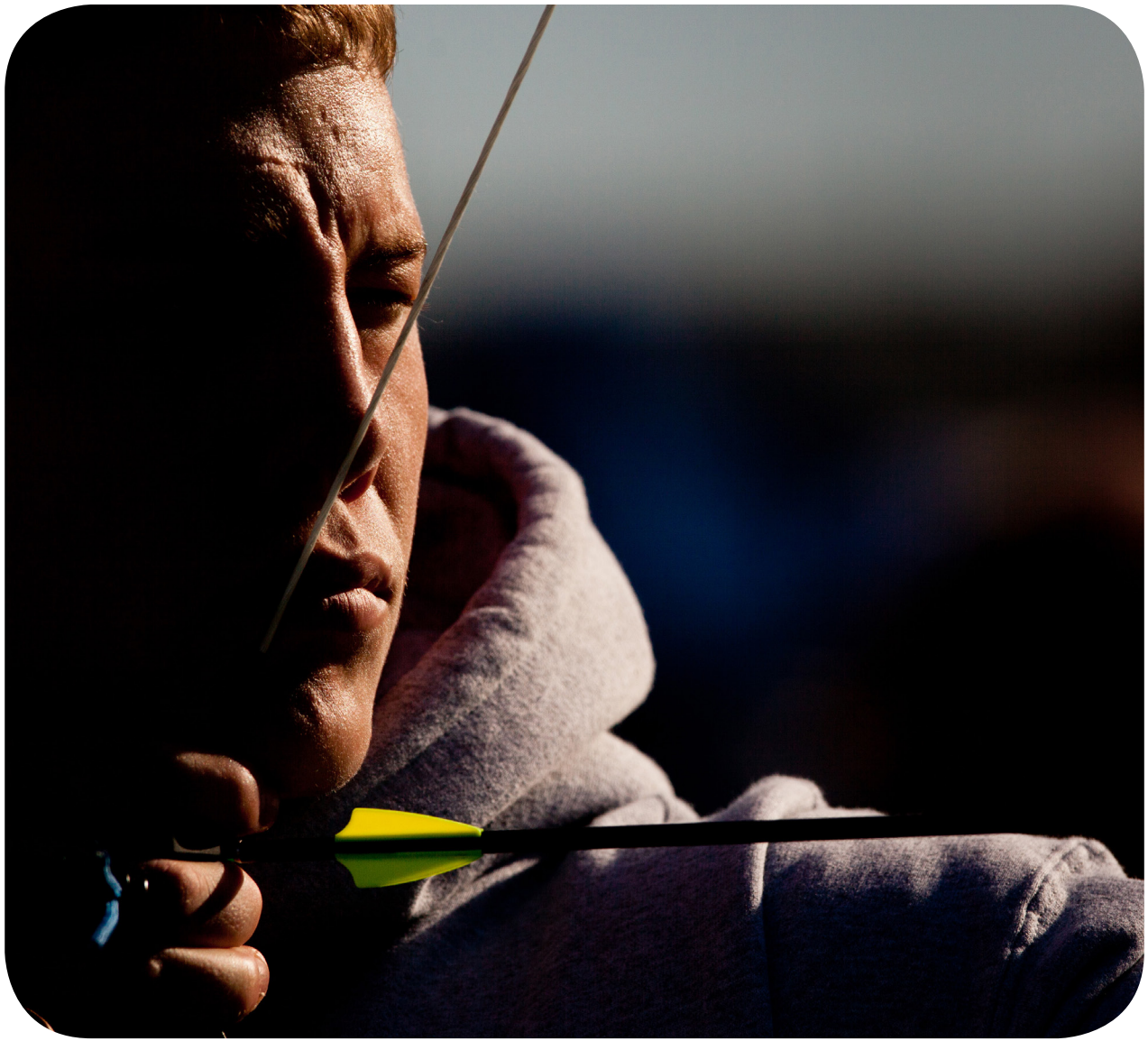
- DVBIC published 31 peer-reviewed manuscripts in 2012 (see list of publication citations at the end of this report).
- "Head-to-Head" Study: Phase one of this study, determining test-retest reliability of four commercially available computerized neuropsychological assessment tools (NCATs), was completed, and results have been written up in a manuscript that has been submitted for publication in a peer-reviewed journal. Enrollment is ongoing for phase two, which will test the validity of the four NCATs.
- 15-Year Longitudinal Study:
  The Natural History of TBI within a Military Cohort—this study will improve our understanding of the natural history of recovery from TBI in a military cohort by developing a data repository that contains information related to service members' health/medical status, quality of life, and healthcare needs that will be used to document long-term outcomes over 15 years.

  Enrollment in the comprehensive pathway, in which participants undergo one to two days of intensive evaluation/testing every three years, with phone evaluations annually, is ongoing. DVBIC received final regulatory approval to begin enrollment in the brief pathway, where data is collected by phone annually for up to 15 years.

  Health-Related Quality of Life in Caregivers of Service Members with Military Related Traumatic Brain Injury—this is a longitudinal evaluation of the effect of caring for a service member with TBI on the caregiver's overall health and well-being. Final regulatory approval to enroll participants was received in 2012.
- The Study of Cognitive Rehabilitation Effectiveness in Mild TBI (SCORE!) will evaluate the effectiveness of cognitive rehabilitation in Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) service members with a history of mild TBI and persistent cognitive complaints. A supporting study to SCORE!, the Imaging Support of the Study of Cognitive Rehabilitation Effectiveness for mild TBI (iSCORE) will investigate longitudinal structural and functional neuroimaging changes over time that correlate with outcome following the trial of cognitive rehabilitation.

The SCORE! and iSCORE studies are ongoing and collecting data, with the SCORE! study enrolling more than 50 percent of the target number of participants in 2012.

- ProTECT III – Progesterone for the Treatment of TBI—This trial will determine if progesterone, a hormone normally found in the human body, is useful in limiting the amount of brain damage from TBI. DVBIC is participating in this national, multi-center trial through a protocol that is on-going at our site at Brooke Army Medical Center in San Antonio.



Marine Corps Lance Cpl. Blake Bibbins of Brooklyn, Mich., concentrates down-range during the Marine Corps Wounded Warrior Trials at Camp Pendleton, Calif., February 17, 2012. Marine Corps photo by Cpl. Chelsea Anderson

EDUCATION

★ ★ 20 YEAR TIMELINE ★ ★
1999 - 2002

1999

- *Recruitment begins for Ft. Bragg paratrooper study.*

2000

- *The Journal of the American Medical Association publishes results of the first randomized controlled trial of multidisciplinary post-acute rehabilitation for TBI.*

2001

- *The Journal of Neurology publishes a study performed by DVBIC and the U.S. Military Academy at West Point associating concussion with slowed reaction time.*

2002

- *DVHIP changes its name to the Defense and Veterans Brain Injury Center, or DVBIC.*

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DVBIC's education team provided information and resources to hundreds of thousands of people, both in person and online, in 2012. The team:

- Distributed more than 764,500 educational items through the websites.
- Created and managed the first TBI online course for civilian providers.
- Began a webinar series in partnership with DCoE for medical providers, offering CE/CME credit.
- Launched a Family Needs Line comprising four booklets for family members and caregivers of people with TBI.
- Developed six training slide decks for deploying service members, providers, and leaders related to DoDI 6490.11 for in-theater concussion care.
- Developed provider training slide decks for visual disturbances following mTBI to accompany a new clinical recommendation.

Regional education coordinators (RECs) serve as outreach TBI experts for DVBIC. They speak at DoD, VA, and public health and training events, Yellow Ribbon Reintegration Events and other activities, and provide information and generate awareness about TBI and remain available to help service members and their families.

Key DVBIC REC statistics:

- 735 presentations, delivered or facilitated by the RECs, reached over 65,000 people.
- 151 exhibits at conferences and events were visited by 67,000 people.
- 18 exhibits at Yellow Ribbon Reintegration Events (U.S. Army Reserve and National Guard) reached 11,400 people.
- 15 TBI briefs were provided at yellow ribbon events.

DVBIC redesigned its organizational website in 2012, and maintained content support of Brainline.org and BrainlineMilitary.org; both launched mobile sites. All three websites won awards in 2012. DVBIC's new website offers a new shopping cart tool that visitors can use to order print materials, and the two Brainline sites boast two new online courses for providers. DVBIC's education team also began a TBI webinar series.

Retired Marine Corps Staff Sgt. Vincent Gizzarelli looks on with his adopted son during the dedication ceremony of his new house in Jacksonville, N.C., April 28, 2012. The house was built using supplies and donations from local businesses and various veterans' groups. Marine Corps photo by Cpl. Bryan Nygaard

★ ★ 20 YEAR TIMELINE ★ ★

2005 - 2007

2005

- *DVBIC funds first in-theater study of TBI in Balad, Iraq.*
- *At the direction of the Assistant Secretary of Defense for Health Affairs and the Army surgeon general, DVBIC takes on the mission of TBI surveillance for the DoD.*

2007

- *DVBIC deploys the first in-theater guidance for evaluating concussion: the Military Acute Concussion Evaluation, or MACE.*
- *DVBIC holds its first TBI summit to provide training and education to military providers.*

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★ ★ 20 YEAR TIMELINE ★ ★
2008 - 2010

2008

- *DVBIC is designated the primary operational TBI component of the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury, or DCoE.*
- *A program for pre-deployment assessment of service members' cognitive functioning, using the Automated Neuropsychological Assessment Metrics tool, begins.*

2010

- *The DoD releases landmark guidance on the treatment of mTBI in-theater that requires use of the MACE.*
- *DVBIC and DCoE launch the first modules of the congressionally mandated multimedia tool, the Family Caregiver Curriculum.*

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In 2013, DVBIC will focus on strengthening its core infrastructure and network, as DCoE's operational TBI components realign with DVBIC to create a TBI Center of Excellence and the entire DCoE organization transitions to MRMC.

U.S. Army Pfc. Hope Clark of Ionia, Mich., reaches high during aquatic therapy at the Bowling Family YMCA in El Paso, Texas, February 2012. Army photo by Sgt. Ida Irby

Rocky, the service dog for Marine Corps Staff Sgt. Matthew Benack of St. Louis, Mo., sits on the sidelines during the Marine Corps Wounded Warrior Trials at Camp Pendleton, Calif., February 16, 2012. Marine Corps photo by Cpl. Lucas Vega

★ ★ 20 YEAR TIMELINE ★ ★

2011 - 2012

2011

- *DVBIC and television network WETA launch mobile sites for BrainLine.org and BrainLineMilitary.org.*

2012

- *2012 DVBIC network marks 20 years of service, and expands to 18 sites with the addition of Joint Base Elmendorf-Richardson in Alaska.*

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MTFs

Landstuhl Regional Medical Center

Landstuhl Regional Medical Center (LRMC) is the only Level I Trauma Medical Treatment Facility outside the continental U.S. and the largest medical facility in the European Regional Medical Command. Highlights of DVBIC's work at LRMC in 2012 include more than 10,000 patient encounters and more than 5,185 screenings. TBI research continues to be an important aspect of the LRMC team's work with multiple ongoing trials including continuing work on a large, multi-site biomarker assay trial funded by the Congressionally Directed Medical Research Program.

Marine and Sailor Concussion Recovery Center, Camp Lejeune

The DVBIC team at Camp Lejeune served 5,466 patients in 2012, providing evaluations, plans of care, occupational and speech/language therapy, vestibular rehabilitation, psychological evaluations, case management, care coordination and alternative medicine therapies such as biofeedback and iRest. An onsite occupational therapist secured a gift from the Semper Fi Fund of $12,000 for biofeedback equipment that was presented to the clinic in January 2013. In 2012, DVBIC-Camp Lejeune RECs reached 144,000 people, including service members, veterans, command officials, providers, and the surrounding community through education and exhibit booths. In addition, another onsite team member received recognition of outstanding service from the Captain of the Medical Corps at Camp Lejeune for delivering high-quality, compassionate, patient-centered care.

Camp Pendleton

In 2012 DVBIC-Camp Pendleton had 861 new referrals. Clinicians completed 669 initial intakes, more than 150 neuropsychological evaluations, and saw a total of 1261 patients for a variety of appointments. Additionally, this site continued to provide post-deployment screening support in collaboration with I Marine Expeditionary Force and Marine Special Operations Battalion. DVBIC-Camp Pendleton further integrated services within Naval Hospital Camp Pendleton and the new Warrior Recovery Center, including generating a local memorandum of agreement and standard operating procedure with the command. With regard to education, DVBIC-Camp Pendleton's team provided more than 2,600 educational materials and clinical tools to nearly 400 DoD providers, service members, family members, and the surrounding community. For our annual Brain Injury Awareness month event, DVBIC-Camp Pendleton hosted neuropsychologist Dr. Grant Iverson. Dr. Iverson is a world-renowned speaker, and the talk generated a large audience of multi-disciplinary providers. Research endeavors included multiple publications, abstracts, and collaborative projects both locally and nationally.

Fort Bragg

DVBIC-Fort Bragg's mission is to return service members to their parent units as quickly as possible, and ensure that, if cleared for duty, they are able to perform basic level skill requirements. The team strives to effectively treat and rehabilitate service members with persistent postconcussive symptoms, and to ensure that when they return to duty, they have been accurately evaluated and have the ability to meet the standards leadership requires of them. In 2012, DVBIC-Fort Bragg clinical personnel provided treatment and testing to 740 soldiers during 940 office visits. The "Head-to-Head" research study team tested 201 participants in 2012. As part of its ongoing TBI educational mission, DVBIC-Fort Bragg conducted 3,250 in-processing briefings to soldiers during the year.

Evans Army Community Hospital, Fort Carson

The DVBIC team at Fort Carson is situated within the Warrior Recovery Center at the Evans Army Community Hospital, the primary clinic for the treatment of TBI at the Mountain Post. This embedded site allows a high level of soldier contact by DVBIC staff. In 2012 DVBIC-Fort Carson's research team conducted research on an Interactive Metronome Study and completed enrollment in the Warrior Strong study, reviewing long-term effects of combat-related mild TBI. The local RECs provided classes and briefs to 24,877 individuals, and the care coordination program served as a point of

contact for ongoing care during geographic relocation for nearly 100 service members.

Carl R. Darnall Army Medical Center, Fort Hood
Home to more than 70,000 troops, Fort Hood is the largest deploying base in the continental U.S. and is home to IIICORPS, 1st Cavalry Division and First Army Division West. DVBIC staff is embedded within the TBI clinic, collaborating with medical care, care coordination and education for service members, family, and staff. To assist the TBI clinic, where approximately 600 active patients receive care, DVBIC provides educational information to staff and service members on signs and symptoms of concussion, pamphlets on mood changes, sleep hygiene and memory improvement. DVBIC staff provided mild TBI/concussion awareness education and training to over 24,000 troops and providers, and train-the-trainer education for Medics and providers at Fort Hood.

Fort Belvoir Community Hospital, Fort Belvoir
Fort Belvoir Community Hospital's Traumatic Brain Injury Department provided return-to-duty and flight status assessments for wounded warriors with TBI as well as access to the TBI Rehabilitation Intake Clinic. Services were provided to approximately 600 patients in 2012. Care coordinators serve as liaisons for TBI patients, working with practitioners of various types of therapies including occupational, physical, speech, and recreational. Patients are invited to participate in TBI research protocols within the department. TBI clinicians actively collaborate with The Ohio State University, VA, Uniformed Services University of the Health Sciences, National Intrepid Center of Excellence, and other entities.

Naval Medical Center San Diego (NMCSD)
In 2012, the team at DVBIC-NMCSD started data entry efforts for the clinical tracking form study, in which 1,090 clinical tracking forms have been entered, of which 1,017 were delivered for the Walter Reed Army Medical Center/Brooke Army Medical Center merger. The site's co-senior scientific director led DVBIC's first ever webinar, with a presentation titled, "The Battle Within: TBI, PTSD and Violence Risk." Staff increased understanding of TBI among 3,924 DoD, VA, and civilian providers, service and family members through presentations and workshops, and distributed to DoD, VA, and civilian providers 7,389 educational items such as toolkits, handouts, fact sheets, brain helmets, and pocket guides. Team members conducted site visits throughout southern California and Nevada at 13 unique locations that included VA hospitals, military bases, and Wounded Warrior battalions. Staff at DVBIC-NMCSD performed nearly 245 clinical interviews, feedback sessions, and telephone consultations; administered 148 neuropsychological testing batteries; and completed more than 50 neurocognitive assessments for medical disability.

San Antonio Military Medical Center (SAMMC)
During 2012, DVBIC-SAMMC staff reviewed post-deployment questionnaires and screened medical records of more than 1,400 service members for TBI, identifying 138 individuals as TBI positive for the DVBIC TBI database and enrolling 128 of those members in the DVBIC Prospective TBI Tracking Protocol. DVBIC-San Antonio also updated more than 2,494 providers with the latest TBI information. DVBIC personnel are involved in eight ongoing research protocols, including a congressionally mandated cognitive rehabilitation trial for OEF/OIF service members and an associated longitudinal neuroimaging study.

Walter Reed National Military Medical Center (WRNMMC)
DVBIC staff at WRNMMC provided more than 1,100 outpatient diagnoses and 2,000 inpatient diagnoses in 2012. They collaborated with the U.S. Military Academy at West Point and U.S. Naval Academy to assess and treat concussions at WRNMMC, provided high-level, comprehensive team-based evaluations and follow-ups, and improved patient care through use of the Brain Fitness Center and the TBI Rehabilitation Intake Clinic to improve cognitive functioning. Twelve TBI staff lectures were presented; topics included cognitive-communication deficits following TBI, sleep, memory, and dreams from the bed to the field, and targeting functional deficits from mTBI in the presence of chronic co-morbidities. DVBIC

staff at WRNMMC provided TBI education to more than 2,800 inpatients and their family members; educated more than 1,500 providers through headache seminars; continued research collaborations with Spaulding Rehabilitation at Harvard University, The Ohio State University, the VA, Uniformed Services University of the Health Sciences, and other organizations; implemented 13 research protocols; and published five peer-reviewed journal articles, four book chapters, nine abstracts, and nine poster/conference presentations.

Joint Base Elmendorf-Richardson (JBER)

DVBIC-JBER is located in the 673rd Medical Group Hospital and is the sole Air Force-run TBI Clinic. DVBIC-JBER's main mission is to provide care, education, and prevention services to Army service members assigned to the 4-25 Airborne Infantry Brigade and any DoD or VA beneficiaries. The TBI clinic began operations in 2009 and opened its new facility in February 2012. The team is creating and making use of existing opportunities to provide education and vital services to DoD and VA beneficiaries, and collaborating with community members, military, VA, and civilian health care providers. Working alongside providers in the TBI clinic, DVBIC's regional education coordinator (REC) provided 13 awareness briefs to Commanders and line leaders, service members, hospital medical staff, and community groups. The REC developed and taught a multiple-evening course to family members of service members who have sustained TBIs, as well as a warriors and concussion class series for injured service members. Additionally, the REC taught six TBI basics classes for chaplains, VA outpatient counselors, VA claims processors and other key contacts, and shared information with base PAOs that reached the public through social and traditional media outlets; they exhibited at more than a dozen public events and displays. DVBIC-JBER's REC presented "TBI in the Military: The Basics" to the first Alaska Brain Institute statewide conference, and frequently collaborates with community-based advocacy groups. The REC gives individual attention to service members and spouses as needed to help them obtain relevant services and assistance.

VA Medical Centers

Boston

DVBIC-Boston is actively conducting research in the areas of TBI and other combat-related mental health disorders. DVBIC works closely with the VA's TBI Center of Excellence at Boston: the Translational Research Center for Traumatic Brain Injury and Stress Disorders (TRACTS). Ongoing research protocols include behavioral and neuroimaging characterization of TBI and comorbid deployment-related mental health conditions as well as measuring the functional outcomes (e.g., driving safety) among the OEF/OIF cohort.

Minneapolis

The DVBIC-Minneapolis team in conjunction with the Minneapolis VA Department of Physical Medicine and Rehabilitation continues to leverage existing relationships in order to collect and organize accessible data from multiple sources to create a multi-user relational database comprising clinically relevant data. These data are being used to support the internal assessment and subsequent improvement of patient care, improve processes and procedures, collect clinical outcome measures, and provide Commission on Accreditation of Rehabilitation Facilities-focused tracking. Additionally, this DVBIC team has developed new research protocols that explore the relationships between TBI and neurodegenerative disease and TBI and cognitive control.

Palo Alto

DVBIC-Palo Alto is an integral part of the clinical research, care coordination and education/outreach success of the Polytrauma System of Care at VA Palo Alto Health Care System. In 2012 the research team continued their work on one multi-site DVBIC study and several local studies. DVBIC-Palo Alto hosted the TBI Research Forum for the second year under the theme, TBI and Co-morbidities: PTSD and Spinal Cord Injury. More than 130 attendees from across Northern California and the western U.S. VA system, University of California, San Francisco, and community hospitals participated; 29 posters were presented,

followed by three invited speakers and a panel discussion. DVBIC-Palo Alto education and outreach programs focused on community colleges for returning veterans, family caregivers, and justice-involved veterans.

Richmond

DVBIC-Richmond continues to be an integral component of the Polytrauma System of Care at McGuire VA Medical Center. The REC and RCC made a total of 3,230 contacts with active duty service members and veterans for their TBI care and educational needs. Research is also very active; in 2012, DVBIC-Richmond led five projects and participated in two multi-site studies with a total of 183 new participants. Projects focus on a range of issues including social competence, pain, olfactory and taste dysfunction, and postconcussion syndrome. New studies projected to begin in 2013 will examine spatial and vestibular disorders after TBI and neuroplasticity following cognitive rehabilitation.

Tampa

The 9th Annual Blast Injury Conference was presented at the Special Operations Medical Association's meeting in December. The conference provided DoD, VA, and civilian provider communities with the latest best practices in blast-induced TBI care, ranging from the front lines through rehabilitation. At the James A. Haley VA, a focus is placed on family caregivers of the Polytrauma Rehabilitation Center's inpatient population. A weekly Family Caregiver Education Series provides information on all aspects of moderate to severe TBI rehabilitation such as seizure awareness, brain anatomy 101 and the importance of sleep for TBI recovery. The 3rd Annual Family Caregiver Conference, "MISSION: Hope, Care and Support," was held in November and hosted more than 100 participants. DVBIC-Tampa has also played a key role in the TBI-related education of ongoing student classes at the Joint Special Operations University Senior Enlisted Academy at MacDill AFB, providing expert TBI lectures and briefings about DVBIC services.

Charlottesville and Johnstown

DVBIC operates two Residential Neurorehabilitation and Community Reintegration Centers: DVBIC-Charlottesville and DVBIC-Johnstown. Both sites are accredited by the Commission on Accreditation of Rehabilitation Facilities and provide intensive and structured short-term neurorehabilitation and community reintegration therapies for active duty service members and activated National Guard and reserve members with mild traumatic brain injuries, in the post-acute period of clinical care, whose recovery is complicated by significant co-morbid conditions. A full interdisciplinary clinical-team approach is utilized. These service members represent the minority of those patients who sustain a mild TBI and continue to have ongoing problems as a result of their injury. Care models are based on currently accepted practices in the field of TBI neurorehabilitation, incorporating research, clinical practice guidelines, and innovative and emerging best practices. Both sites can treat up to 10 service members at a time for a maximum treatment period of 16 weeks and have cooperative arrangements with businesses and governmental agencies within the local community, where service members can gain practical, real-world skills in preparation for a return to duty. Additionally, DVBIC-Charlottesville conducts briefings on the complexities of TBI and behavioral health conditions at The Judge Advocate General's Legal Center and School to educate DoD's senior leaders who are preparing for deployments, as well as other service members who attend the school.

At DVBIC-Charlottesville, 15 service members were treated by the program during 2012. Of these service members, 73 percent returned to their military commands, and 27 percent separated from the military.

At DVBIC-Johnstown, of the 21 service members in the program during 2012, dispositions of 17 are currently determined. Of these service members, 67 percent returned to their military commands, and 33 percent separated from the military.

PUBLICATIONS

DVBIC produced 27 peer-reviewed publications in 2012, which highlighted research and clinical practice:

Belanger, H. G., Vanderploeg, R. D., Soble, J. R., Richardson, M., & Groer, S. (2012). Validity of the Veterans Health Administration's traumatic brain injury screen. *Archives of Physical Medicine and Rehabilitation, 93*(7), 1234-1239.

Cooper, D. B., Chau, P. M., Armistead-Jehle, P., Vanderploeg, R. D., & Bowles, A. O. (2012). Relationship between mechanism of injury and neurocognitive functioning in OEF/OIF service members with mild traumatic brain injuries. *Military Medicine, 177*(10), 1157-1160.

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RESOURCES

DVBIC Web Cards

DVBIC Logo Stickers

DVBIC Fact Sheet

DVBIC CAPT Hancock Public Service Announcement (PSA)

DVBIC BrainlineMilitary.org PSA

DVBIC Family Caregiver Guide PSA

HEADS Poster

Brain Injury Awareness Poster – March 2013

BrainlineMilitary.org Bookmark

Brainline.org Bookmark

Brainline.org Postcard

Signs and Symptoms Fact Sheet (including eight available additional languages)

Moderate/Severe Signs and Symptoms Fact Sheet

Symptom Management – Improving Memory

Symptom Management – Healthy Sleep

Symptom Management – Mood Changes

Symptom Management – Headache and Neck Pain

Symptom Management – Head Injury and Dizziness

Acute Concussion Educational Brochure

For Use >1 Month After Injury or at Post Deployment Health Assessment (Not for Acute Period)

Warfighter Sleep Kit

Co-occurring Conditions Toolkit: Mild TBI and PH: Revised Sept 2011 (Second Edition)

Co-occurring Conditions Toolkit: Mild TBI and PH: Provider Training Video/DVD-April 2011

Mild Traumatic Brain Injury Pocket Guide (CONUS)

Department of Defense – ICD-9 Coding Guidance for Traumatic Brain Injury Pocket Card

Case Management of Concussion/mTBI Guidance Document

Neuroendocrine Dysfunction Screening Post mTBI Clinical Recommendation & Reference Card

Military TBI Case Management Quarterly Newsletter

Assessment and Management of Vision Associated with mTBI Clinical Recommendation & Reference Card

Assessment and Management of Dizziness Associated with mTBI Clinical Recommendation & Reference Card

Symptom Management – Vision Brochure

TBI.consult business card

HEADS Concussion Card

Military Acute Concussion Evaluation (MACE) Wallet Card

Military Acute Concussion Evaluation (MACE) Pocket Card

Concussion Management Algorithm (CMA) Pocket Card

Concussion Management Algorithm (CMA) Wallet Card

Acute Stress Reaction Fact Sheet

Winter Webinar Postcards

Neuro-rehab Site Brochure

Taking Care of Yourself While Caring for Others Brochure

Addressing Family Needs Brochure

Talking to Children About TBI Brochure

Talking to Children About Moderate or Severe TBI Brochure

Family Caregiver Guide Backpack

Family Caregiver Fact Sheet

Family Caregiver Poster

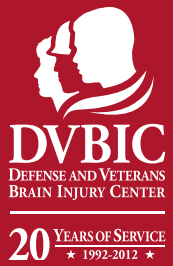
Family Caregiver Postcards

Our Daddy is Invincible Children's Book

Complementary and Alternative Medicine (CAM), Modalities and Interventions Fact Sheet

Neurocognitive Assessment Tool (NCAT) Clinical Recommendation

Line Leader Fact Sheet



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