



PERSONNEL AND
READINESS

UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

MAY 16 2013

The Honorable Harold Rogers
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

The enclosed report responds to section 1634(b) of the National Defense Authorization Act for Fiscal Year (FY) 2008 (Public Law 111-181). This statutory provision requires the Secretary of Defense to submit an annual report setting forth the amounts expended by the Department of Defense (DoD) during the preceding year on activities relating to the diagnosis, treatment, and rehabilitation of members of the Armed Forces with traumatic brain injury (TBI) and psychological health (PH) concerns, including posttraumatic stress disorder (PTSD).

The report details the DoD's accomplishments during the previous calendar year, as required by the legislation. The highlights of the Department's efforts include increased civilian mental health staffing to augment care to help meet established access standards for urgent and routine appointments; new virtual reality technologies help assess and treat Service members in remote or underserved locations to provide more timely care than with traditional face-to-face appointments; and the development of partnerships to develop networks that offer education, outreach, and case management support to improve the timeliness and coordination of health care services for recovery, rehabilitation, and reintegration. In addition, we improved screening and surveillance efforts to facilitate the early identification and treatment of Service members and families with TBI or PH concerns.

The report includes a statement of the DoD's priorities relating to the prevention, diagnosis, research, treatment, and rehabilitation of TBI and PH, including PTSD, and an assessment of the progress made toward achieving those priorities. In addition, it provides the status of expenditures associated with fiscal year appropriations starting with the FY 2007 Supplemental Appropriation. Using these funds, the Military Services have been able to better care for Service members with TBI and PH issues. I apologize that this report was delayed due to an extensive data collection process. A similar letter is being sent to the Chairpersons of the other congressional defense committees.

Thank you for your interest in the health and well-being of our Service members, veterans, and their families.

Sincerely,


Jessica L. Wright
Acting

Enclosure:
As stated

cc:
The Honorable Nita M. Lowey
Ranking Member



UNDER SECRETARY OF DEFENSE

4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

PERSONNEL AND
READINESS

MAY 16 2013

The Honorable Howard P. "Buck" McKeon
Chairman
Committee on Armed Services
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

The enclosed report responds to section 1634(b) of the National Defense Authorization Act for Fiscal Year (FY) 2008 (Public Law 111-181). This statutory provision requires the Secretary of Defense to submit an annual report setting forth the amounts expended by the Department of Defense (DoD) during the preceding year on activities relating to the diagnosis, treatment, and rehabilitation of members of the Armed Forces with traumatic brain injury (TBI) and psychological health (PH) concerns, including posttraumatic stress disorder (PTSD).

The report details the DoD's accomplishments during the previous calendar year, as required by the legislation. The highlights of the Department's efforts include increased civilian mental health staffing to augment care to help meet established access standards for urgent and routine appointments; new virtual reality technologies help assess and treat Service members in remote or underserved locations to provide more timely care than with traditional face-to-face appointments; and the development of partnerships to develop networks that offer education, outreach, and case management support to improve the timeliness and coordination of health care services for recovery, rehabilitation, and reintegration. In addition, we improved screening and surveillance efforts to facilitate the early identification and treatment of Service members and families with TBI or PH concerns.

The report includes a statement of the DoD's priorities relating to the prevention, diagnosis, research, treatment, and rehabilitation of TBI and PH, including PTSD, and an assessment of the progress made toward achieving those priorities. In addition, it provides the status of expenditures associated with fiscal year appropriations starting with the FY 2007 Supplemental Appropriation. Using these funds, the Military Services have been able to better care for Service members with TBI and PH issues. I apologize that this report was delayed due to an extensive data collection process. A similar letter is being sent to the Chairpersons of the other congressional defense committees.

Thank you for your interest in the health and well-being of our Service members, veterans, and their families.

Sincerely,


Jessica L. Wright
Acting

Enclosure:
As stated

cc:
The Honorable Adam Smith
Ranking Member



PERSONNEL AND
READINESS

UNDER SECRETARY OF DEFENSE
4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000

MAY 16 2013

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Madam Chairwoman:

The enclosed report responds to section 1634(b) of the National Defense Authorization Act for Fiscal Year (FY) 2008 (Public Law 111-181). This statutory provision requires the Secretary of Defense to submit an annual report setting forth the amounts expended by the Department of Defense (DoD) during the preceding year on activities relating to the diagnosis, treatment, and rehabilitation of members of the Armed Forces with traumatic brain injury (TBI) and psychological health (PH) concerns, including posttraumatic stress disorder (PTSD).

The report details the DoD's accomplishments during the previous calendar year, as required by the legislation. The highlights of the Department's efforts include increased civilian mental health staffing to augment care to help meet established access standards for urgent and routine appointments; new virtual reality technologies help assess and treat Service members in remote or underserved locations to provide more timely care than with traditional face-to-face appointments; and the development of partnerships to develop networks that offer education, outreach, and case management support to improve the timeliness and coordination of health care services for recovery, rehabilitation, and reintegration. In addition, we improved screening and surveillance efforts to facilitate the early identification and treatment of Service members and families with TBI or PH concerns.

The report includes a statement of the DoD's priorities relating to the prevention, diagnosis, research, treatment, and rehabilitation of TBI and PH, including PTSD, and an assessment of the progress made toward achieving those priorities. In addition, it provides the status of expenditures associated with fiscal year appropriations starting with the FY 2007 Supplemental Appropriation. Using these funds, the Military Services have been able to better care for Service members with TBI and PH issues. I apologize that this report was delayed due to an extensive data collection process. A similar letter is being sent to the Chairpersons of the other congressional defense committees.

Thank you for your interest in the health and well-being of our Service members, veterans, and their families.

Sincerely,


Jessica I. Wright
Acting

Enclosure:
As stated

cc:
The Honorable Richard C. Shelby
Vice Chairman

UNDER SECRETARY OF DEFENSE

4000 DEFENSE PENTAGON
WASHINGTON, DC 20301-4000



PERSONNEL AND
READINESS

MAY 16 2013

The Honorable Carl Levin
Chairman
Committee on Armed Services
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

The enclosed report responds to section 1634(b) of the National Defense Authorization Act for Fiscal Year (FY) 2008 (Public Law 111-181). This statutory provision requires the Secretary of Defense to submit an annual report setting forth the amounts expended by the Department of Defense (DoD) during the preceding year on activities relating to the diagnosis, treatment, and rehabilitation of members of the Armed Forces with traumatic brain injury (TBI) and psychological health (PH) concerns, including posttraumatic stress disorder (PTSD).

The report details the DoD's accomplishments during the previous calendar year, as required by the legislation. The highlights of the Department's efforts include increased civilian mental health staffing to augment care to help meet established access standards for urgent and routine appointments; new virtual reality technologies help assess and treat Service members in remote or underserved locations to provide more timely care than with traditional face-to-face appointments; and the development of partnerships to develop networks that offer education, outreach, and case management support to improve the timeliness and coordination of health care services for recovery, rehabilitation, and reintegration. In addition, we improved screening and surveillance efforts to facilitate the early identification and treatment of Service members and families with TBI or PH concerns.

The report includes a statement of the DoD's priorities relating to the prevention, diagnosis, research, treatment, and rehabilitation of TBI and PH, including PTSD, and an assessment of the progress made toward achieving those priorities. In addition, it provides the status of expenditures associated with fiscal year appropriations starting with the FY 2007 Supplemental Appropriation. Using these funds, the Military Services have been able to better care for Service members with TBI and PH issues. I apologize that this report was delayed due to an extensive data collection process. A similar letter is being sent to the Chairpersons of the other congressional defense committees.

Thank you for your interest in the health and well-being of our Service members, veterans, and their families.

Sincerely,


Jessica A. Wright
Acting

Enclosure:
As stated

cc:
The Honorable James M. Inhofe
Ranking Member



**Report to Congress
On Expenditures for Activities on Traumatic
Brain Injury and Psychological Health,
Including Posttraumatic Stress Disorder,
for Calendar Year 2012**

**In Accordance with Section 1634(b) of the
National Defense Authorization Act
For Fiscal Year 2008**

The estimated cost of report for the Department of Defense is approximately \$12,000 for the 2012 Fiscal Year. This includes \$690 in expenses and \$11,000 in DoD labor.

Generated on 2013Apr04 RefID: D-8CDA0A7

Table of Contents

1.0	Introduction.....	1
1.1	Executive Summary.....	1
2.0	Purpose of this Report.....	4
3.0	Amounts Expended by the Department of Defense.....	5
4.0	Amounts Allocated to the Defense and Veterans Brain Injury Center.....	5
5.0	Summary of Priorities Related to Improving the Diagnosis, Treatment, and Rehabilitation for Psychological Health, Including Posttraumatic Stress Disorder, and Traumatic Brain Injury.....	6
5.1	Access-to-Care.....	6
5.2	Quality of Care.....	8
5.3	Resilience.....	9
5.4	Transition of Care.....	10
5.5	Screening and Surveillance.....	11
5.6	Leadership and Advocacy.....	12
5.7	Research.....	12

APPENDICES:

Appendix A:	Prior Year Funding Tables.....	A-1
Appendix B:	Army Input.....	B-1
Appendix C:	Navy Input.....	C-1
Appendix D:	Air Force Input.....	D-1
Appendix E:	Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury Input.....	E-1
Appendix F:	Defense and Veterans Brain Injury Center Input.....	F-1
Appendix G:	Uniformed Services University of the Health Sciences, Center for the Study of Traumatic Stress Input.....	G-1
Appendix H:	Deployment Health Clinical Center Input.....	H-1
Appendix I:	National Intrepid Center of Excellence Input.....	I-1
Appendix J:	Research Input (Joint Program Committees 5 and 6).....	J-1

1.0 Introduction

The effects of military deployments on psychological health (PH), including Posttraumatic Stress Disorder (PTSD), and traumatic brain injury (TBI) have gained great visibility throughout the Department of Defense (DoD) and the Department of Veterans Affairs (VA). As a result, the DoD, in coordination with the VA, and with the support of Congress, has increased attention on programs and initiatives designed to improve the diagnosis, treatment, and rehabilitation of members of the Armed Forces with PH and TBI concerns.

Since the first infusion of PH and TBI funding in the fiscal year (FY) 2007 Supplemental Appropriation, the DoD has initiated and sustained projects designed to address the recommendations outlined in various task forces and commissions (such as the President's Commission on Care for Returning Wounded Warriors, also known as the Dole-Shalala Commission, and the DoD Task Force on Mental Health).

1.1 Executive Summary

The DoD submits this report annually in accordance with the National Defense Authorization Act for FY 2008, section 1634(b). This report, the fifth annual submission, conveys the accomplishments made during the previous calendar year by the Army, Navy, Air Force, Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE), the Defense and Veterans Brain Injury Center (DVBIC), the National Intrepid Center of Excellence (NICoE), and the Center for the Study of Traumatic Stress and the Center for Deployment Psychology at the Uniformed Services University of the Health Sciences (USUHS). In addition, the report provides the status of expenditures associated with the fiscal year appropriations, starting with the initial appropriation for FY 2007. The information is organized into seven DoD priority action areas: Access to Care, Quality of Care, Resilience, Transition, Screening and Surveillance, Leadership and Advocacy, and Research. The actions described in the appendices of this report provide the details of the funded projects by Service or organization, address each of the seven priority areas, and include detailed descriptions of completed, in-progress, and planned actions.

Access to Care:

Access-to-care initiatives allow for improved staffing and innovative delivery strategies, including outreach and prevention services, primary-care-based PH services, improved primary care capability for TBI, specialty PH care, specialized TBI care, and improved inpatient care.

Due to increased screening referrals and help-seeking in the face of sustained operations, the Military Services have increased civilian mental health (MH) staffing, including contractors and government civilians, to augment care in instances when military MH providers have been deployed, and to meet established access standards for urgent and routine appointments. Each Service provides MH care designed to best serve its unique operational requirements.

Quality of Care:

Quality-of-care initiatives provide Service members and their families the best possible care by developing and publishing evidence-based clinical practice guidelines (CPG), as well as clinical management guidelines. In addition, the aim of this

strategic goal is to increase the availability of clinical training, tools, equipment, and guidance needed for state-of-the-art care.

The DoD continues to develop and implement training and certification programs for DoD and civilian providers to assist in the treatment of Service members, from accession through separation from service. The Services began assessing the effectiveness of these training programs using such assessment tools as provider surveys and patient feedback. New virtual reality and telecommunications technologies are used to assess and treat Service members in remote or underserved locations. The use of these technologies allow providers to provide more timely care than if they were to rely on traditional face-to-face appointments. The Services are using new specialty-care equipment to identify TBI patients and those suffering with complications caused by posttraumatic stress. In addition, the DoD's collaboration with the VA and other civilian partners, such as the National Football League, continues to advance the care and treatment of our Service members.

Resilience:

Resilience promotion encompasses prevention and risk mitigation and is most pertinent to PH, although leaders can influence TBI prevention through enforcement and oversight of safety programs. This goal of this strategic initiative is to develop individuals who are more resistant to the stresses of deployment and combat.

The Services have implemented training courses to educate Service members about the signs and symptoms of operational and combat-related stress, and encourage Service members to seek help if they experience those symptoms. Additionally, these projects improve the command climate support for those seeking MH care. Overall resilience rates, as measured by feedback from Service members and their families, indicate an increase in individuals who said they are provided with tools that allow them to identify, manage, and refer fellow Service members exhibiting signs of operational stress. Projects under this initiative help sustain resilient Service members and families.

Transition:

These initiatives improve the quality and effectiveness of treatment through transition and coordination of care across the DoD, the VA, and civilian networks. The goal of this strategic initiative is to ensure rapid and effective information sharing to support continuity of care and support across all levels.

The Services have established partnerships throughout the care community to develop networks that offer education, outreach, and case management support for Active Duty and Reserve Component Service members. These projects improve the timeliness and coordination of healthcare services across the recovery, rehabilitation, and reintegration process. Additional case managers have been added to Service staff; these managers are facilitating improvements in the continuity and coordination of care for Service members and veterans with TBI and PH issues as they transition between care providers and from the DoD to the VA. The DoD continues to gather feedback from Service members and families on how to continue making improvements to the transition process.

Screening and Surveillance:

Screening and surveillance initiatives promote the use of consistent and effective assessment practices and accelerate development of electronic tracking, monitoring, and management of PH and TBI concerns. The DoD is incorporating both screening and surveillance initiatives into the lifecycle health assessment process as screening tools are developed and validated.

The DoD continues to improve screening and surveillance efforts to facilitate the early identification and treatment of Service members with TBI or PH concerns. These efforts encompass Service members and families, help to provide the capability to characterize and understand factors related to psychological risk and resilience, and identify targets for preventive action and mitigation of negative behavioral outcomes. Significant among these is the DoD's effort to monitor and standardize suicide surveillance data to help better identify and support at-risk populations. Additionally significant is the early identification for mild TBI using a computer-based tool designed to detect speed and accuracy of attention, memory, and thinking ability.

Leadership and Advocacy:

A priority of the DoD is to strengthen and maintain a culture of leadership and advocacy, creating a supportive environment, free of stigma, for Service members and veterans in need of clinical care for PTSD or other MH concerns, as well as TBI. Taking care of people is a leadership responsibility, and the program encompasses this responsibility at every level of leadership, with special emphasis on families and the community environment.

Leadership initiatives include hosting regular community events to advocate increased awareness for TBI and PH effects and services. Regular speaking engagements and conferences provide forums discussing PTSD, suicide, TBI, and other PH issues for DoD leadership. Strategic communication programs in the Services help to build public awareness and promote discussion about deployment-related MH concerns.

Research:

The DoD is committed to providing a research program to prevent, mitigate, and treat the detrimental effects of traumatic stress and TBI on psychological and physical functioning, wellness, and overall quality of life for Service members, their caregivers, and families. The DoD is focused on advancing the state of medical science in areas of the most pressing needs.

The return on investment from Congressional funding for TBI and PH has only just begun. This return includes greatly accelerated capability development and improved care for wounded, ill, and injured Service members, veterans, and their families. The DoD has formed working groups to help guide the translation of research finding to clinical use. The DoD and VA continue to increase collaborative efforts for mutually beneficial clinical practices and health services and to explore new treatment options for Service members, including new methods of care for those who do not respond to, or are reluctant to engage in, other established therapies.

2.0 Purpose of this Report

The DoD submits this report annually in accordance with the National Defense Authorization Act for FY 2008, section 1634(b). This report, the fifth annual submission, conveys the accomplishments made during the previous calendar year by the Army, Navy, Air Force, DCoE, DVbic, NICOE, the USUHS, and the TRICARE Management Activity. In addition, the report provides the status of expenditures associated with the fiscal year appropriations, starting with the initial appropriation for FY 2007. The information is organized into seven DoD priority action areas: Access to Care; Quality of Care; Resilience; Transition; Screening and Surveillance; Leadership and Advocacy; and Research. This report addresses PH, including PTSD, and TBI concerns, and provides the following information as required by the legislation: the amounts expended by the DoD during the preceding year (TABLE 1); and the amounts allocated to the DVbic (TABLE 2).

In Appendices B-J of this report, the Services and reporting organizations address their efforts in the seven priority areas and provide an assessment of select outcomes for activities relating to the prevention, diagnosis, treatment, rehabilitation, and research of TBI and PH concerns, including PTSD, in Service members. These appendices provide detailed descriptions of completed actions, followed by explanations of in-progress and planned actions, for those organizations that receive PH/TBI Supplemental Appropriation funding.

3.0 Amounts Expended by the DoD

The following funding table outlines expenditures from FY 2012. Prior year funding tables for FY 2007/2008 through FY 2011 can be found in Appendix A, Tables 1-4.

TABLE 1: FY 2012 (\$ millions)

	O&M Funding ¹	Appropriated RDT&E ²	Procurement	Total
FY 2012 Appropriation	\$675.3	\$175.6	N/A	\$843.6
Total Available FY 2012 Funding	\$675.3	\$155.2	N/A	\$823.2
Amount Obligated	\$668	\$11.8	N/A	\$687.1
Percentage of Net Funding Obligated	98.9%	8%	N/A	83.5%
Amount Expended	\$338.6	\$0.2	N/A	\$338.8
Percentage of Net Funding Expended	50.1%	.1%	N/A	41.2%

¹ O&M Obligations are as of September 30, 2012.

² Research, Development, Test, and Evaluation Appropriation funding, obligations, and expenditures as of September 30, 2012. Funding amounts are based upon current estimates and remaining available for execution until September 30, 2013. Actuals may vary based upon projects selected for funding and are estimated.

4.0 Amounts Allocated to the Defense and Veterans Brain Injury Center

The DVBIC serves Active Duty Service members, their beneficiaries, and veterans through state-of-the-art medical care, innovative clinical research initiatives, and educational programs for TBI. In 2007, DVBIC became the TBI operational component of the DCoE.

During FY 2012, DVBIC was budgeted for \$32.59 million in Operations and Maintenance funding. DVBIC obligated a total of \$45.38 million in support of civilian pay, contracts, and other requirements. This information, along with prior funding year data, is detailed in Table 2, below.

TABLE 2: DVBIC BUDGET ALLOCATIONS AND OBLIGATIONS (\$ millions)

Fiscal Year	O&M	Procurement	Obligation*
2009	\$34.25	\$1.7	\$35.95
2010	\$36.62	N/A	\$36.62
2011	\$38.38	N/A	\$42.36
2012	\$32.59	N/A	\$45.38
2013	\$33.81	N/A	TBD

* Where the DVBICs obligations exceed budget allocations, the DVBIC was provided additional funding from the DCoE headquarters to support program requirements.

5.0 Summary of Priorities Related to Improving the Diagnosis, Treatment, and Rehabilitation for Psychological Health, Including Posttraumatic Stress Disorder, and Traumatic Brain Injury

The plan for implementing the PH and TBI strategies is founded on seven strategic goals to transform the system of care addressing PH and TBI concerns for Service members and their families. The following subsections discuss select DoD and Service-specific actions by priority area, and have been organized within each priority area by completed actions, including a description of select outcomes within each area. A detailed list of completed, in-progress, and planned actions can be found in Appendices B-J for those organizations that receive PH/TBI Supplemental Appropriation funding.

5.1 Access to Care

The primary objective of the access-to-care initiative is to provide Service members and their family members with timely access to comprehensive health care related to PH or TBI concerns. This involves improved staffing and innovative delivery strategies, including outreach and prevention services, primary-care-based PH services, improved primary care capability for TBI, specialty PH care, specialized TBI care, and improved inpatient care. The DoD is committed to providing the necessary funding, coordination, and support to Service

and benefit operations to assure there are adequate MH¹ resources to meet the MH treatment needs of Military Health System (MHS) beneficiaries. A full spectrum of MH care is available to Service members and their families through the MHS and TRICARE before, during, and after deployment.

Due to increased screening referrals and help-seeking in the face of sustained operations, the military Services have increased civilian MH staffing, including contractors and government civilians, to augment care in instances when military MH providers have been deployed, and to meet established access standards for urgent and routine appointments. Each Service provides MH care designed to best serve its unique operational requirements. Some key accomplishments last year include:

- Overall improvement in access-to-care rates;
- The use of telehealth care for TBI care, or “Tele-TBI,” has increased access-to-care for sites with limited specialty resources in the direct care system and/or TRICARE network. At some locations, patients are seen sooner using telehealth rather than standard face-to-face appointments;
- MilitaryKidsConnect.org is the first DoD-sponsored Website designed for military children facing the challenges of a parent’s deployment, reintegration, and other issues common to military life. Activities on the site include moderated message boards, videos featuring military kids, and games incorporating cultural information about common military deployment locations;
- The DCoE Real Warriors Campaign is a multimedia public education effort designed to combat the stigma associated with psychological health care, and encourage help-seeking behavior and use of available resources among Service members, veterans, and their families;
- Military Pathways is a voluntary, anonymous mental health and alcohol education screening program offered to military personnel and their families in all the military Services, including the National Guard and Reserve;
- Continued development and deployment of mobile apps designed to give the military community access to behavioral health support anytime, anywhere. The DoD currently has 12 apps on the marketplace and is working with diverse offices such as the VA’s National Center for PTSD and the Navy & Marine Corps Public Health Center to develop additional apps;
- More than 100 providers embedded in TBI clinical programs at DoD facilities provided specialty care, rehabilitation services, case management, and primary care to individuals

¹ Throughout this report, the terms mental health (MH), behavioral health (BH), and psychological health (PH) appear in various contexts. For the purposes of this report, the following definitions help distinguish the difference in use of these terms:

mental health – clinically-related treatment for a disorder

behavioral health – behaviors that are observable (e.g., alcohol, spousal, or substance abuse), and may include mental health

psychological health – overall psychological well-being, including mental health

with TBI. Clinical staff supported ongoing clinical investigations to improve TBI care at the military medical treatment facility (MTF) level;

- The Deployment Health Clinical Center has partnered with RAND and RTI International to provide the STEPS UP intervention (**ST**epped **E**nhancement of **PTSD** **S**ervices **U**sing **P**rimary care), which enhances access to PTSD and depression treatment;
- The Army's Embedded Behavioral Health Teams, which provide multidisciplinary community behavioral healthcare to soldiers in proximity to their unit areas and in close coordination with unit leaders;
- The Army's Child and Family Assistance Centers, which provide direct behavioral health (BH) support for Army soldiers and their families;
- The Navy's improved access and reduced referrals to the network through the Naval Hospital, Camp Lejeune, Marine and Sailor Concussion Recovery Center (MSCRC). The MSCRC allows patients to be treated in-house, rather than through referral to the network, resulting in a cost reduction;
- The Navy increased access to residential PTSD care through the Overcoming Adversity and Stress Injury Support program, which provides an intensive residential treatment program using evidence-based therapies and family involvement for Active Duty Service members;
- The Navy met increasing demand for MH services through the development and execution of the Wounded Warrior Psychological Health Recovery Plan at Camp Pendleton, California. The plan creates a portfolio of MH services for Active Duty marines and sailors, and implements processes and procedures to ensure every marine and sailor has easy access to comprehensive, evidenced-based treatments;
- The Air Force has 96 PH specialty care and Behavioral Health Optimization Program providers at 75 MTFs worldwide. These personnel replace clinical capacity for specialty PH care and integration in Patient Centered Medical Home services that enable uniformed personnel to conduct outreach, prevention, and resilience activities in operational units and to coordinated community services supporting agencies and installation leadership on PH and TBI issues; and
- The Air Force is operating 10 virtual reality therapy sites that provide a therapy modality for the treatment of PTSD for patients who have not responded to other evidence-based therapies, such as prolonged exposure therapy or cognitive processing therapy.

5.2 Quality of Care

The primary objective of the quality-of-care initiative is to ensure that Service members and their families receive the best possible care by developing and publishing evidence-based CPGs as well as clinical management guidelines in the absence of conclusive evidence. Another objective is to ensure availability of clinical training, tools, equipment, and guidance needed for state-of-the-art care. The DoD continues to develop and implement training and certification programs for DoD and civilian providers to assist in the treatment of Service members throughout their lifecycle, from accession through separation from service. The Services are now assessing the effectiveness of these training programs using

assessment tools such as provider surveys and patient feedback. Some key accomplishments for last year include:

- The Services have purchased and are using new specialty-care equipment to identify TBI patients and those suffering with complications caused by posttraumatic stress;
- The DoD is conducting a randomized controlled trial (RCT) comparing virtual reality exposure to prolonged exposure therapy for PTSD. Virtual reality exposure is one of the most promising innovative technology interventions currently under investigation to support the psychological health of Service members;
- The In-Home Tele-behavioral Health Care Project is a RCT designed to evaluate the effectiveness of delivering psychotherapy for depression directly to Service members' and veterans' homes by comparing it to in-person treatment;
- The Center for Deployment Psychology (CDP) faculty developed workshops to train providers in the use of evidence-based treatment for depression, as well as evidence informed suicide risk identification and reduction;
- The CDP Website, www.DeploymentPsych.org, continues to grow and provides a means for CDP to reach clinicians worldwide to provide education and training support for working with Service members, veterans, and their families;
- The Army built a new BH data application called the Behavioral Health Data Portal within the Medical Operations Data System. This data system allows patient self-report entry into a real-time Web application at first and follow-up appointments. Standardizing this data allows for improved data quality and an ability to track clinical outcomes;
- The Army and the DoD continue to work closely with the National Football League to ensure that our policies are similar and based on the highest levels of available research for treating individuals with concussion/mild TBI;
- The Navy supported the East and West Offices of Neurotrauma (ONT) in regional coordination, management, and oversight of TBI care at their respective MTFs. The ONT ensures standardized referral, screening, and treatment processes that are consistent with VA/DoD CPGs;
- Navy Medicine developed in-garrison TBI clinical care algorithms that capitalized upon successes of in-theater clinical algorithms, and incorporated CPGs, and a common interview, to promote standardization of quality care. The algorithms are being piloted at Camp Lejeune, North Carolina, and Camp Pendleton, California, with expected enterprise deployment in 2013;
- The Air Force trained PH providers in evidence-based therapies (EBT) for PTSD. Currently, all Air Force MTFs have one or more PH providers trained in at least one EBT to treat PTSD. Overall, 80 percent, or 559, Air Force PH providers have been trained in EBTs for PTSD; and
- The Air Force conducted the annual Operational Problems in Behavioral Health Sciences Symposium course to provide current training on recent advances in mental health operations and policy to over 300 Air Force PH personnel.

5.3 Resilience

Resilience promotion encompasses prevention and risk mitigation and is most pertinent to PH, although leaders can influence TBI prevention through enforcement and oversight of safety programs. This strategic goal focuses on the full continuum of PH to develop individuals who are more resistant to the stresses of deployment and combat. By using individually targeted approaches consistent with the Services' cultures and organizations, the DoD strengthens the PH of individual Service members and their families. Overall resilience rates indicate an increase in individuals who said they are now provided with tools that allow them to identify, manage, and refer fellow Service members exhibiting signs of operational stress, and they felt more comfortable sharing their stories of their stress. Some key accomplishments for last year include:

- The DoD evaluated the Provider Resilience Mobile Application with an Army Reserve Combat Operational Stress Control Unit on deployment in Afghanistan. The application helps the provider overcome burnout, compassion fatigue and secondary traumatic stress;
- The DoD will continue the Caring Letters Suicide Prevention study, which is scheduled to end in 2016. The study has plans to recruit 4,730 from inpatient psychiatric units at six DoD and VA sites to examine the effects of sending patients caring letters and reminders of treatment availability following an inpatient hospitalization (an approach supported in civilian research);
- The Army continued to fund the Research Transition Office to ensure soldiers receive evidence-based training during their initial military training and throughout the professional military education, from Basic Combat Training to the Army War College, and throughout the deployment cycle;
- The Navy continued support for project Families OverComing Under Stress, an evidence-based, family-centered resiliency training program that enhances understanding, psychological health, and developmental outcomes for highly stressed children and families;
- The Navy continued support for the Returning Warrior Workshops, a weekend event designed to help Navy and Marine Corps Reservists reintegrate in the face of the immense culture changes following deployment; and
- The Navy developed and provided practical and effective specialized training to Navy Officers and Chief Petty Officers to strengthen sailors and families, reduce unnecessary stress, identify problems early, reduce stigma, and enhance professional empathy of leaders.

5.4 Transition of Care

This initiative improves the quality and effectiveness of treatment through transition and coordination of care across the DoD, VA, and civilian entities. It ensures rapid and effective information sharing to support continuity of care and support across all levels. Additional case managers have been added to Services' staffs; these managers facilitate improvements in the continuity and coordination of care for Service members and veterans with TBI and PH issues as they transition between care providers and from the DoD to VA.

The DoD continues to gather feedback from Service members and families on how to continue improvements to the transition process. Some key accomplishments for last year include:

- The DoD supported broader case management and care coordination programs for Service members in both the DoD and the VA. The outreach and education to broader case management and care coordination programs for injured Service members has resulted in better coordination of care to Service members and veterans between the two departments;
- The DoD's *inTransition* program provides telephonic coaching support to Service members receiving mental health services as they transition between health care systems or providers (for example, transitioning from DoD to VA, moving duty stations, deploying, changing military status);
- The DoD's Family Caregiver program continues to support the military Services, family caregivers, and community through maintained outreach and education. This multi-module manual is designed to provide help to family members and other caregivers who provide care for patients with TBI;
- The Navy improved case management processes for wounded warriors to promote seamless transitions across the continuum of care, and increased compliance with Navy Medicine case management policy;
- The Navy streamlined Integrated Disability Evaluation System processes to improve performance and meet timeliness standards; and
- The Air Force Joint Base Elmendorf-Richardson TBI clinic has been working with Army Primary Care and Behavioral Health to improve communication between clinics to address the complex care needs of TBI patients. Regular contact between various clinics treating patients with TB-related symptoms has improved patient care and transition from specialty TBI services back to primary care services.

5.5 Screening and Surveillance

Screening and surveillance initiatives promote the use of consistent and effective assessment practices along with accelerated development of electronic tracking, monitoring, and management of PH and TBI concerns. The DoD is incorporating screening and surveillance initiatives into health assessment processes as screening tools are developed and validated.

The DoD continues to improve screening and surveillance efforts to facilitate the early identification and treatment of Service members with TBI or PH concerns. Some key accomplishments from last year include:

- The DoD transitioned from Directive-Type Memorandum 09-033 to DoD Issuance 6490.11, "Policy Guidance for Management of Concussion/Mild Traumatic Brain Injury in the Deployed Setting," which mandates a medical evaluation for Service members involved in an event associated with a concussion/mild TBI (mTBI). This policy is helping with early detection and earlier access to treatment for Service members who

suffer concussions/mTBI, and has resulted in better recovery from concussive events, higher return-to-duty rates, and fewer evacuations from theater;

- The DoD's primary surveillance system for suicides and suicide attempts, the DoD Suicide Event Report (DoDSER), was completed and released in December 2012. These data are used to inform senior leaders and the Services' suicide prevention programs. In addition, an initial data linkage with the Centers for Disease Control suicide data and the DoDSER data has been completed to see how the two data systems might inform one another;
- The Army's Behavioral and Social Health Outcomes Program provides a unique capability to characterize and understand factors related to psychological risk and resilience, and identify targets for preventive action and mitigation of negative behavioral outcomes;
- The Army established the Public Health Assessment Program, which is an independent evaluation service that systematically collects information about programs targeting psychological risk and resilience factors to assist stakeholders in improving the programs' design, examine strengths and weaknesses, measure effectiveness and impact, and make decisions about future program planning;
- The Navy conducted the eighth Behavioral Health Needs Assessment Survey – an in-theater MH surveillance with a focus on MH symptoms, combat exposures, and deployment related stressors – to provide Navy line and medical leadership with a comprehensive, near real-time snapshot of the psychological health and readiness of expeditionary sailors serving in combat-zone assignments;
- The Navy continued support for the Combat Trauma Registry - Expeditionary Medical Encounter Database, which provides the Navy's most comprehensive, validated data set of expeditionary, medical, tactical, operational, personnel, and deployment-related information;
- The Air Force implemented the Lackland Behavioral Questionnaire (LBQ). The LBQ has been administered to more than 150,000 basic military trainees, and validated using a range of criteria, including attrition, for mental health and behavioral problems; and
- The Air Force trained 109 MH Technicians to proctor the automated neurocognitive assessment metric (ANAM). An additional 29 proctors were trained through a class sponsored by the Army on behalf of the DoD. The Air Force conducted ANAM Refresher Training for AF Reserve Component units and 89 Wing Directors of Psychological Health for the Air National Guard.

5.6 Leadership and Advocacy

A priority of the DoD is to strengthen and maintain a culture of leadership and advocacy, creating a supportive environment, free of stigma, for Service members and veterans in need of clinical care for TBI and PTSD, or other mental health concerns. Taking care of people is a leadership responsibility, and the program encompasses this responsibility at every level of leadership, with special emphasis on families and the community environment. Leadership and advocacy accomplishments include those that provide

opportunities for an improved awareness, understanding, and engagement by military and civilian providers in the identification, treatment, and prevention of TBI and PTSD conditions.

Leadership initiatives include hosting regular community events to increase awareness for TBI and PH effects and services. Regular speaking engagements and conferences provide forums for discussing TBI, PTSD, and other mental health issues for DoD leadership. Strategic communication programs in the Services help to build public awareness and promote discussion about deployment-related health concerns including PTSD, TBI, and medically-unexplained physical symptoms; they educate military Service members and the broader community about available clinical and educational programs. Some key accomplishments from last year include:

- The Telehealth Work Group, chartered by the DoD/VA Joint Executive Council and Health Executive Council, worked to increase and sustain collaboration between Departments to identify and evaluate opportunities to expand joint PH and TBI telehealth care;
- The DoD launched efforts to standardize network TBI training and education that is directly performed or facilitated by network regional educational coordinators;
- The DoD launched a robust effort to provide clinical outreach and training to civilian providers via comprehensive online training opportunities on the BrainLineMilitary.org Website and through the DVBIC Webinar series; and
- The Air Force's TBI clinic regularly hosted community leaders to advocate for TBI awareness and services. These events have increased community awareness of the effects of TBI, and provide information on services available for those impacted by TBI.

5.7 Research and Development

The DoD is committed to providing a research program to prevent, mitigate, and treat the detrimental effects of traumatic stress and TBI on psychological and physical functioning, wellness, and overall quality of life for Service members, as well as for their caregivers and families. The DoD is focused on advancing the state of medical science in areas of the most pressing needs. The PH/TBI research portfolio aligns with a continuum of care approach, driven by requirements that directly benefit Service members. This process and strategy is creating unparalleled momentum that will revolutionize care for TBI and PH.

The return on investment from Congressional funding for TBI and PH has only just begun. This return includes greatly accelerated capability development and improved care for wounded, ill, and injured Service members, veterans, and their families. Working groups help guide the translation of research findings to clinical use, and we explore new treatment options for Service members, including new methods of care for those who do not respond to, or are reluctant to engage in, other established therapies. The DoD and the VA continue to increase collaborative efforts for mutually beneficial clinical practices and health services. Some additional key accomplishments from last year include:

- The DoD funded a research initiative with the VA for a clinical trial of the medication Prazosin for nightmares associated with combat-related PTSD in active duty Service members. This was an example of DoD research in the use of existing medication to treat an alternative condition; the result is a revised DoD/VA Clinical Practice Guideline that recommends adjunctive treatment with Prazosin for nightmares;
- In a mouse model to assess the effects of hormonal regulation on fear extinction, similar to what is seen in humans, both young and adult female mice treated with high concentrations of estrogen exhibited enhanced fear conditioning compared to controls, suggesting a possible mechanism for increased PTSD and anxiety disorders in females;
- Veterans who received cognitive processing therapy (CPT) for PTSD as part of a residential rehabilitation program reported significantly fewer PTSD symptoms, as measured by the PTSD checklist, than those Service members who received trauma-focused therapy, indicating that effective implementation of evidence-based treatment, such as CPT, is superior to “treatment as usual” paradigm, thereby producing improved patient outcomes;
- A major effort was undertaken to determine the prevalence and predictors of major depression among veterans compared to those who never served in the military. In addition, this study examined the relationship between major depression and health outcomes in veterans over 8 years (1998-2006). The findings indicate that veterans are not at a higher risk for major depression than non-veterans, even after controlling for potential confounders. These findings support the conclusion that in a nationally representative study, veterans are not at higher risk for major depression;
- The DVBIC developed and conducted clinical investigations to respond to DoD-identified research gaps: Treatment and Clinical Management; Epidemiology of TBI; Screening and Assessment of TBI; and TBI Rehabilitation and Reintegration;
- The Cognitive Rehabilitation Effectiveness for Mild Traumatic Brain Injury study is evaluating the effectiveness of cognitive rehabilitation in Operation IRAQI FREEDOM and Operation ENDURING FREEDOM Service members with a history of mTBI and persistent cognitive complaints;
- The Center for the Study of Traumatic Stress is conducting the National Military Family Bereavement Study. This is the first large scientific study of the impact of a U.S. Service member’s death on surviving family members; and
- A study was undertaken to compare female and male veterans’ rates of mental health disorders. Overall, several significant gender differences in demographics have been noted, with women more likely to be young, black, single, and veterans of the Air Force. Further, female veterans were more likely to receive a depression diagnosis, and men more likely to receive PTSD and alcohol problem diagnoses.

6.0 Conclusion

The military Services implemented improvements in their consistency and capability to respond to PH and TBI conditions across the full continuum of care, including the development and improvement of programs dedicated to prevention, protection, identification, diagnosis,

treatment, recovery, research, and rehabilitation of Service members and veterans with PH issues and TBIs. With the PH and TBI funding, the military Services have been able to better care for Service members. They have added providers to shorten times for access to care, expanded training to improve provider awareness of the symptoms and treatments for these conditions, and invested heavily on research to learn about better approaches to care for these Service members.

APPENDIX A
PRIOR YEAR FUNDING TABLES

TABLE 1: FY 2011 (\$ millions)

	O&M Funding ¹	Appropriated RDT&E ²	Procurement	Total
Total Available FY 2011 Funding	\$669.2	\$107.2	\$0.0	\$776.4
Amount Obligated	\$568.5	\$107.2	\$0.0	\$675.7
Amount Expended	\$454.4	\$32.1	\$0.0	\$486.5
¹ O&M Obligations are as of September 30, 2011. ² Research Development Test and Evaluation Appropriation funding, Obligations, and expenditures as of September 30, 2012.				

TABLE 2: FY 2010 (\$ millions)

	O&M Funding ¹	Appropriated RDT&E ²	Procurement	Total
Total Available FY 2010 Funding	\$655.9	\$126.5	\$0.0	\$782.4
Amount Obligated	\$570.0	\$126.5	\$0.0	\$696.5
Amount Expended	\$466.6	\$92.5	\$0.0	\$559.1
¹ O&M Obligations are as of September 30, 2010. ² Research Development Test and Evaluation Appropriation funding, Obligations, and expenditures as of September 30, 2012.				

TABLE 3: FY 2009 (\$ millions)

	O&M Funding ¹	Appropriated RDT&E ²	Procurement	Total
Total Available FY 2009 Funding	\$575.0	\$163.1	\$20.0	\$758.1
Amount Obligated	\$532.3	\$158.9	\$19.2	\$710.4
Amount Expended	\$336.3	\$100.9	\$9.0	\$446.2
¹ O&M Obligations are as of September 30, 2009. ² Research Development Test and Evaluation Appropriation funding, Obligations, and expenditures as of September 30, 2012.				

TABLE 4: FY 2007/2008 (\$ millions)

	O&M Funding ¹	Appropriated RDT&E ²	Procurement	Total
Total Available FY 2008 Funding	\$454.5	\$506.1	\$18.9	\$979.5
Amount Obligated	\$416.0	\$497.2	\$17.5	\$930.7
Amount Expended	\$400.3	\$416.2	\$15.7	\$832.2
¹ O&M Obligations are as of September 30, 2008. ² Research Development Test and Evaluation Appropriation funding, Obligations, and expenditures as of September 30, 2012.				

APPENDIX B
ARMY INPUT

Psychological Health –Access to Care

Accomplishments made during 2012 in Access to Care:

- The primary objective of access-to-care initiatives is to ensure soldiers and their families have timely access to comprehensive psychological health-related care.
- During fiscal year (FY) 2012, the Army supported 20 unique psychological health programs to address access to care, providing a range of expanded healthcare services to our beneficiaries.
- Key to expanding healthcare services was the hiring of additional behavioral health (BH) providers. In all, Army resourced 1,138 personnel under the auspices of access to care.

An assessment of outcomes related to the progress made for projects in Access to Care during 2012:

- The Army increased the number of BH encounters from 991,655 in FY07 to 1,961,850 in FY 2012, a 97.8% increase.
- While the majority of U.S. Army Medical Department (AMEDD) behavioral healthcare supports Army beneficiaries, a portion of outpatient utilization can be attributed to other services (8.4% total in FY 2012).
- In 2007, the Army was recording less than 4,000 BH encounters per day (across all product lines to include primary care, emergency departments, etc.). By 2011, that had climbed to slightly above 7,500 encounters per day, and during the last year the Army has increased slightly above 7,700 encounters per day.
- From FY 2009, the proportion of direct care provided to active duty (AD) family members has varied (15.8%, 14.7%, 14.8% and 15.5% for FY 2009, FY 2010, FY 2011 and FY 2012 respectively).
- The Army still has unmet requirements, as it is only able to successfully meet access to care standards for AD beneficiaries, on average, 81.03% of the time. However, urgent care access to care is currently being met at an average rate of 97.82% within 24 hours for AD beneficiaries.
- Average days for follow-up appointments as of November 2012 are 12.4 days.
- The Army was able to successfully hire or retain 80% of all funded personnel. The Army invested resources to specifically recruit BH assets in FY12.
- During calendar year (CY) 2012, the Army published implementing guidance that will establish Embedded Behavioral Health (EBH) teams, in support of every operational Army organization in the active Army. To facilitate this, in 2012, the Army realigned 275 BH personnel from traditional legacy Behavioral Health Systems of Care (BHSOC) to the EBH System of Care on 15 Army installations. The Army established an infrastructure plan for placing EBH teams within the Brigade Combat Team footprint at 16 Army installations and implemented 22 EBH teams functionally aligned, while establishing 6 EBH Teams in permanent clinic space within operational footprints. The EBH teams provide multidisciplinary community behavioral healthcare to soldiers in close proximity to their unit area and in close coordination with unit leaders. Utilization of this model has shown statistically significant reductions in (1) inpatient psych admissions; (2) off-post referrals;

APPENDIX B ARMY INPUT

(3) high risk behaviors and (4) number of non-deployables. Another program implementation of significance was the Child and Family Assistance Centers (CAFACs) which provide direct BH support for Army soldiers and their families, including marriage and family therapy, directed at the promotion of optimal military readiness and well ness in Army children and families. CAFACs are based on a public health model to increase capacity and flexibility in the delivery of BH services through the Army and civilian partnerships. In FY 12, three additional CAFACs were resourced, bringing the total installations with CAFACs to nine.

- During CY 2012, School Behavioral Health programs expanded to operate at one additional installation, now totaling eight installations in 46 schools.
- Expansion of tele-behavioral health has increased access to care for sites with limited BH resources in the direct care system and/or the TRICARE network. In FY 2012, there were 32,950 tele-behavioral health encounters across over 60 sites in garrison. Overall, Army telehealth provides increased access to quality care for beneficiaries in over 30 countries/territories across 19 time zones.

Planned actions in Access to Care for 2013:

- The Army has established the Behavioral Health Service Line (BHSL) to provide continued oversight and implementation of its BHSOC which is intended to provide efficient and evidence based BH practices through further development and refinement of Army-wide standards.
- For FY 2013, the Army will continue standardization efforts through the BHSL. The intent will be to optimize care and maximize limited resources through standardization of operations.
- The Army has programmed additional realignment of resources to occur in FY 2013, to include 86 BH personnel in support of Brigade Combat Teams in 23 additional EBH Teams, with 19 teams occupying clinic space within the operational Brigade Combat Team footprint.
- The Army is programming, through its BHSL, to establish all components of the BHSOC by end of FY 2016.

Psychological Health – Quality of Care

Accomplishments made during 2012 in Quality of Care:

- The primary objective of the quality of care initiative is to ensure that soldiers and their families receive the best possible care.
- During FY 2012, the Army funded six unique PH programs under this category, and resourced of 103 personnel.
- Significant among these is the Army's BH Training Program, designed to train AMEDD BH providers on Veterans Administration and Department of Defense recommended treatment modalities for the treatment of Post-Traumatic Stress Disorder, Combat Operational Stress Control, Substance Abuse, Traumatic Event Management and Family Advocacy.

APPENDIX B ARMY INPUT

An assessment of outcomes related to the progress on the projects in Quality of Care during 2012:

- In FY12, the Army trained a total of 2,918 Army healthcare professionals and 215 International and newly accessed officers. 456 in Special Subjects; 410 in Family Advocacy; 204 in Substance Abuse; 696 in PTSO; 334 in Combat and Operational Stress; 393 in Traumatic Event Management; 425 Enlisted soldiers; and 215 International and Officer Basic Leader Course soldiers.
- Based on the CY 2012 Army Provider Level Satisfaction Surveys, the average satisfaction score for psychiatry, psychology, social work, BH and child guidance providers was 90.6% (slightly below the 95% benchmark). Satisfaction rates increased from 90.8% in January 2011, to 91.2% in December 2011.
- The Army built a new BH data application called the Behavioral Health Data Portal (BHDP) within the Medical Operations Data System (MODS) with initial live date of Mar 16, 2012. This data system allows patient self-report entry into a real-time Web application at first appointments and follow-up appointments. Standardizing this data allows for improved data quality and an ability to track clinical outcomes. The Army is accelerating BHDP implementation at all AO Army BH clinics and has trained all BH providers across 45 medical treatment facilities. BHOP is currently operational at over 30 facilities. The Army released version 1.1 of BHDP in October 2012, with increased capabilities that now allows for data integration with soldiers Medical Evaluation Board status, Warrior Transition Unit status, and readiness status.

Planned actions in Quality of Care for 2013:

- The BHSL will address standardized access to and quality of BH services for soldiers and beneficiaries, in order maximize psychological readiness.
- The Army will continue to focus on the training and education of recognized best practices based on published clinical practice guidelines.
- The Army expects to have all BH clinics using the BHOP by end of FY 2013 and deploy additional enhancements to further improve behavioral healthcare process standardization, track BH readiness, and facilitate appropriate provider and commander interactions to support care of soldiers.

Psychological Health – Resilience

Accomplishments made during 2012 in Resilience:

- Resilience focuses on the full continuum of PH to produce psychologically stronger individuals who are more resistant to the stresses of deployment and combat.
- In FY 2012, the Army funded three unique PH resilience-based initiatives in support of Army soldiers, families and healthcare providers, resourcing the hire or sustainment of 109 personnel.
- The Army continued to fund the Research Transition Office (RTO), with the primary objective of resilience training to ensure soldiers receive evidence-based training during initial military training and throughout the professional military education from Basic Combat Training (BCT) to the Army War College and soldiers and families throughout the deployment cycle.

APPENDIX B ARMY INPUT

An assessment of outcomes related to the progress made for the projects in Resilience during 2012:

- The RTO developed a new module and lesson plan (LP) for the Company Commander, First Sergeant Pre-Command Course. The RTO developed new “Pre- and Post-Deployment for Spouses” modules and booklets.
- Master Resilience Trainer (MRT) sustainment booklet and facilitator guide were updated.
- The RTO conducted a Program Evaluation (PE) of the implementation of Resilience Training across the Army during FY 2012, with the primary objective of the MRT Implementation Program Evaluation to ensure that MRTs are delivering resilience training as they were trained to do during the MRT Course. In addition, promising practices are shared among MRTs at different U.S. Army Forces Command (FORSCOM) posts and U.S. Army Training and Doctrine Command (TRADOC) Courses.
- The RTO Conducted Program Evaluation at FORSCOM sites including Ft. Bragg, NC, Ft. Drum, NY, Ft. Carson, CO, Ft. Hood, TX, and in National Guard units in Washington State, Colorado, and Indiana. In addition, the RTO assessed resilience training at two TRADOC sites, Ft. Leavenworth, KS, and Ft. Sill, OK.
- The RTO conducted a PE of a Pilot Study of Resilience Training conducted during two days of in-processing at Ft. Benning, GA.
- The RTO conducted Sustainment Resilience Training as part of the MRT courses at the University of Pennsylvania, Leader Development Division (LDD), Ft. Jackson, SC, and as part of Mobile Training Teams (MTTs). The goal of Sustainment Resilience Training is to provide MRTs instruction in what to do when soldiers and family members need more support than the MRT can provide, and how to deliver deployment-cycle resilience training.
- Additional accomplishments made during FY12 in Sustainment Resilience Training included the RTO conducting Sustainment Resilience Training at the University of Pennsylvania, Ft. Jackson, CO, Ft. Stewart, GA, Ft. Sill, OK, Ft. Campbell, KY, Germany, Ft. Drum, NY, Ft. Hood, TX, Ft. Sam Houston, TX, Ft. Knox, LA, Joint Base Lewis-McCord (JBLM), WA, Ft. Bliss, NM, Joint Base Elmendorf-Richardson, AK, Schofield Barracks, HI, Ft. Bragg, NC, Kuwait, South Korea, Ft McCoy, WI, and Ft. Custer, MI.

Planned actions in Resilience for 2013:

- The Army BHSL will provide efficient and evidence-based BH practices through further development and refinement of Army-wide standards.
- The RTO will revise Pre and Post Deployment modules and booklets for soldiers, Deliver Resilience Training for BH personnel and update and create LPs for BCT, Warrior Leader Course (WLC), Senior Leader Course (SLC), Basic Officer Leaders Course - A (BOLC-B), Captain 's Career Course (CCC), and Intermediate Leader Education (ILE).
- The RTO will continue to conduct PE at Ft. Jackson, CO, Ft. Sam Houston, TX, Ft. Bragg, CA, and Ft. Campbell, KY. Part of this effort is to focus on training and education of recognized best practice based on published clinical practice guidelines and standardization of assessment tools currently utilized.

APPENDIX B ARMY INPUT

- The RTO will continue to conduct PE of a Pilot Study of Resilience Training conducted during two days of in-processing at three additional sites.
- The RTO will continue to conduct Sustainment Resilience Training at the University of Pennsylvania, LDD, Ft Jackson, CO, and on MTTs throughout CONUS and OCONUS locations.

Psychological Health – Transition of Care

- The Army had no PH programs under this category during 2012.

Psychological Health – Screening and Surveillance

Accomplishments made during 2012 in Screening and Surveillance:

The primary objective of screening and surveillance initiatives are to promote the use of consistent and effective assessment practices along with systematic review of systems and events that further inform the utilization of effective interventions and best practices in the support of the Army inventory.

- In FY12, the Army funded two programs under this category, representing 52 personnel.
- Significant of these efforts is the Army's Institute of Public Health (AIPH) Behavioral and Social Health Outcomes Program (BSHOP) and the Child, Adolescent and Family - Behavioral Health Office (CAF-BHO).
- The BSHOP provides a unique capability to characterize and understand factors related to psychological risk and resilience, and identify targets for preventive action and mitigation of negative behavioral outcomes.
- The Public Health Assessment Program is an independent evaluation service which systematically collects information about programs targeting psychological risk and resilience factors to assist stakeholders to improve design, examine strengths and weaknesses, measure effectiveness and impact, and make decisions about future program planning.
- CAF-BHO is responsible for supporting and sustaining a comprehensive and integrated BHSOC for children and families throughout the Army.
- CAF-BHO has the following roles and responsibilities:
 - Overall Proponency for Child and Family Assistance Centers (CAFACs) and School Behavioral Health (SBH) programs Army-wide.
 - Provides training and training assistance at Installations for care providers, other BH specialists, and Army soldiers and family members on child and family BH subjects.
 - Responsible for maintaining a “repository of knowledge” of professional expertise and reference materials in the field.

APPENDIX B ARMY INPUT

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance during 2012:

- AIPH BSHOP Strategic and Clinical Initiatives provided index case analyses and clinical guidance for ongoing epidemiological consultations , provided clinical guidance on suicide surveillance publications and improved the Department of Defense Suicide Event Report (DoDSER) initiative, as part of a task action plan, by completing four quarterly quality assurance (QA) reviews of Army DoDSER submissions, facilitating the Reserve's ability to complete DoDSER's, and providing the Defense Centers of Excellence/Telehealth and Technology with recommendations for improvement to the DoDSER program.
- AIPH BSHOP Strategic and Clinical Initiatives section created more than a dozen information products (e.g., white papers, information papers, fact sheets, etc.) on a variety of topics including BH risk, DoDSER policies, DoDSER QA reviews, and polypharmacy education for internal and external customers.
- The AIPH BSHOP BH Surveillance Section released six “surveillance of suicidal behavior” products, introducing their new format and disseminating them to the Office of the Surgeon General, Vice Chief of Staff of the Army, other key Army leaders, and BH providers. These included an annual and a semiannual publication, two quarterly updates, a clinical fact sheet, and a summary of rates document.
- AIPH BSHOP Behavioral Health Surveillance Section answered 23 requests for information about suicidal behavior at the regional and installation level.
- AIPH BSHOP Field Studies Section was engaged in the data collection, analysis, and dissemination of eight BH field studies requested by the Warrior Transition Command, Joint-Task Force Guantanamo, Naval Information Operations Command, III Corps, Western Regional Medical Command, 1st Infantry Division, and to 101st Airborne Division.
- AIPH BSHOP Field Studies Section provided 23 Command briefing/products and published/presented 13 products to the BH scientific community summarizing findings, conclusions, and recommendations from ongoing field studies work.

Planned actions in Screening and Surveillance for 2012:

- The Army will continue to aggressively pursue and support BHSL PE efforts, in order to further inform current standards of practice that will lead to increased efficiencies in the execution of behavioral healthcare services delivered to soldiers and Army families. Standardized metrics will improve effectiveness of clinical service delivery.
- AIPH BSHOP Strategic and Clinical Initiatives Section will continue to be involved in the DoDSER program, provide support to ongoing field investigations (e.g., 4th SUS BDE at Ft. Hood), provide clinical input for suicide surveillance products, and serve on Department of the Army/DoD level working groups (e.g., Army STARRS, Health Promotion Risk Reduction Council, Polypharmacy Medical Education-POME- working group).
- AIPH BSHOP BH Surveillance Section will continue to produce routine surveillance products while broadening their scope to characterize BH risks among all soldiers. Two new publications, the BH Risk Assessment Data Report (BH-RADR) and Mortality Surveillance in the U.S. Army, will be released in 2013.

APPENDIX B ARMY INPUT

- AIPH BSHOP Field Studies Section will continue to be engaged in BH field studies which will include providing an examination of EBH best practices support to OTSG and TRADOC, prevalence assessment of synthetic marijuana support to Army Center for Substance Abuse Program and FORSCOM, and examination of high risk behaviors and perceptions about BH services support to III Corps.

Psychological Health – Leadership and Advocacy

- The Army had no PH programs under this category during 2012.

PH – BH Analytics

In FY12 BHSOC established a formal arrangement with Army MEDCOM Directorate of Program Analysis and Evaluation (PA&E) to increase the level of quantitative analysis for system evaluation and decision-support. Major successes in this year included:

- An analysis of existing BH assets that could be re-missioned in support of EBH implementation. This effort will result in a \$33 million reduction in the program needed to establish EBH. Remission of existing providers saves the MEDCOM significant resources, will mitigate redundancies and eliminate inefficiency as it right sizes and balances the provider population required to support BHSL related requirements.
- An increased level of review of PH unfunded requirements requests to improve the allocation of funds to the strongest projects. The analytical effort has also reduced the turnaround time required for decisions.
- Enhancement of BHSOC PE efforts to more fully evaluate efficiency and nonclinical effectiveness.
- Establishment of the BH360 Website to project a Common Operating Picture (COP) of developing Measures of Effectiveness (MOE).

Traumatic Brain Injury – Access to Care

Accomplishments made during 2012 in Access to Care:

- The primary objective of the Traumatic Brain Injury (TBI) access-to-care initiatives is to ensure soldiers and their families have timely access to care for impairments related to TBI.
- The Army funded six unique programs providing a range of healthcare services to our beneficiaries.
- To ensure timely access to care, the Army funded 134.5 TBI staff members for Category 1 programs, 256 TBI staff members for Category 2 and 3 programs, 45 TBI staff members for Category 4 programs, and funded a rehab surge team of five staff to assist with any gaps in coverage.
- MEDCOM formally assessed TBI services within two regions as part of FY12 Organization Inspection Program (OIP).
- Deployed theater providers in support of interdisciplinary TBI care.

APPENDIX B ARMY INPUT

An assessment of outcomes related to the progress made for the projects in Access to Care during 2012:

- Tele-TBI has increased access to care for sites with limited specialty resources in the direct care system and/or TRICARE network. TBI is one of 22 clinical specialty areas provided in Army Telehealth. Overall, the Army Telehealth system provides increased access to care for beneficiaries in over 30 countries/territories and across 19 time zones. At some locations, patients are being seen sooner using telehealth rather than standard face-to-face appointments.

Planned actions in Access to Care for 2013:

- Continue work increasing the percentage of government positions and decreasing the number of contracts. Contractors now comprise 34.6% of TBI access to care staff. The goal is to decrease this percentage by 7% in FY 13; that will result in a cost-savings to the government.
- The Army is currently staffing a Department of the Army Executive Order (DA EXORD) that will mandate a medical evaluation for all soldiers involved in a potentially concussive event that occurs in the non-deployed setting. This new policy, along with the Department of Defense Instruction for deployed TBI care, establishes a worldwide standard of care.
- The Tele-TBI program plans to continue to increase the number of telehealth services offered and improve access to care with increased encounter volume. The program will continue to standardize processes and leverage existing resources to meet beneficiary needs.

Traumatic Brain Injury – Quality of Care

The primary objective of Quality of Care initiatives is to ensure that soldiers and their families receive the highest possible quality of care.

- The Army funded nine unique programs under this category: Frame of Choice Sunglass Fabrication, Medical Rehabilitation Equipment, Neurosurgery and Imaging Equipment, mCare, Rehabilitation and Reintegration Division of OTSG, TBI Education, Risk Communication, Regional Medical Command Management Cell, and TBI Military Training Conference.
- In conjunction with DoD partners, revised medical algorithms, leadership actions, and reporting requirements for concussion care in theater, and developed supporting education and training materials.
- Local TBI clinics provided over 57 local events such as Town Hall meetings, outreach informational briefings, and symposiums to educate soldiers, family members, and medical staff about TBI and TBI services.
- The Army and the DoD continue to work closely with the National Football League to ensure that our policies are similar and based on the highest levels of available research for treating individuals with concussion/mTBI.
- Funded cognitive rehabilitation training for over 55 TBI staff and conducted vision rehabilitation training for over 50 optometrists and occupational therapists.
- Updated training materials in support of DA EXORD 242-11 to ensure accurate and high quality training support materials are available for soldiers, leaders, and healthcare staff. All training materials continue to be available on the Army Training Network Website.

APPENDIX B ARMY INPUT

- Southern Region Medical Command hosted 12 “Grand Rounds” events to educate providers about the latest TBI assessment and intervention methods. These Grand Rounds were attended in person and virtually by over 60 sites Army and VA-wide.
- Funded \$425K for TBI equipment with an emphasis on vision testing and rehabilitation equipment to leverage the latest proven technology for soldiers and beneficiaries with TBI.
- Funded 4,027 “Frame of Choice” sunglasses to ameliorate visual deficits in soldiers with TBI.
- Achieved full validation of all 54 Army TBI programs.
- Submitted the TBI Rehabilitation Toolkit, a comprehensive guide for TBI rehabilitation, to the Borden Institute to consider printed or electronic publication.
- Collaborate with theater providers on monthly workgroup meetings.

An assessment of outcomes related to the progress made for the projects in Quality of Care during 2012:

- The Army obligated a total of \$6.5M for quality of care initiatives.
- Validated Brigade Combat Team training at two sites.

Planned actions in Quality of Care for 2013:

- The Army will continue to aggressively support training and education efforts to support the Educate, Train, Treat, Track action plan.
- The Army plans to update and expand on existing TBI educational videos and multi-media educational products.
- Will fund providers to attend deploying providers training TBI Vision Rehab training, and Vestibular Rehab training, and as-needed military members for individual pre-deployment concussion management training.
- Continue to collaborate with FORSCOM and TRADOC to support TBI related training needs.

Traumatic Brain Injury – Screening and Surveillance

The primary objective of screening and surveillance initiatives is to assess, monitor, and promote the use of effective and validated assessment practices to detect neurocognitive changes associated with TBI.

- The Army funded three unique programs under this category: Automated Neurocognitive Assessment Metrics (ANAM), PureEdge Tool, and ANAM Facilities.
- Transitioned from DTM-09-033, “Policy Guidance for Management of Concussion/Mild Traumatic Brain Injury in the Deployed Setting,” to DoDI 6490.11, which mandates a medical evaluation for Service members involved in an event associated with concussion/mTBI. This deployed policy is helping with early detection and earlier access to treatment for concussion/mTBI.

APPENDIX B ARMY INPUT

- The ANAM program tested a total of 252,859 people in 2012: 150,687 U.S. Army; 39,416 Air Force; 37, 183 Marine Corps; 12,512 Navy; 381 Coast Guard; and 7,479 other. This makes for over 1,337,392 ANAM's completed since the program began.
- Twelve ANAM Sites in theater, 31 full time test sites. Operation: Army: 15 contract and 11 GS embedded proctors at 21 sites. Non-Army: Six embedded contract proctors at four USMC sites, four embedded contract proctors at four USN sites, and two embedded contract proctors at two USAF sites.
- The ANAM program has the capability to test approximately 80,000 Service members per month.
- Initiated construction of two Neurocognitive Assessment facilities and funded construction of an overhead cover to improved service delivery at one installation.

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance during 2012:

- The Army obligated a total of \$8.4M for Screening and Surveillance initiatives.
- Technical barriers prevented progression of the PureEdge form project. The project has been terminated. Documentation templates developed have been widely distributed to providers and Central Command for local use.

Planned actions in Screening and Surveillance for 2013:

- Data collection continues for head-to-head studies involving new assessments for concussion, such as quantitative electroencephalography (qEEG), Immediate Post-Concussion Assessment (ImPACT), eye-tracking, Meyers Neuropsychological Short Battery, and the Sports Concussion Assessment Tool 2 (SCAT-2).

APPENDIX C NAVY INPUT

Access to Care

Accomplishments made during 2012 in Access to Care

Enhanced timely access to comprehensive health care for service members and their families with an emphasis on increasing direct care for Active Duty and recapturing family care where appropriate.

- Improved and augmented staffing through financial support of both contracted and civilian provider and support staff positions at military medical treatment facilities (MTFs) enterprise-wide.
- Developed and implemented innovative care delivery strategies and non-stigmatizing portals to care where appropriate in order to enhance access for remote populations and broaden opportunities for early identification and treatment.
- Improved primary care capability for PH and TBI treatment and expanded specialty care services for co-occurring disorders in order to mitigate rising purchased care costs and maximize Active Duty care within the direct care system.
- Achieved significant successes in reducing purchased care costs and wait times at an individual project level.

An assessment of outcomes related to the progress made for the projects in Access to Care:

Progress against strategic objectives:

- Increased capacity to provide active duty PH and TBI care (target goal of 100% of active duty PH and TBI care provided in-house).
 - In FY12, Navy Medicine contracted and filled 201 provider and support staff positions across the enterprise. These numbers are consistent with previous years and are dependent upon Regional/MTF request as well as ability to recruit specialty types.
 - Of those, 49 are psychiatrists/psychologists, 34 are mental health nurses, 49 are paraprofessionals, and 69 are miscellaneous and support positions (66% direct clinical vs. 34% admin/support – for every 1 administrative or support position there were 2 direct clinical positions hired).
 - Currently (end of CY12), there are 299.5 FTE positions contracted with 268.5 FTE positions filled.¹ 31 positions are in the recruitment process. Current fill rate (filled vs. contracted) is 90%.
 - Improved access and reduced referrals to the network through the Naval Hospital Camp Lejeune (NHCL) Marine and Sailor Concussion Recovery Center (MSCRC) which provides a standardized concept of care for active duty service members with history of TBI and common co-occurring disorders such as depression and/or post-traumatic stress, utilizing an individualized care plan which is tracked and adjusted by a highly trained interdisciplinary treatment team. The goal of this treatment is to return

¹ Please note that these numbers are as of end of calendar year 2012 and represent **both** positions recruited in FY12 with periods of performance carrying over into FY13 as well as positions recruited in FY13 and newly ongoing. The numbers in the larger bullet (201 providers and support staff) represent the total number of positions contracted and filled (including logical follow-ons from FY11) in FY12 alone.

APPENDIX C NAVY INPUT

service members to duty. MSCRC allows patients to be treated in house, rather than through referral to the network, resulting in a cost reduction.²

- 1 Psychiatric Nurse Practitioner allows for the capture of 30 patients per month; Cost savings per patient / initial (new patient) visit \$101=\$36,360/yr.
 - 1 Neuropsychologist allows for the capture of 20 patients per month; 2 Psychometrists allow for the capture of 24 patients per month; cost savings per patient / initial (new patient) visit \$1,060 = \$559,680/yr.
 - 4 Speech & Language Pathologists (SLP) allow for the capture of 64 new patients a month; cost savings per patient / initial (new patient) visit \$277 = \$174,008/yr.
 - 1 Occupational Therapist (OT) allows for the capture of 24 new patients a month; cost saving per patient / initial (new patient) visit \$191 = \$55,008/yr.
 - 1 Physical Therapist (PT) allows for the capture of 32 new patients a month; cost savings per patient / initial (new patient) visit \$113 = \$43,392/yr.
 - NHCL has been chosen as one of two National Intrepid Center of Excellence (NICoE) satellites with an anticipated ribbon cutting in the summer of 2013. Personnel assets from the MSCRC will be transitioned to the NICoE satellite at NHCL.
- Increased access to residential Posttraumatic Stress Disorder (PTSD) care through the OASIS (Overcoming Adversity & Stress Injury Support) program which provides an intensive residential treatment program using evidence-based therapies and family involvement for OIF/OEF active duty service members. Prior to opening, approx. 150 service members in need of intensive PTSD treatment were referred each year to civilian programs that had limited ability to address specific active duty service member concerns / issues.
- Since OASIS inception in 2010, 152 patients have been enrolled in treatment in OASIS – current data shows that approx 25% of OASIS graduates are not pending a PEB (indicating that a quarter of program graduates are returning to duty; 75% either graduate to a reduced level of care or leave service).
 - Patients averaged a 26.7% improvement in PTSD symptoms, a 30% decrease in symptoms among 40% of patients, a 10% decrease in symptoms among 71% of patients, and an increase in patients no longer meeting DSM criteria for PTSD (7% prior to treatment, 32.1% post-treatment).³
 - A 32.1% improvement in depression symptomatology, a decrease in the number of patients meeting criteria for mild depressive disorder (MDD) from 80.6% prior to treatment to 40.2% post-treatment. 27.2% of all patients had at least a 50% decrease in Major Depressive Disorder (MDD) symptoms.⁴

² These cost savings are calculated based on **initial** visit / evaluation for **new patients** only and do **not** take into account follow-up visits by these disciplines. This does not allow for a return on investment (ROI) to be calculated per cost of contract provider vs. calculated cost savings.

³ Based on results of PCL-M (Checklist of PTSD Military Symptoms)

⁴ Based on results of PHQ-0 (Personal Health Questionnaire about Depression)

APPENDIX C
NAVY INPUT

- Expanded access through training and clinical use of alternative or complementary medicine treatment modalities as well as development of enhanced clinical capabilities.
 - Supported the Behavioral Health Integration Program's (BHIP) as a consultative-based model of care with the goal of providing on-demand behavioral health support to PCM's to improve and ensure effectiveness and efficiency of the patient's overall health care. BHIP provides short-term evidence based interventions that focus on improving the health, functioning, and quality of life of the entire enrollee population, including dependents and retirees.
 - Have identified 69 Navy Medical Home Port sites to be fully implemented by 2017.
 - Supported and trained 22 licensed mental health providers in 2012 and anticipate an additional 47 trained by 2017 (to include Marine Centered Medical Home – number to be determined). Also by 2017, BHIP anticipates support and training of 36 care facilitators to provide primary care care-management in concert with the mental health providers.
 - As of OCT 2012, integrated BHIP providers have had almost 4,000 patient encounters with nearly 2,400 unique patients.
 - Met increasing demand for mental health services through development and execution of the Wounded Warrior Psychological Health Recovery Plan at Camp Pendleton. The plan created a portfolio of mental health services for active duty Marines and Sailors, and implemented processes and procedures to ensure every Marine and Sailor had easy access to comprehensive, evidenced based treatments. As a result of the increased number of mental health providers assigned to the Intensive Outpatient Program (IOP) and Substance Abuse Rehabilitation Program (SARP):
 - Patient census increased from 36 patients to 84 patients. The cost of sending those 48 patients to an intensive outpatient care program in the purchased care network would be ~\$4,200 translating to an overall cost avoidance of ~\$201,600.
 - Wait time was reduced from over 6 weeks to less than two weeks on average for entry into the IOP or IOP enhanced (for patients with co-occurring disorders).
 - During FY12Q4, there were 367 Holistic Health therapeutic encounters - patients treated during this period reported improvement in overall well-being with 68% reporting that they felt "much better" following their course of treatment.
 - Over three quarters (83%) of patients treated during this period reported improvement in their ability to participate in activities.
 - 25% of patients taking pain medications during this period indicated a decrease in pain medication usage.
 - 32% of patients taking anxiety/sleep medications during this period indicated a decrease in anxiety/sleep medication usage.

APPENDIX C NAVY INPUT

- Improved access through the continued development of tele-mental health and tele-TBI programs.
 - The Navy MORE (My Ongoing Recovery Experience) program is an on-line substance abuse continuing aftercare program for Sailors offering supportive and self-directed care via a web-based program monitored by trained Substance Abuse Recovery Program (SARP) counselors. This program reduces the stigma of addiction by providing confidential access in their environment of choice and also allows for the participant to return to duty allowing for mission readiness, while still being able to access care.
 - Approximately 690 participants enroll in MORE each quarter and complete Module 1.
 - Of the 124 enrollees that accessed Module 2 (between APR and JUN 2012), a total of 115 (93%) maintained abstinence – this rate has been consistent for MORE enrollees who completed Module 2 or beyond over the past 2 years.

Measures and Metrics:

- Increased direct care outpatient mental health encounters⁵ by 550 encounters per month since funding inception (2008) – the highest numbers of mental health treatment encounters come from the active duty population (73%) while in the purchased care setting, the highest numbers of mental health encounters come from dependents of active duty members (46%).⁶
 - In JAN 2008, mental health direct care outpatient encounters totaled ~50,000. By SEPT 2012, that number had climbed to ~80,000. This equates to an overall increase of 60% of JAN 2008 baseline.
- Since 2008, purchased care encounters increased by 1,140 mental health encounters per month (or approximately twice that of direct care).
 - In JAN 2008, mental health purchased care outpatient encounters totaled ~90,000. By SEPT 2012, that number had climbed to ~130,000. This equates to an overall increase of 44% of JAN 2008 baseline.
 - Since funding inception (FY08), purchased care mental health cost has grown ~60K per month on average. However, only 11% (\$6.8K) represents Active Duty with a disproportionate amount (74% or \$44K) representing Dependents. Retirees and All Others represented 4% (\$2.3K) and 11% (6.8K) respectively. This suggests success of efforts to keep Active Duty within direct care.
- While direct care mental health encounters have increased by 60% since JAN 2008 the median time between a referral and the resulting visit to a mental health clinic has decreased from 9 days in 2010 to 7 days in 2012.
 - 96% of mental health “specialty” visits fall within MHS TOC access to care standards.

⁵ A mental health encounter is a documented ICD-9 code (290 -319, excluding 305.1) in diagnosis fields 1 - 5 for each unique date of care.

⁶ Data source: MHS MART (M2) Comprehensive Ambulatory/Professional Encounters Record (CAPER) and TRICARE Encounter Data Non-Institutional (TED-NI), OCT 2012. All encounter data cited in this section (including overall and purchased care encounters) are derived from this source.

APPENDIX C NAVY INPUT

- 93% of “routine” mental health visits fall within MHS TOC access to care standards.
- Increased resources (funding, staffing, etc.) at MTFs increased access to specialty care for patients with complex mild TBI and common co-occurring behavioral health diagnoses, such as depression or post-traumatic stress, and resulted in 30% decrease in referrals of patients needing specialized care to the purchased care network. As an example, in CY12 Navy Hospital Camp Lejeune’s Marine and Sailor Concussion Recovery Center received 2,370 referrals. Of those 2,247 were able to be seen in the direct care setting with only 123 being referred to the purchased care network.
- Staffing augmentation facilitated maintenance of clinic operations at effective levels despite significant rise in demand. Based on manned hours vs. hours worked, MTF clinics were able to meet patient needs (i.e. hours worked) without exceeding workload limitations (i.e. manned hours).⁷
 - On average, Navy Medicine had approximately 1,290 assigned FTEs (manned hours) vs. 1,131 available FTEs (hours worked) every month. Additionally, assigned FTEs (manned hours) increased on average ~11 FTEs per month.

Planned actions in Access to Care for 2013:

Goal: Continue to enable timely access to comprehensive healthcare for warriors and their families.

Areas of Emphasis:

1. Continue to enhance increased capacity to provide 100% of active duty PH and TBI care and recapture family care where appropriate.
2. Continue expansion of access through alternative or complementary medicines while evaluating efficacy of current projects to determine best return on investment.
3. Continue access improvements through innovative technologies and tele-mental/tele-TBI programs with increased emphasis on developing implementation guidance and concrete piloting.

Quality of Care

Accomplishments made during 2012 in Quality of Care

Ensured that service members and their families received the best possible care by developing, disseminating, and encouraging the utilization of evidence-based clinical practice guidelines (CPGs).

- Developed and implemented training programs for military and civilian providers to establish critical skills for CPG execution (i.e. Cognitive Behavioral Therapy [CBT], etc.)
- Assessed and analyzed outcomes of developed programs and / or clinical guidelines through both participant feedback as well as clinical outcomes in order to determine overall value and potential for expansion / export.

⁷ Definition: *Clinic Efficiency* compares the number of hours worked by mental health clinic staff (“Available FTEs”) to the total sum of manned hours (“Assigned FTEs”) and addresses the gap between the two; which may identify utilization and staffing issues. For optimal Clinic Efficiency, the Assigned FTEs should exceed the Available FTEs.

APPENDIX C NAVY INPUT

- Supported the development and procurement of state-of-the-art clinical tools and equipment to facilitate and improve overall quality of care provided.
- Collaborated with relevant entities (both internal and external to Navy Medicine) to identify additional opportunities for quality improvement; share best practices and lessons learned; and facilitate advancement of the care and treatment of service members and their families.

An assessment of outcomes related to the progress made for the projects in Quality of Care during 2012:

Progress against strategic objectives:

- Increased the utilization of evidence-based treatments for PTSD and TBI.
 - Supported the East and West Offices of Neurotrauma (ONT East and West) in regional coordination, management, and oversight of TBI care at their respective MTF's. The ONT ensures standardized referral, screening, and treatment processes that are consistent with VA/DoD CPGs.
 - Navy Medicine TBI Programs developed in garrison TBI system of care clinical algorithms that capitalized upon successes of in-theatre clinical algorithms and incorporated clinical practice guidelines and a common interview to promote standardization of quality care regardless of location. The algorithms are currently being piloted at NHCL and NHCP with expected enterprise deployment in 2013.
 - A Navy Medicine TBI enterprise plan was developed in 2012, addressing standardized training, treatment, and reporting, with implementation projected in 2013.
- The NMCSO Psychiatry Residency curriculum was revised to prioritize training in Cognitive Behavioral Therapy (CBT):
 - Intern year: Learn CBT theory with classroom didactics.
 - 2nd year / inpatient year: Learn CBT group therapy and practice individual CBT.
 - 3rd year: Learn cognitive processing and prolonged Exposure Therapy and practice with individual cases.
 - The evidence-based therapy previously was taught the 3rd year allowing little time for practice.
- Identified and developed additional quality processes for patient care.
 - Supported the development and refinement of the Defense Automated Neurobehavioral Assessment (DANA) clinical tool designed to meet the need for an improved field-based assessment of neurocognitive and psychological functioning. Once validated, the DANA will serve as a key advancement in the identification of deficits secondary to traumatic brain injury (TBI), combat-related physical exhaustion, and/or emotional distress when compared with currently available instruments.
 - The DANA software has been tested on a ruggedized (MILSPEC) handheld device and for use on a tablet. Following validation and development of norms, the DANA could be utilized in theatre and in garrison.
 - NCCOSC continued development and implementation of Psychological Health Pathways (PHP), a major initiative to standardize clinical care processes for wounded,

APPENDIX C NAVY INPUT

ill and injured in tandem with a Web-based registry to ensure clinical guidelines are followed and tracked Navy-wide.

- Beta phase of implementation is concluding and pilot phase will begin in JAN 2013. To date, the program includes patient summaries and aggregate reports from a database that includes more than 2,700 service members and 1.5 million data points. In FY12, 712 new patients entered PHP, representing a total of about 450,000 data points.
- Integrated and synthesized Navy findings with greater military and civilian health system to both inform and advance the science of care through NCCOSC.
 - NCCOSC augmented its communication efforts to decrease stigma surrounding PH issues through presentation of relevant and engaging material especially tailored to its target audiences:
 - Significantly expanded its social media program - increasing its Facebook and Twitter audiences by more than 250% and introduced a YouTube channel and Slideshare page.
 - Redesigned website to include nearly 400 stories and published two well-received quarterly newsletters (*Mindlines* and *Research Quarterly*).
 - Continued to sponsor the Navy and Marine Corps COSC conference, which FY12 had 1,185 attendees - an increase of 10% from FY11. The conference included 78 speakers, 40 exhibits, 20 posters and offered 4,265 continuing education units to 361 providers.
 - NCCOSC provided grant writing, program evaluation and data management and analysis support for 12 projects in FY12. Highlights include an evaluation of the enhanced mental health screening cycle for Marines and an analysis of needs assessment, retention and well-being data for the Naval Medical Center San Diego providers and the Department of Navy psychology community.
 - NCCOSC is actively executing eight studies, obtained IRB approval for three new studies and is developing protocols for nine additional studies to commence in 2013.
 - In current studies, more than 12 professional presentations were given and four manuscripts were published with one still under review. Three white papers and more than a dozen literature reviews were published and delivered.

Measures and Metrics⁸:

- Major Depressive Disorder (MDD) treatment remains significantly below HEDIS goals; however, efforts have shown slow gains towards reaching HEDIS goals.
 - Overall, the percent of patients with effective “acute phase treatment” (i.e. newly diagnosed and treated patients who remained on anti-depressant medication for at least 84 days) held steady at 66% in the beginning of FY11 to the end of FY12 – 24% less than the HEDIS target goal of 90% receiving effective acute phase treatment.

⁸ Based upon performance against benchmarks established from existing Veteran’s Affairs [VA] and Department of Defense [DoD] CPGs, subject matter expert recommendations, the National Committee on Quality Assurance’s [NCQA] Healthcare Effectiveness Data and Information Set [HEDIS], and civilian practice

APPENDIX C NAVY INPUT

- Overall, the percent of patients who underwent effective continuation phase treatment (i.e. newly diagnosed and treated patients who remained on antidepressant medication for at least 180 days) increased from 41.2% in the beginning of FY11 to 43.0% at the end of FY12 – 47% less than HEDIS target goal of 90% receiving effective continuation phase treatment.
- PTSD treatment data shows that Navy Medicine provides proper medication management in terms of initial stage follow-up.
 - Percentage of PTSD patients on a new SSRI prescription (per 2010 VA/DoD CPGs) that received a timely follow-up was 90%. This is a significant increase from the 75% shown in FY07 (prior to PH and TBI funding).
- Substance Use Disorder (SUD) treatment data show a slow but steady trend upwards from a low point in early FY11. Currently, Navy Medicine is performing on par with or better than civilian substance abuse treatment.
 - A total of 14,437 patients were diagnosed with substance use disorder in 2012. 38% (5,520) of those diagnosed sought treatment (at least an initial appointment) compared to 40% of the civilian populations diagnosed with a substance use disorder (NCQA 2010); however, 61% (3,370) of those Navy patients who had an initial appointment continued treatment compared to only 16% in the civilian population perhaps indicating higher motivation by Navy patients and/or more effective means of engaging the patients into treatment.
- Standardized TBI operational and program outcome metrics (to cover treatment and patient care) were developed in collaboration with subject matter experts from Navy Medicine TBI Programs, Regional Commands, and NMCPHC. These metrics will be utilized enterprise-wide to assess quality of TBI care.
 - Collection of these metrics is currently being piloted at the category 1 and 2 TBI Program MTFs, with plans for enterprise-wide implementation in accordance with the release of the Navy Medicine TBI Enterprise Plan (currently in staffing).
 - Operational metrics concern measures such as time in TBI program and disposition, whereas program outcome metrics address pre- and post-data regarding presence of symptoms and quality of life changes.

Planned actions in Quality of Care for 2013:

Goal: Continue to provide and promote high quality and evidence-based healthcare for warriors and their families.

Areas of Emphasis:

1. Continue increasing the number of providers utilizing evidence-based treatments for PTSD with an emphasis on continuing appropriate treatment encounters past the first three months.
2. Implementation of a Navy Medicine TBI Enterprise Plan developed to facilitate standardization of the care and management of TBI, including training, treatment, and reporting.

APPENDIX C NAVY INPUT

3. Pilot TBI Quality of Care Metrics, including operational and outcome metrics, at several MTFs with full enterprise implementation following this assessment and refinement period.
4. Continue integration of Quality of Care findings across greater military and civilian health system to advance the science of care through sustaining and expanding current partnerships with the Defense Center of Excellence (DCoE) and civilian academic institutions.
5. Continue the identification and development of quality processes surrounding patient care.

Resilience

Accomplishments made during 2012 in Resilience:

Improved coordination with line entities in the Total Force Fitness community and developed strong partnerships with many relevant entities.

- Partnered with OPNAV N135 in shaping funded projects to support and coordinate with their efforts to apply stress mitigation strategies and provide tools that build resilience as well as lessen negative stress effects across the enterprise.
- These coordinative relationships helped to refine and further amplify leadership efforts at resilience promotion and readiness building.

Worked to identify and develop effective measures of individual and organizational health or resilience.

- Continued to establish and solidify strong working relationships with metrics partners to enhance current individual performance measures at the project level as well as identify potential organizational health or resilience indicators at the program level. Metrics partners include:
 - Navy Marine Corps Public Health Center (NMCPHC)
 - Naval Health Research Center (NHRC)
 - Navy Personnel Research, Studies and Technology (NPRST/PERS-1)
 - Defense Center of Excellence (DCoE)

An assessment of outcomes related to the progress made for the projects in Resilience during 2012:

Enhanced increased force health fitness through resilience promotion to active duty and their families as well as training of medical and PH providers.

- Continued support for Project FOCUS (Families OverComing Under Stress) – an evidence-based, family-centered resiliency training program enhances understanding, psychological health, and developmental outcomes for highly stressed children and families. Project FOCUS has been recognized by the White House (Offices of both the President and the First Lady) as a stand-out program and potential best practice.
 - Since program inception in 2008, FOCUS has provided varying degrees of resiliency services to over 300,000 providers, families, and military audiences:

APPENDIX C NAVY INPUT

- 6,117 outreach presentations for 301,814 providers, families, and military audiences.
- 1,814 educational workshops with 40,375 service members and family.
- 1,946 trauma-focused / other consultations with 4,517 providers, organizations, and families.
- Conducted 2,633 Resiliency Training Services / Core Skill Building Interactive Group Training with 23,140 parent and child attendees (7,489 adults / 15,651 children).
- For families enrolled in the Resiliency Training in FY12, post-training Global Assessment of Functioning (GAF) scores showed statistically significant improvement compared to pre-session training scores. The average score for the 3,460 adults participating rose from 73.45 (out of 100) pre-training to 77.51 (out of 100) post-training. For the 3,237 children enrolled, scores rose from 74.48 (out of 100) pre-training to 77.39 (out of 100) post-training.
- In FY12, Project FOCUS reached over 91,935 providers, family members, and military audiences:
 - Briefs: 82,783
 - Skill Building Groups: 8,144
 - Family Resiliency Trainings: 1,008
- Funded Suicide Prevention Training to not only improve the quality of care provided but also to ensure providers have the tools needed to maintain competency and confidence in providing care.
 - The most recent 2012 Primary Care Provider Suicide Prevention training reached 831 providers; 1087 completed *Assessing and Managing Suicide Risk (AMSR)* training for Mental Health providers at 29 sites in 2011.
- Continued support for the Returning Warrior Workshops (RWWs) - a weekend event designed to help Navy and Marine Corps Reservists reintegrate in the face of the immense culture changes following deployment.
 - A total 1,080 attendees participated in the 18 workshops held throughout FY12 (average of 60 attendees per workshop for entire year).
 - A total of 404 service members and spouses attended the 3 workshops held in FY12Q4 equaling an average of 75 per workshop (higher than the average of any other quarter in FY12).
 - Of the 404 attendees in FY12Q4, an average of ~284 responded to the evaluation questionnaire (respondent rate of 70%).
 - 75% of respondents said they felt better or much better about their deployment after the workshop and 25% responded that they felt the same.

APPENDIX C NAVY INPUT

- 85% of respondents believed they had a better or much better understanding about combat stress and reintegration challenges after the workshop while 14.4% had the same level of understanding (1 respondent felt that their understanding was worse).
- 86% of respondents believed they had a much better or better understanding of the resources available to them while 14% had no change in level of understanding (1 respondent felt that their understanding was worse after attending the RWW event).
- Continued to support the Naval Special Warfare (NSW) Resilience Program that teaches NSW Service members, spouses, and families skills to assist them in navigating deployment related stressors and develop community support vital to individual and group resiliency. Pre and post deployment retreats are held during crucial times in the deployment cycle at various locations throughout the country along with multi-session presentations and workshops. More substantive evaluation is under development and will capitalize on the findings from the online Resilience Assessment tool developed for the program to identify needs and measure change over time.
 - A total of 52 events were held (20 retreats and 32 workshops).
 - Of the 20 retreats with ~3,700 retreat attendees, approximately 1,447 (38%) of attendees were service members while 1,127 (30%) of attendees were spouses and 1,223 (32%) of attendees were children.
 - The 32 workshops included ~ 2,057 attendees, with attendance growing throughout the contract period.
- Continued training and education efforts to raise awareness of the stress continuum model and reduce stigma for seeking services through the Navy Operational Stress Control (OSC) program.
 - The 2012 Behavioral Health Quick Poll (BHQP) shows awareness of OSC is continuing to steadily increase. Overall those reporting “some familiarity” with the stress continuum model rose from 61% in 2009 to 80% in 2012.
- Developed and provided practical and effective specialized training to Navy Officers and Chief Petty Officers to strengthen Sailors and families, reduce unnecessary stress, identify problems early, reduce stigma, and enhance professional empathy of leaders.
 - Since program inception in August 2010, a total of 3,085 participants were trained – all participants responded to pre/post knowledge assessments and showed a statistically significant positive knowledge shift:
 - 647 more participants believed they had the tools necessary to identify operational stress (increase from 78% to 99%).
 - 863 more participants believed they had the tools necessary to help navigate operational stress (increase from 70% to 98%).
 - 678 more participants believed they knew when to refer a Sailor with operational stress (increase from 77% to 99%).

APPENDIX C NAVY INPUT

- 277 more participants felt they were comfortable sharing personal operational stress stories with their Sailors (increase from 81% to 90%).
- A total of 332 respondents returned the six-month post training follow-up assessments - results indicate that participants retained knowledge/confidence attained during Navy OSC Leader training and that participants continue to utilize many of the tools/concepts introduced during the training.
 - 98% of respondents believed they still had the tools necessary to identify operational stress while 91% believed they still had the tools necessary to navigate it.
 - 95% of respondents believed they still knew when to refer a Sailor with operational stress and 88% still felt comfortable sharing personal operational stress stories with their Sailor.
- Conducted the first ever randomized controlled trial of a mental skills training intervention (Mindfulness-based Mind Fitness Training [MMFT]) to enhance resilience in Marines preparing for deployment was completed in 2012.
 - Preliminary results suggest that MMFT results in adaptive changes to brain, biology, and behavior suggestive of increased resilience.
 - Marines who received MMFT responded differently to operational training stress and recovered more quickly.
 - In direct response to the Assistant Commandant of the Marine Corps (ACMC) instructions (with support from BUMED/M9, Training and Evaluation Command [TECOM], I Marine Expeditionary Force [IMEF], and Office of Naval Research [ONR]) a replication and extension study will begin in 2013.

Measures and Metrics:

- Out of a necessity stemming from difficulties with effectively measuring “resilience” enterprise-wide, successes related to actual resilience promotion and readiness building are currently measured at the individual project level (*see information above*). These efforts have increased the awareness and knowledge necessary for early identification and intervention. Early intervention facilitates more rapid recovery times (i.e. increased force health fitness).

Planned actions in Resilience for 2013:

Goal: Continue to build, strengthen, and sustain force health protection and readiness for Sailors, Marines, and their families and establish a baseline of direct and indirect key stress-related indicators as well project-level/community-specific tools to measure program effectiveness.

Areas of Emphasis:

1. Continue efforts to build partnerships and improve communication and coordination of resilience assessment, promotion and training with Navy Total Force Fitness community to eliminate redundancy as well as integrate development, delivery and analysis.

APPENDIX C NAVY INPUT

2. Enhance increased force health fitness through resilience promotion and training of PH providers and leadership with an emphasis on reducing stigma and barriers to reporting stress reactions and/or sharing personal stress reaction stories.
 - a. Expand Navy OSC Leader course to include Deck-plate Leaders training targeting E4-E6 personnel and modify existing trainings to better reflect different groups and warfare communities (i.e. Submarine, Aviation, Shore).
3. Strengthen and expand existing metrics partnerships to facilitate development of effective measures of individual and organizational health or resilience.
4. Optimize current resilience and training efforts with a view towards reducing numbers of attempted and successful suicides through dissemination and adoption of evidence-based findings on suicide prevention training and suicide assessment tools.

Transition of Care

Accomplishments made during 2012 in Transition of Care:

Improved the quality and effectiveness of treatment through transition and coordination of care.

- Encouraged and supported rapid and effective information sharing to support continuity of care across all levels by collaborating with NMCPHC, NHRC, and other DoD entities to accelerate the development of metrics and monitoring capabilities for Case Management (CM).
- Improved case management processes for wounded warriors to promote seamless transitions across the continuum of care and increased compliance with Navy Medicine case management policy.⁹
- Improved timeliness and coordination of healthcare services throughout the recovery, rehabilitation, and reintegration phases in conjunction with expansion of services to include innovative stop-gaps that address populations most in-need and/or at-risk.
- Streamlined Integrated Disability Evaluation System (IDES) processes to improve performance and meet timeliness standards.

An assessment of outcomes related to the progress made for the projects in Transition of Care during 2012:

Progress against strategic objectives:

- Expanded effective outreach and transition services for Reservist populations.
 - The USN & USMC Reserve Psychological Health Outreach Program (PHOP) provides PH outreach and referral services to Reservists and their families. Support also includes consultation to commands, training and behavioral health screenings. The PHOP addresses unmet needs of reservists and their families by assessing their psychological

⁹ Metrics for policy compliance **will** include (1) documentation compliance measured through record audits and sampled quarterly, (2) coding accuracy tracked by NMCPHC through MEPRS code ELA2 and ELAN, and (3) SECNAV reports to monitor case management size and acuity level. Metrics data not yet complete and are under review

APPENDIX C NAVY INPUT

health needs and referring them to appropriate resources. Created to fill a gap in care, it now provides a safety net for Reservists and their families.

- In 2012, PHOP staff (*source: PHOP Quick Stats*):
 - Had 1,744 (735 Navy, 1009 Marine Corps) referrals made to the PHOP program – an overall increase of 27% (375) from the 1,369 total referrals in FY11.
 - Made 807 new Reservist clients (312 Navy, 495 Marine Corps) – an overall increase of 23% (149) from the 658 total new clients in FY11.
 - Made 3880 (1136 Navy, 2744 Marine Corps) collateral contacts (or contacts made to collect additional data / resources / information from outside sources in order to aid the reservist and/or their family) on behalf of Reservists – a decrease of 17% (-811) from the 4,691 collateral contacts made in FY11.
- Enlarged accountability and tracking for Wounded Warrior case management care.
 - The USMC Wounded Warrior Care Coordination program supports the Wounded Warrior Regiment (WWR) and its battalions and detachments. Licensed clinical consultants (LCCs) provide PH and TBI expertise, screening, training, consultation, and support services to wounded service members, their families and commands. Operating as part of the medical cell (MEDCELL) they also provide advocacy and act as a liaison to the medical community.
 - During FY12, LCCs resolved a total of 1,705 issues with active duty cases, 988 issues with veteran cases, and 43 issues with Reservist cases (total issues for all cases equals 2,736) – the greatest number of issues related to barriers to care followed by personal safety, PH and substance abuse, and lastly TBI.
 - Acuity ratings from a 91 individual, 90 day cohort that began in June were analyzed. An improvement in acuity rating (from orange or red to yellow or green) occurred in 25% of the cases over the 90-day period. Acuity ratings may greatly fluctuate on a monthly basis due to the various complications cases may encounter. Therefore, while the goal is for cases to be yellow or green within 90 days, many issues may take longer to resolve.¹⁰

Measures and Metrics:

- In FY12, Navy Medicine increased the number of case management positions (funding from PH-TBI and WII) from 227 (FY11) to 250. As of December 2012, 207 (83%) positions were filled. Filling additional positions (8) at Camp Pendleton and Camp Lejeune to address the needs of returning Marine deployers remain a priority in FY13.
- 19,165 combat related and 24,925 non-combat related Sailors and Marines received CM services in 2012 (total 44,090) compared to 46,928 total for FY11, a 9.3% decrease in total CM case load. It is unclear whether the decrease in case load can be attributed to the troop

¹⁰ Data cited is only as of end of FY12 as it is only published in the FY12 end of year contract report. A combat and operational stress continuum (COSC) model specialized for the WWR MEDCELL (color scale showing green for “ready” or little to no stress, yellow for “reacting” to stress, orange for “injured” from stress, and red for “acute” stress illness) was used to determine the acuity rating of clients.

APPENDIX C NAVY INPUT

draw down, to improvements in health and referrals which would decrease the need for CM services, or to other factors.

- Navy Medicine CM instruction 6300.17 is under revision to align CM case load size and acuity levels with TMA and DoD directive that the CM load will not exceed 30.
- Navy Medicine continues full participation on the Wounded Warrior Task Force and in FY13 will adopt the use of the Task Force recommended CM tracking system to increase data sharing across disciplines. The Tri-Service Alternative Information Management (AIM) Form was implemented.
- In FY12, the goal for MEB (Medical Evaluation Boards) to be processed within 35 days was met every month for the Navy and met the goal nine months for the USMC – a significant improvement from FY11 when only three MTFs met the goal for only two quarters.

Satisfaction rates for IDES PEBLOs (Physical Evaluation Board Liaison Officer) customer satisfaction were not measured in FY12; however, other process improvement efforts including the use of AHLTA for narrative summary documentation and senior leadership involvement was measured and consistent performance improvement noted in 2012.

Planned actions in Transition of Care for 2013:

Goal: Continue to facilitate and promote seamless transitions across the full continuum of care.

Target Areas:

1. Continue increasing compliance with Navy Medicine’s case management policy (BUMED Instruction 6300.17).
2. Maintain and enlarge efforts to increase accountability (tracking) for Wounded Warrior case management care with an emphasis on continuing development of coding guidance and encouragement/training related to proper coding use.
3. Continue expanding and refining case coordination services and “safety nets” for at-risk / most “in need” populations (i.e. Reservists and WWR).

Screening and Surveillance

Accomplishments made during 2012 in Screening and Surveillance:

Promoted the use of consistent and effective assessment practices as well as supported the development of tracking, monitoring, and management tools for PH and TBI concerns.

- Identified screening tools and surveillance initiatives to be incorporated and integrated into health assessment processes in order to improve usefulness, effectiveness, and validity.
- Facilitated the early identification and treatment of PH and TBI conditions through screening efforts both in-theater and in-garrison.
- Supported efforts to explore and identify factors related to psychological risk and resilience as well as pinpoint targeted actions for prevention and mitigation.

APPENDIX C NAVY INPUT

- Broadened communication efforts to ensure widest possible dissemination of surveillance findings while emphasizing target audiences where appropriate (i.e. decision-makers, leaders, family members, etc.)
- In response to the increasing number of suicides committed by Navy Medicine personnel and Vice Admiral Nathan's order to conduct a "deep dive" review, M9 lead a multidisciplinary team review of Navy Medical Personnel Suicides (JAN 2011- OCT 2012) - a brief was provided to the Surgeon General (SG) on December 22, 2012, and a final report was submitted in January 2013.

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance during 2012:

Progress against strategic objectives:

- Improved identification of persons needing treatment for PTSD and TBI.
 - Conducted eighth Behavioral Health Needs Assessment Survey (BHNAS) – an in-theater mental health surveillance with a focus on mental health symptoms, combat exposures, and deployment related stressors – to provide Navy line and medical leadership with a comprehensive, near real-time snapshot of the psychological health and readiness of expeditionary Sailors serving in combat-zone assignments.
 - BHNAS-8 results presented to Afghanistan unit commanders had a direct impact on the well-being of those Sailors by bringing to awareness issues of sleep disturbance, acute stress, and unit morale that were not apparent prior to the assessment.
 - Approximately 300 expeditionary Sailors completed BHNAS in 2012 (6,500 total since 2007); trending analysis will be completed April 2013 and will examine prevalence rates of adverse mental health outcomes and changes in risk and protective factors.
 - Continued support for the Combat Trauma Registry - Expeditionary Medical Encounter Database (CTR-EMED) which provides the most comprehensive validated data set of expeditionary, medical, tactical, operational, personnel, and deployment-related information.
 - The total number of cases in the CTR-EMED exceeds 4.5M (Jan 2003-Nov 2012) - over 6,000 casualty tactical and clinical profiles were prepared for the Navy-Marine Corps and joint threat reduction and injury mitigation communities in 2012.
 - The 2012 investigation of blast and nonblast related mTBI indicated a clear differentiation between blast and nonblast event symptoms in contrast to previous studies.
 - Implementation underway for the Wounded Warrior Recovery Project - a quality of life study looking at a subset of TBI and PTSD positive casualties within the CTR EMED. Service members are being longitudinally tracked in a prospective, informed consent study to assess how their conditions and the treatments they are administered for their conditions affect their long term quality of life outcomes.

APPENDIX C NAVY INPUT

- Enhanced effective and efficient communication of surveillance findings.
 - Continued to develop working relationships with surveillance partners such as NMCPHC and NHRC to refine surveillance and screening efforts and develop streamlined processes for submission and dissemination of information.
 - Supported development of centralized, online project management tool (MAX) for program coordination – coordinating with NMCPHC and NHRC to integrate surveillance results with tool functionality with the end goal of increasing transparency and facilitating information sharing.

Measures and Metrics:

- Worked with data analysts at NMCPHC to increase and improve measuring / monitoring of returning deployers as baseline for program efforts.¹¹
 - 3,715 Marines started deployment in Jun 2012 – Aug 2012. Of those, 625 are anticipated to return in Jan 2013; 2,084 are anticipated in Feb 2013; and 1,006 are anticipated in Mar 2013. The majority of returning deployers (44%) are expected to receive medical treatment at NH Camp Pendleton.
- Monitored TBI condition prevalence - 13,774 Navy and Marine Corps service members were diagnosed with TBI in FY12. 5,487 (40%) were Navy and 8,287 (60%) were Marine Corps.¹² Approximately 82% of TBI incidences were mild in severity.¹³
- Measured and monitored PDHA referral rates - 29,507 PDHA forms were certified in FY12Q4 (8,722 Navy and 20,785 Marines) - overall there were more Marines that were referred than Sailors.¹⁴ In FY12Q4, there were 763 Marine PDHAs with at least one selected referral¹⁵ and 214 for Sailors.
 - There were 2,285 referrals in both services for alcohol-related care in the entire report timeframe. Mental health specialty care referral types accounted for 1,380 while TBI evaluations accounted for 1,201. Suicide ideation referrals totaled 332.
- Measured and monitored PDHRA referral rates - there were 1,217 PDHRAs with at least one selected referral for Marines and 374 for Navy.
 - There were 4,138 referrals in both services for alcohol-related care. Mental health specialty care referral types accounted for 2,249 while TBI evaluations accounted for 2,135. Suicide ideation referrals total 1,103.

¹¹ Methodology: Determined number of Marines who started deployments between June 2012 and August 2012 based upon data from the Defense Manpower Data Center (DMDC) Contingency Tracking System (CTS). Data was cross-referenced with information obtained on the individual's assigned unit identification code (UIC) and data on MTF locations to obtain an assigned regional MTF for each individual. This information was then correlated with estimated return dates for deployments to provide a breakdown of expected deployers to return by MTF.

¹² This number includes incidences of TBI while on deployment and in garrison, as most incidences of TBI (~84%) occur in garrison

¹³ Data source: DVBIC TBI Reports and Armed Services Health Surveillance Center

¹⁴ Likely due to form completion requirements (not required if service member did not have "boots on ground" lasting at least 30 days)

¹⁵ Selected referral = PH or TBI referral. These are defined as any referral relating to: (1) alcohol-related care, (2) mental health specialty care, (3) TBI evaluations, and (4) suicide ideation

APPENDIX C NAVY INPUT

- Monitored and analyzed data sets to predict MTF encounter burden from returning deployers.¹⁶
 - In FY13Q2, a total of 20,715 medical encounters from returning deployers are anticipated – overall 46% (9,627) of all encounters are expected to be among Marines at Naval Hospital Camp Pendleton (NHCP) with NHCP numbers peaking in FEB 2013 (6,477 encounters or 67%).
 - NMC San Diego will have second highest number of total encounters for returning deployers with 5,621 (27%) anticipated. Other MTFs are expected to have no significant increase in encounters in this quarter.
- Monitored and analyzed data sets to predict MTF burden by diagnosis.¹⁷
 - Among the Marines predicted to return in FY13Q2, an estimated:
 - 99 (2.7%) will have at least one encounter for TBI;
 - 66 (1.8%) will have at least one encounter for MDD;
 - 58 (1.6%) will have at least one encounter for PTSD;
 - These diagnoses are not mutually exclusive; some Marines will be co-morbid for more than one of these diagnoses.
 - TBI has the highest anticipated encounter burden and is predicted to peak sharply in February 2013 (corresponding with anticipated peak in returning deployers).

Planned actions in Screening and Surveillance for 2013:

Goal: Continue psychological health and TBI surveillance to provide real time actionable information to line and leadership to improve psychological health outcomes and mitigate psychological and physical risk.

Target Areas:

1. The BHNAS instrument (BHNAS -9) contains 220 questions and will be administered twice in 2013.
2. Casualty tactical and clinical profiles and comprehensive analysis provided to Navy-Marine Corps and joint threat reduction and injury mitigation communities timely.
3. In alignment with SG's priority to focus on readiness, explore new methods/enhancements for post-OEF surveillance efforts including fleet-wide behavioral health surveillance system for deployed and non-deployed Navy and Marine Corps units.

¹⁶ Using data from DMDC-CTS and Comprehensive Ambulatory / Professional Encounter Record (CAPER), NMCPHC identifies a cohort of Marines starting deployments within a given timeframe and matches them to a list of assigned Regional MTFs. Based on the average percent of encounters seen in previously deployed Marines compared with the number of deployers expected to return within the established timeframe, ambulatory encounters are predicted. The predicted total number of encounters per MTF is based upon (1) number of Marines assigned to each regional MTF, (2) number of medical events experienced, and (3) number of medical appointments required to treat specific diagnoses.

¹⁷ Using DMDC-CTS data similar to *above*, this metric shows the predicted number of cases (0-210 days post-deployment) of PTSD, TBI, or MDD among Marines assigned to MTFs. Predictions of these diagnoses are based on the observed average percentage of each diagnosis in a Marine unit in the year prior to these deployments (generation factors). Differences in the predictions by month are due not only to the number of Marines returning each month but also due to variability in the average percent of these diagnoses by unit.

APPENDIX D
AIR FORCE INPUT

Access to Care

Accomplishments made during 2012 in Access to Care:

- The AF exercised contract options to maintain 96 Psychological Health (PH) specialty care and Behavioral Health Optimization Program (BHOP) providers at 75 military medical treatment facilities (MTF's) worldwide.

An assessment of outcomes related to the progress made for the projects in Access to Care during 2012:

- These personnel replace clinical capacity for specialty PH care and PH integration in Patient Centered Medical Home (PCMH) services that enables uniformed personnel to conduct mandated Director of Psychological Health (DHP) outreach, prevention, and resilience activities in operational units and to coordinated community services supporting agencies and installation leadership on PH/TBI issues.

Planned actions in Access to Care for 2013:

- In FY13, the AF will continue to purchase this support to fill personnel requirements for specialty PH services across the AF Medical Service (AFMS).

Access to Care

Accomplishments made during 2012 in Access to Care:

- The AF TBI Clinic at Joint Base Elmendorf-Richardson (JBER) now maintains responsibility for all TBI screening and referral assessments for uniformed personnel in the joint population. The clinic provides treatment for Service members who screen positive for TBI related symptoms.

An assessment of outcomes related to the progress made for the projects in Access to Care during 2012:

- The TBI Clinic at JBER maintained a 95% ATC standard for AF and Army personnel in Alaska. Over 1,500 pre-/post deployment neurocognitive screenings have been conducted.
 - The clinic coordinated the pre-deployment cognitive screens for over 3,000 Army Combat Brigade deployers.
 - Following the redeployment of Army Combat Brigade personnel, the clinic evaluated 100 TBI referrals, with additional evaluations scheduled for FY 2013 when the remaining personnel return.

Planned actions in Access to Care for 2013:

- In FY13, the AF TBI Clinic at JBER will continue to ensure patients are seen within ATC standards to provide timely neurocognitive screenings and post-deployment TBI evaluation and treatment.

Access-to-Care

Accomplishments made during 2012 in Access to Care:

- The AF deployed an additional 24 secure and portable VTC units to facilities around the world. The AF now has 81 of the planned 85 locations operational.

APPENDIX D AIR FORCE INPUT

An assessment of outcomes related to the progress made for the projects in Access to Care during 2012:

- These VTC units when fully operational will provide behavioral health specialty care access to beneficiaries, easing access while reducing cost of travel and network care in areas where network behavioral health specialty care is in short supply.

Planned actions in Access to Care for 2013:

- For FY13, the AF projects full installation of the remaining 4 VTC units by the end of May. With full deployment of VTC capability, provider to provider communication, patient to provider treatment and consultation encounters will begin in earnest. Furthermore, a joint AF/Veteran's Affairs (VA) VTC program for uniformed personnel seeking behavioral therapies for Post-Traumatic Stress Disorder (PTSD), Traumatic Brain Injury (TBI), and chronic pain will be implemented between Bolling AFB and the New Haven, Connecticut VA.
- Additionally, full deployment of the VTC Capability will facilitate the execution of Project Echo (Extension of Community Healthcare Outcomes) which is part of the eConsultation Projects and a subset of the overarching eHealth Initiative Projects. It is anticipated that the behavioral health initiatives connected to these projects will commence this year.

Access-to-Care

Accomplishments made during 2012 in Access to Care:

- The AF is operating ten Virtual Reality (VR) therapy sites.

An assessment of outcomes related to the progress made for the projects in Access to Care during 2012:

- These VR units provide a therapy modality for the treatment of PTSD for patients who have not responded to other evidence-based therapies such as prolonged exposure therapy and cognitive processing therapy. The AF will conduct outcomes studies for this therapy.

Planned actions in Access to Care for 2013:

- In FY13, the AF will continue to evaluate the utility of these VR units to meet the wounded warrior demand at high demand locations. To further improve utility of all VR units, the AF will continue provider training in the therapeutic use of these units.

Quality of Care

Accomplishments made during 2012 in Quality of Care:

- The AF trained PH providers in Evidence-Based Therapies (EBT) for Posttraumatic Stress Disorder.

An assessment of outcomes related to the progress made for the projects in Quality of Care during 2012:

- Currently, all AF MTFs have one or more PH providers trained in at least one EBT to treat PTSD. Overall, 80%, or 559, AF PH providers have been trained in EBTs for PTSD.

Planned actions in Quality of Care for 2013:

- In FY13, the AF expects to train more than 100 providers on EBTs for PTSD.

APPENDIX D
AIR FORCE INPUT

Quality of Care

Accomplishments made during 2012 in Quality of Care:

- The Air Force conducted the annual Operational Problems in Behavioral Health Sciences Symposium (OPBSS) course to provide current training on recent advances in mental health operations and policy to AF PH personnel.

An assessment of outcomes related to the progress made for the projects in Quality of Care during 2012:

- This course was attended by 320 PH personnel and provided 4,280 cumulative training hours on topics such as the following: improvement of access to care and MH business practices, MH considerations for gay and lesbian military personnel, PH ethics, AF PH best practices, violence, preparation of reports for medical evaluation boards, discharges, and separations, consultation to commanders, leadership, technologies in PH, and resilience, to name a few.

Planned actions in Quality of Care for 2013:

- In FY13, the AF plans to conduct OPBSS for approximately 250 PH personnel.

Quality of Care

Accomplishments made during 2012 in Quality of Care:

- The TBI Clinic at JBER assessed and adjusted the Interdisciplinary Case Management program that was developed in 2011, ensuring a robust multidisciplinary focus which is critical in complex cases. A Language and Speech Pathologist was hired, allowing patients to access this service in-house with a provider who is part of the JBER Interdisciplinary Case Management team.

An assessment of outcomes related to the progress made for the projects in Quality of Care during 2012:

- During FY 2012, 800 Service members were evaluated and underwent Interdisciplinary Case review. Since the hiring of the Language and Speech Pathologist in July, 2012, 50 patients received Language and Speech Pathology services in-house.

Planned actions in Quality of Care for 2013:

- In FY13, an Occupational Therapist will be hired to improve our ability to provide appropriate multidisciplinary care.

Quality of Care

Accomplishments made during 2012 in Quality of Care:

- The AF completed a project in Computer Based Training (CBT) modules developed to enhance provider skills in the use of Virtual Reality (VR) equipment in the treatment of mental health conditions.

An assessment of outcomes related to the progress made for the projects in Quality of Care during 2012:

- Enhanced the ability of behavioral health staff to employ VR therapeutically. In addition to CBT models for PTSD, four modules were developed for use in the treatment of phobias, e.g., flying and heights, and for relaxation therapy. With these models, the total of MHS Learn offerings now stands at twelve courses and five awareness tools.

APPENDIX D AIR FORCE INPUT

Planned actions in Quality of Care for 2013:

- In FY13, the AF projects to maintain, enhance and expand the use of these CBT modules for provider training in VR, VR Web-Based Clinical Supervision (WBCS) & VTC.

Screening and Surveillance

Accomplishments made during 2012 in Screening and Surveillance:

- Impacts of Mental Conditions and Criminal Behavior on AF Attrition Rates and the Personnel Reliability Program.
- Computer prediction rules for mental health screening in the military continue to be developed, evaluated, and implemented. The primary measure used to collect assessment information, the Lackland Behavioral Questionnaire (LBQ), systematically inquires about a history of significant mental health and behavior problems. The LBQ has been administered to over 150,000 basic military trainees, and validated using a range of criteria, including attrition for mental health and behavioral problems. Computer predictions are used to refer trainees for follow-up interviews during basic military training, and some of these trainees receive mental health counseling. Finally, a measure of resilience has been administered to all trainees in basic military training since 1 Oct 2011.

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance during 2012:

- These initiatives have provided important information under consideration by Line leadership for policies pertaining to suitability screening. The data have provided statistically powerful information to identify trainees at increased risk for attrition for PH problems.

Planned actions in Screening and Surveillance for 2013:

- In FY13, the AF will continue to study these force health issues and their correlation to successful military service. The AF is now obtaining measurements of resilience for all trainees in basic military training. An analysis of this data is in progress to clarify if the addition of resilience information to mental health/behavior problem history information leads to more accurate predictions. In addition, treatment interventions for trainees who screen positive for behavior and mental health issues will continue to be developed, evaluated, and implemented.

Screening and Surveillance

Accomplishments made during 2012 in Screening and Surveillance:

- Air Force continued to conduct neurocognitive assessment screening curriculum in the AF MH technician career-field (AF specialty code: 4C) training at the Medical Education Training Campus (METC) in San Antonio, Texas.

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance during 2012:

- In 2012, 109 MH Technicians (MHTs) were trained to proctor the ANAM. An additional 29 proctors were trained through a class sponsored by the Army on behalf of the DoD. The AF conducted ANAM Refresher Training for AF Reserve Component (AFRC) units and 89 Wing Directors of Psychological Health for the Air National Guard (ANG).

APPENDIX D AIR FORCE INPUT

Planned actions in Screening and Surveillance for 2013:

- The AF will continue to provide training for MHTs at METC to maintain current pre-deployment neurocognitive screening capabilities at all MTFs, and our reserve and guard components.

Screening and Surveillance

Accomplishments made during 2012 in Screening and Surveillance:

- Over 1,500 pre-/post deployment neurocognitive screenings were conducted at the Joint Base Elmendorf-Richardson (JBER) TBI Clinic.
- The clinic coordinated the pre-deployment cognitive screens for over 3,000 Army Combat Brigade deployers.
- Following the redeployment of Army Combat Brigade personnel, the clinic evaluated 100 TBI referrals, with additional evaluations scheduled for FY 2013 when the remaining personnel return.

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance during 2012:

- The TBI clinic met all joint service requests for pre-deployment cognitive screens and post-deployment assessments.

Planned actions in Screening and Surveillance for 2013:

- The TBI Clinic will continue to provide neurocognitive screenings and post-deployment assessments to all joint service deployers.

Transition of Care

Accomplishments made during 2012 in Transition of Care:

- The JBER TBI clinic has been working with Army Primary Care and Behavioral Health to improve communication between clinics to address the complex care needs of TBI patients.

An assessment of outcomes related to the progress made for the projects in Transition of Care during 2012:

- Regular contact between various clinics treating patients with TBI related symptoms has improved patient care and transition from specialty TBI services back to primary care services.

Planned actions in Transition of Care for 2013:

- A quarterly review of TBI, Primary Care, and Behavioral Health transitions issues will be implemented.

Leadership and Advocacy

Accomplishments made during 2012 in Leadership and Advocacy:

- The AF TBI Clinic regularly hosts community leaders to advocate TBI awareness and services. The TBI Education Coordinator currently sits on the Installation Commander's Community Action Integration Board (CAIB).

APPENDIX D
AIR FORCE INPUT

An assessment of outcomes related to the progress made for the projects in Leadership and Advocacy during 2012:

- These events have increased community awareness of TBI effects and services. They have received positive reviews from base leadership, organizations, and the community.

Planned actions in Leadership and Advocacy for 2013:

- In FY13, the TBI clinic will continue advocacy for treatment and care of Service members and families who are impacted by TBI. In FY13, the TBI clinic will host a TBI awareness open house for leadership, military and family members.

APPENDIX E:
DEFENSE CENTERS OF EXCELLENCE FOR
PSYCHOLOGICAL HEALTH AND TRAUMATIC BRAIN INJURY

Access to Care

Accomplishments made during 2012 in Access to Care:

1. Development of three mobile applications (apps) improving access to care:
 - Positive Activity Jackpot: This app uses augmented reality with a smartphone's GPS to help find nearby activities and diversions for someone used to the high tempo of combat life.
 - Prolonged Exposure (PE) Coach: Developed in collaboration with the Department of Veterans Affairs and the Center for Deployment Psychology. PE Coach is the first mobile app designed to support the patient tasks associated with prolonged exposure treatment for PTSD.
 - LifeArmor: Developed to help Service members and their families manage the challenges of military life. Developed as a companion app to the highly successful AfterDeployment.org Website, LifeArmor provides multimedia educational resources and behavioral health management tools for the military community.

2. New and improved Web resources:
 - MilitaryKidsConnect.org (MKC): Released in January 2012, MKC is the first DoD-sponsored Website designed for military children facing the challenges of a parent's deployment. The site features psychologist-developed content customized for three age groups (children, tweens, and teens) and resources for parents and educators. Activities on the site include moderated message boards, videos featuring military kids, and games incorporating cultural information about common military deployment locations. The site is updated continually. Latest enhancements focus on redeployment, reintegration, and stress reduction and include a "teen tour" video of Joint Base Lewis-McChord, new games and activities to engage kids in learning, and, for educators, lesson plans and an "educator talking to educator" video on military culture.
 - AfterDeployment.org: Modules for mild Traumatic Brain Injury (mTBI), depression, post-traumatic stress, and sleep have been redesigned. The new workshop design presents psycho-educational content via documentary video format, and behavior change strategies in an interactive workbook. This "bifurcated" model design improves navigation and enhances presentation quality within the modules. Usage metrics are continuously analyzed as part of an ongoing effort to assess user experience within the environment of the new design and to inform future upgrade efforts.
 - Military Pathways: Military Pathways is a voluntary, anonymous mental health and alcohol education screening program offered to military personnel and their families in all branches, including the National Guard and Reserve. The primary goals of the program are to educate, raise awareness, offer screenings, and host events about mental health. Military Pathways program materials are provided free to installations, units and groups.
 - StartMovingForward.org: Launched in November 2012, StartMovingForward.org is an anonymous self-paced Web course designed to teach skills for overcoming life problems. This Web course is based on problem-solving training, an evidenced-based cognitive behavioral treatment for depression and other distress and was developed in partnership with the VA through the Integrated Mental Health Strategy (IMHS).

APPENDIX E:
DEFENSE CENTERS OF EXCELLENCE FOR
PSYCHOLOGICAL HEALTH AND TRAUMATIC BRAIN INJURY

3. Virtual Reality Technology Enhancement Center (VRTeC): A mobile platform for virtual reality systems with an integrated usability lab, to guide improvements for technology-based PH education, assessment, and treatment at remote locations. This allows the Telehealth and Technology Center's (T2's) innovative applications to be developed and tested on other installations and on service members from branches other than the Army. The VRTeC is a custom-manufactured 53-foot enclosed-type trailer that includes two virtual reality simulators and a usability lab.
4. In-Home Telehealth Randomized Controlled Trial (RCT). The T2 In-Home Tele-behavioral Health Care Project is a RCT designed to evaluate the effectiveness of delivering psychotherapy for depression directly to Soldiers' and Veterans' homes by comparing it to in-person treatment. Recruitment began during summer 2012 at Joint Base Lewis-McChord (JBLM), and early fall 2012 at the Portland VA Hospital. Five participants have successfully completed the treatment phase and are in the study's follow-up phase, putting the project on target to be completed on-time (2014). This study receives funding through Military Operations Medical Research Program (MOMRP) and the Telemedicine & Advanced Technology Research Center (TATRC).
5. Scientific Journal Article on In-Home Telehealth Procedures. Telemental health (TMH) care provided directly to the home is an emerging area of care delivery. Before such treatment becomes standard of care, important policy and safety issues must be carefully considered. T2 published a manuscript on safety planning issues associated with delivering telemental health care to Service Members' homes (See "Home-based telemental healthcare safety planning: what you need to know." *Telemed J E Health*. 2012 Oct;18(8):629-33).
6. Scientific Journal Article on Smartphone Video Capabilities for Telehealth Care. T2 is beginning to evaluate emerging technologies and potential opportunities they hold for telehealth and the MHS. T2 published a preliminary evaluation of the opportunities and barriers of smartphone video in telehealth services. (See "Usability and feasibility of smartphone video capabilities for telehealth care in the U.S. military." *Telemed J E Health*. 2012 Jul-Aug;18(6):409-12).

An assessment of outcomes related to the progress made for the projects in Access to Care:

1. With regard to utilization of new mobile applications, PE Coach was downloaded 8,852 times and used 42,383 times. The LifeArmor mobile app was downloaded 4,936 times and used 18,316 times. Positive Activity Jackpot was downloaded 1,235 times and used 4,209 times.
2. The In-Home Telehealth Randomized Controlled Trial faced regulatory complications that slowed the launch of the recruitment phase. However, those have been addressed and the trial is on track.
3. The In-Home Telehealth Procedures Study and the Smartphone Video Capabilities for Telehealth Care Study were completed in 2012 and successfully published in peer-reviewed journals.

Planned actions in Access to Care for 2013:

4. With regard to utilization of new mobile applications, PE Coach was downloaded 8,852 times and used 42,383 times. The LifeArmor mobile app was downloaded 4,936 times and used 18,316 times. Positive Activity Jackpot was downloaded 1,235 times and used 4,209 times.

APPENDIX E:
DEFENSE CENTERS OF EXCELLENCE FOR
PSYCHOLOGICAL HEALTH AND TRAUMATIC BRAIN INJURY

5. The In-Home Telehealth Randomized Controlled Trial faced regulatory complications that slowed the launch of the recruitment phase. However, those have been addressed and the trial is on track.
6. The In-Home Telehealth Procedures Study and the Smartphone Video Capabilities for Telehealth Care Study were completed in 2012 and successfully published in peer-reviewed journals.

Quality of Care

Accomplishments made during 2012 in Quality of Care:

1. Virtual Reality Exposure Therapy: A randomized controlled trial comparing virtual reality (VR) exposure to prolonged exposure therapy for PTSD. This study recently completed year three of five and has enrolled 119 soldiers to date. VR exposure is one of the most promising innovative technology interventions currently under investigation to support the psychological health of warriors. T2 is providing Department of Defense leadership in the evaluation and dissemination of this treatment option.
2. Workshop “Using Technology Tools in Clinical Practice: Smartphone Apps, Web Sites, and Virtual Environments.” Virtual reality exposure therapy (VRET) clinical training workshops provide a coordinated response to VA/DoD behavioral health providers seeking to leverage this promising treatment approach in research or clinical practice. This intensive workshop on how to implement Virtual Reality Exposure Therapy begins with instruction in the basics of all components of VRET, including rationale, a standard protocol for using VRET as an augmentation of PE therapy, and hands-on practice of virtual reality exposure skills.

An assessment of outcomes related to the progress made for the projects in Quality of Care:

1. Workshop “Using Technology Tools in Clinical Practice: Smartphone Apps, Web Sites, and Virtual Environments” trained 36 VA/DoD clinical providers.

Planned actions in Quality of Care for 2013:

1. Continue the VRET clinical training workshops. Two more workshops are planned for April and November of 2013

Resilience

Accomplishments made during 2012 in Resilience:

1. T2 is evaluating the Provider Resilience Mobile Application (PRMA) with an Army Reserve Combat Operational Stress Control Unit (COSC) on deployment in Afghanistan. The application helps the provider overcome burnout, compassion fatigue and secondary traumatic stress.

An assessment of outcomes related to the progress made for the projects in Resilience:

1. This evaluation is intended to provide outcome data. The project is currently in the data collection phase and results are not yet available.

Planned actions in Resilience for 2013:

APPENDIX E:
DEFENSE CENTERS OF EXCELLENCE FOR
PSYCHOLOGICAL HEALTH AND TRAUMATIC BRAIN INJURY

1. T2 will analyze the study results for the PRMA when the unit redeploys from Afghanistan in 2013.
2. T2 will continue the Caring Letters Suicide Prevention study which is scheduled to end in 2015. The study has plans to recruit 4,730 from inpatient psychiatric units at six DoD and VA sites to examine the effects of sending patients caring letters and reminders of treatment availability following an inpatient hospitalization (an approach supported in civilian research).

Transition of Care

Accomplishments made during 2012 in Transition of Care:

1. T2 Mood Tracker mobile app upgrade: Originally released in 2010, T2 Mood Tracker now offers expanded capabilities that provide an enhanced experience for both users and providers. Fundamentally, the app allows users to monitor their moods on six pre-loaded scales: anxiety, stress, depression, brain injury, post-traumatic stress, and general well-being. However, custom scales may also be created as desired. Users can rate their moods by swiping a small touch-screen bar to the left or to the right, and the ratings are then displayed on time-lapse graphs. The new version of the app can generate PDF reports to print or email to health care providers. A backup database saves all data on a Secure Digital card in order to transfer results easily to a new phone or to save results on a back-up phone. Also, users now have the ability to locate psychological health support in their respective regions via the app's Outreach Center link improving transition from DoD care to the community.

Screening and Surveillance

Accomplishments made during 2012 in Screening and Surveillance:

1. Led DoD's Suicide Surveillance Program. T2 manages the DoD's primary surveillance system for suicides and suicide attempts known as the DoD Suicide Event Report (DoDSER). The DoDSER program is a collaborative effort among the DoD's Suicide Prevention and Risk Reduction Committee (SPARRC), the Services' DoDSER Program Managers and T2. The 2011 Annual Report was completed in August and publically released in December of 2012. Data is used frequently by senior leaders and the Services' suicide prevention programs. In addition, T2 worked to maximize the usefulness of the data and completed an initial project to link DoDSER data to CDC suicide data to examine how the two data systems might inform one another. (See Characteristics of suicides among U.S. Army active duty personnel in 17 U.S. states from 2005 to 2007. *Am J Public Health*. 2012 Mar; 102 Suppl 1:S40-4).
2. Publications on Military Suicide Prevention. T2 published six new scientific papers on military suicide including the most comprehensive analysis to-date on the relationship of traumatic brain injury and Suicide. (See "Relations between suicide and traumatic brain injury, psychiatric diagnoses, and relationship problems, active component, U.S. Armed Forces, 2001-2009." *MSMR*. 2012 Feb;19(2):7-11).
3. Scientific Journal Article Examining the Validity of Computer-Based PDHRA Screenings. Published an article examining the diagnostic efficiency of computer-based post-deployment mental health screens. The results generally supported the military's use of computer-based screenings. (See "An examination of the diagnostic efficiency of post-deployment mental health screens. *J Clin Psychol*. 2012 Dec.; 68(12):1253-65).

APPENDIX E:
DEFENSE CENTERS OF EXCELLENCE FOR
PSYCHOLOGICAL HEALTH AND TRAUMATIC BRAIN INJURY

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance:

1. The DoD Suicide Event Report (DoDSER) program was successful this year. The data were used to support numerous top priority needs, and an initial data linkage project with the Centers for Disease Control (CDC) has been completed. The system was refined based on feedback from all the Services.
2. The studies above are complete and the results of the research projects have been published.

Planned actions in Screening and Surveillance for 2013:

1. T2 will continue to operate the DoDSER program and collaborate with the Defense Suicide Prevention Office and the Service Suicide Prevention Managers (SPPM) in order to optimize suicide and suicidal behavior surveillance efforts which will provide essential information for the support of prevention training and programs.
2. T2 will publish research conducted on DoDSER data, as well as the most comprehensive study to date on the relationship between military occupation and suicide.
3. T2 will publish results from a study examining the validity of administering mental health screening with a T2 smartphone app.
4. T2 will complete initial analyses for a major study intended to examine military suicide in relation to OEF/OIF (including those who have separated from military service). Data from three enterprise-level sources have been combined and integrated into a comprehensive database. The project is in the final stages and results are expected to fill key gaps identified by several systemic reviews of DoD suicide data.

Leadership and Advocacy

Accomplishments made during 2012 in Leadership and Advocacy:

1. Telehealth Review, Analysis, and Strategic Planning (TRASP) Initiative OSD-CAPE and the Assistant Secretary of Defense (Health Affairs) (ASD (HA)) mandated effort to develop MHS's first enterprise gap analysis and strategic plan for Telemental Health and related Telehealth Issues.
 - a. The TRASP Gap Analysis produced key findings and recommendations in the areas of clinical standards and practices, business processes, technical architecture, and overall MHS Telehealth (TH) leadership and coordination.
 - b. The TRASP Strategic Plan addressed the issues identified in the Gap Analysis by outlining the strategic aims of an overall MHS Telehealth Program of Care that would be accountable, accessible, closely aligned to MHS priorities, and a crucial component in the achievement of MHS strategic goals. The TRASP Strategic Plan established the foundational pillars necessary to realize the MHS strategic aims.
 - c. Following ASD (HA) approval of the TRASP Gap Analysis in April 2012, and the Strategic Plan in August 2012, T2 has been leading the implementation of the TRASP recommendations through the development of policy, standards, and management strategy to support the development of a MHS Telehealth Office. .
2. Stand-Up of the HEC/JEC Telehealth Work Group – Chartered by the DoD/VA Joint Executive Council (JEC) and Health Executive Council (HEC), the Telehealth Work Group (TH WG) works

APPENDIX E:
DEFENSE CENTERS OF EXCELLENCE FOR
PSYCHOLOGICAL HEALTH AND TRAUMATIC BRAIN INJURY

to increase and sustain collaboration between Departments to identify and evaluate opportunities to provide expand joint Telehealth care. The TH WG is specifically charged with improving Telehealth links across Departments, facilitating access to care in remote areas, promoting the continuity of care between the Departments, allowing for possible cost savings and increased efficiencies, and offering advisement on legal and policy issues. T2 serves as the DoD Co-Chair of the TH WG, together with the VA's Office of Telehealth Services. In FY 2012, work was completed on the TH WG Joint Strategic Plan. That plan is now in the process of being implemented.

3. NDAA Telehealth Implementation Waiver – T2 supported ASD (HA) OGC and the DASD for (Clinical and Program Policy) in the drafting and coordination of a policy waiver that implemented provisions of the 2012 NDAA that expanded the categories of providers and locations covered under DoD preemption of individual State professional licensure laws. The waiver also instituted Telehealth “privileging by proxy”, per current CMS and Joint Commission guidelines. The expanded flexibility offered to MTFs by this policy waiver will significantly reduce the amount of time needed to on-board a Telehealth specialty consultant, thereby improving specialty access for MHS beneficiaries living in underserved areas. This waiver was coordinated with the Military Services to ensure that it addressed their health care execution needs. MHS is in the process of incorporation of the waiver provisions into permanent policy guidance.

Planned actions in Leadership and Advocacy for 2013:

1. FY 2013 and FY 2014 will be spent primarily in meeting the TRASP deliverables; establishing enterprise-wide Telehealth clinical, business, and technical standards, competencies, and metrics; assisting MHS and the Services with planning for Telehealth initiatives; and establishing a fully functioning MHS Telehealth Office.
2. As envisioned by the 2012 TRASP Strategic Plan, the implementation of the MHS Telehealth Program of Care will include quarterly in-process reviews for MHS Senior Leaders and an updated Strategic Plan by the end of FY 2013.

APPENDIX F

DEFENSE AND VETERANS BRAIN INJURY CENTER

Access to Care

Accomplishments made during 2012 in Access to Care:

- Clinical care at DoD healthcare facilities - Over 100 providers embedded in TBI clinical programs at DoD facilities provided specialty care, rehabilitation services, case management, and primary care to individuals with TBI. Clinical staff supported ongoing clinical investigations to improve TBI care at the MTF level. Provide rapid response consultation to in-theater providers through TBI.consult for TBI diagnosis, treatment, and symptom management through a team of specialized clinicians. Response time averages 2 hours 33 minutes. 34 total consults in 2012.
- Track and follow-up with symptomatic TBI patients at prescribed intervals (1, 3, 6, 9, 12, 18, 24 months or more as long as they remain symptomatic) - 17 Regional Care coordinators dispersed into catchment areas across geographic locations. Over 2200 symptomatic TBI patient follow ups completed. By speaking to patients on a regular basis RCCs can keep track of symptoms and connect them to appropriate services.
- Project ECHO support (Extension for Community Healthcare Outcomes whose mission is to develop the capacity to safely and effectively treat in rural and underserved areas) – developed teaching materials, training slide decks for TBI and comorbid conditions to include sleep, complementary and alternative medicine, and post-traumatic stress. These are for providers to expand their knowledge base and provide clinical consultation on cases to enhance care provided in regions where specialty care is not available.
- Began build-out of T2 Web Resource Locator (T2WRL), on-line comprehensive, rapid response resource data base with comprehensive listing of TBI services by location, in the DoD, VA, and TRICARE. This capability will fill a long standing need identified by TBI CMs in both Continental United States and Outside Continental United States to provide accurate, focused and accessible care discharge planning for Service members affected by all levels of TBI.
- DVBIC responded to almost 3,000 inquiries at Info@DVBIC.org, a Web-based resource for military and civilian patients, caregivers, and providers.

An assessment of outcomes related to the progress made for the projects in Access to Care:

- Refined the mission of DVBIC neuro-rehabilitation/community rehabilitation program.
- Increased collaborative research activities with military, VA, and civilian sites to further the knowledge base of best practices for individuals with TBI.

Planned actions in Access to Care for 2013:

- Recommend the most suitable implementation strategy for garrison based TBI screening protocols based on analysis of current DoD screening and evaluation procedures.
- Improve and expand DoD education and public awareness campaigns to highlight prevention strategies, promote safety, and heighten awareness and understanding of signs and symptoms of TBI and available resources in partnership with the CDC.
- Continue to develop partnerships with DoD sites (MTFs and Warrior Transition Units) to increase the number of active duty Service members served by the DVBIC neuro-rehabilitation programs.

APPENDIX F

DEFENSE AND VETERANS BRAIN INJURY CENTER

- In collaboration with USAF, an a Regional Education Coordinator was placed at Joint Base Elmendorf Richardson to help support the needs of the only Air Force TBI clinic located there.
- Continue partnership with Project ECHO.
- Complete T2WRL data input, maintain sustain database.
- Increase coordination with VA to reduce redundancies and to fill gaps in the rehabilitation continuum for veterans with TBI, by supporting the DoD/VA joint initiative by providing FU services to patients identified by the Lead Coordinator.

Quality of Care

Accomplishments made during 2012 in Quality of Care:

Since last January 2012, DCoE has 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 the Service members with concussions at various points:
 - **Combat Medic/Corpsman Algorithm** guides the in-field assessment and management by combat medics
 - **Initial Provider Algorithm** guides the providers located at the forward operating bases, on how to further manage Service members with head injury, concussion
 - **Comprehensive Concussion Algorithm** guides in more definitive care that involves referral to and management at the MTF with neuroimaging capabilities
 - **Recurrent Concussion Algorithm** guides the providers through a more comprehensive evaluation, specialty assessments for: neurobehavioral symptom inventory; neuropsychological assessment; neuro-imaging; balance; and functional assessment
 - **Assessment and Management of Dizziness Associated with mTBI** guides the providers through evaluation of dizziness after mTBI that is utilized for differential diagnosis for vertigo, disequilibrium and light headedness and appropriate referrals for management of each condition
 - **Indications and Conditions for Neuroendocrine Dysfunction Screening Post mTBI** for persistent symptoms after concussion, per the CR screen for neuro endocrine
- DVBIC hosted military and civilian provider training: seven trainings in conjunction with Center for Deployment Psychology (CDP), four trainings for the American Red Cross; two trainings for Walter Reed Army Institute of Research (WRAIR); and one provider training at West Point.
- Education Courses Conducted by Regional Educational Coordinators (RECs) Network - 14 RECs have conducted presentations to audiences of Service Members, veterans, families and military and civilian providers on a variety of TBI topics.
 - 277 presentations, trainings, briefs facilitated by the RECs reached over 11,400 people.
- Inventory of 56 Educational products, all of which were distributed to more than 764,500 stakeholders including Service members, families, caregivers, leaders and civilian providers.

APPENDIX F

DEFENSE AND VETERANS BRAIN INJURY CENTER

- Tools and Training for Deployed Settings - Pre- and post-deployment TBI educational sessions for military leadership, service members and their families
- DVBIC conducted outreach to Reserve and National Guard Service members through participation in Yellow Ribbon Reintegration Program events. The Yellow Ribbon Reintegration Program is a DoD-wide effort to promote the well-being of National Guard and Reserve members, their families and communities, by connecting them with resources throughout the deployment cycle. Throughout 2012, DVBIC attended 22 events, presented 21 TBI briefings, and presented TBI resources throughout the nation with the U.S. Army Reserve, Air National Guard, U.S. Navy Reserve, and U.S. Marine Corps Reserve.
- DVBIC produces the majority of its education offerings, but also leverages materials developed in collaboration with others, including BrainLine.org (launched fall 2008), and BrainLineMilitary.org (launched August 2011). Both BrainLine.org and BrainLineMilitary.org are funded by DVBIC and produced by the public television station WETA TV 26. Brainline.org was awarded 4 web awards in 2012; BrainlineMilitary.org received the best Military Mobile Site Award in 2012.
 - BrainLine.org is available as a mobile site accessible by any smartphone and is uniquely poised to serve those in minority, underserved, and rural communities. It is also include Spanish language resources. BrainLine.org has won 20 multimedia awards in its 3 years of existence.
 - BrainLineMilitary.org, which focuses on the specific needs of the DoD/VA TBI community, Launched an online TBI course for civilian health care providers who treat Service
 - BrainLineMilitary.org made available six free military TBI smartphone apps: Breathe to Relax, The mild TBI Brain Injury Pocket Guide, PTSD Coach, PTSD support for Veterans, T2 Mood Tracker, and Tactical Breather. These apps also available in iTunes store for free
 - BrainLineMilitary.org added five new landing pages (About Traumatic Brain Injury, Brain Injury Rehabilitation, Brain Injury symptoms, Diagnosing and treating Brain Injury, and Living with Traumatic Brain Injury), each with multiple embedded educational videos.
 - Developed full-day TBI educational track for Special Operations Medical Association Annual Meeting

Developed Family Needs Line of Educational and Support Products:

- Addressing Family Needs;
- Taking Care of Yourself While Caring for Others;
- Talking With Children About TBI; and
- Talking With Children about Moderate or Severe TBI.

Launched two online courses for Civilian Providers:

- Identifying and Treating Military Traumatic Brain Injury; and
- Deployment- Related Traumatic Brain Injury and Associated Co-Morbid Conditions.

Introduced the first Webinar, “The Battle Within: TBI, PTSD, and Violence Risk.”

APPENDIX F

DEFENSE AND VETERANS BRAIN INJURY CENTER

Transition of Care

Accomplishments made during 2012 in Transition of Care:

- Expanded a community of interest within the TBI Case Management group by providing quarterly newsletter with timely TBI related topics
- Conducted initial assessment and connection to clinical resources within the continental United States of all Service members evacuated from theater screened positive for TBI at Landstuhl Regional Medical Center; and completed 2,515 interviews of TBI patients received from all referral sources across DVBIC's 14 sites
- Developed multiple forums for transition of care interchange between the TBI Community of Interest to leverage known clinical and support resources to support TBI care.
- Supported broader case management and care coordination programs for Service members in both the DoD and VA. The outreach and education to broader case management and care coordination programs for injured Service members within DoD and VA has resulted in better coordination of care to Service members and veterans with TBI between departments.
- Utilized a computer-based database to manage the tracking and follow-up of TBI patients and provided weekly reports from DVBIC to the Service Surgeons General.
- The Family Caregiver program continues to support the military Services, family caregivers, and community through maintained outreach and education. This multi-module manual designed to provide help to family members and other caregivers who provide care for patients with TBI. In addition to printed versions, the Guide can be found online:
<http://www.traumaticbraininjuryatoz.org/Caregivers-Journey.aspx>
 - Deployed educators to VA, DoD, and civilian facilities to train local providers on the use of the Family Caregiver Guide
 - Maintained metrics on the distribution of the print guide and created and distributed a Family Caregiver Guide public service announcements;
 - Collaborated with the DoD and VA in obtaining qualitative feedback from family caregivers and providers
 - Disseminated the guide to 530 caregivers of Service members and veterans with moderate or severe TBI who are in, or are just entering the system, and to those that are in the later phases of recovery
 - Submitted the final report to Congress, "Traumatic Brain Injury: A Guide for Caregivers of Service members and Veterans: Training Curricula for Family Caregivers on Care and Assistance for Members and Former Members of the Armed Forces with Traumatic Brain Injury," in October 2011, as required by Section 744 of the John Warner National Defense Authorization Act for Fiscal Year 2007, P.L. 109-364. The report describes the progress on implementing the training curricula one year after the development and on the implementation of the guide
 - Developed Family Needs product line of materials designed to assist family members and caregivers through the transition time when a SM who has sustained a TBI returns home

An assessment of outcomes related to the progress made for the projects in Transition of Care:

- DVBIC continues to pursue existing enterprise Web-enabled database solution to host and maintain the DVBIC care coordination database functions.

APPENDIX F

DEFENSE AND VETERANS BRAIN INJURY CENTER

- DVBIC continues to pursue draft memoranda of agreements with military Services for the tracking and follow-up of mTBI patients, to include data flow back to the Service.
- DVBIC successfully launched online training for providers to augment support and understanding of the Family Caregiver Guide DVBIC facilitated incorporation of Family Caregiver Guide in the current Caregiver Support Training Program, held collaboratively with VA, and developed a Spanish version of the Guide to augment and expand to underserved populations.

Planned actions in Transition of Care for 2013:

- Partner with existing enterprise Web-enabled database solution to host and maintain the DVBIC care coordination database functions.
- Continue to conduct standardized follow-up on all identified TBI patients coming through Landstuhl Regional Medical Center, Germany, and other TBI referral sources.
- Develop online training for providers to augment support and understanding of the Family Caregiver Guide.

Screening and Surveillance

Accomplishments made during 2012 in Screening and Surveillance:

- Developed geographical maps each quarter that illustrate distribution of medical encounters for TBI from purchased care in private sector.
- Compiled information on distribution of medical encounters for TBI from direct care in garrison (OCONUS and CONUS) on quarterly basis.
- Provided quarterly DoD TBI incidence reports to HA/FHP&R per mandate
- Developed electronic application form to standardize collection and reporting practices of TBI surveillance data from the DVBIC network sites.
- Conducted comprehensive, retrospective analyses of relevant event triggered concussion data and activities of the Services and combatant commanders and coordinate blast-specific data analyses with JTAPIC Program office.
- Review and analyze concussion clinical algorithms to provide updates as indicated.
- DVBIC is a partner in the Federal Interagency Traumatic Brain Injury Research Informatics System (FITBIR) with other federal agencies involved in the collection and reporting of TBI epidemiological information.

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance:

- NCAT release 2 was non-concurred by Services.
- Defined many problems that have limited the use of post-injury NCAT in theater and in the continental United States, and this knowledge has led to increased awareness of post-injury testing issues.
- Define the role of non-neuropsychologists in proctoring NCATs.
- Continue to work with VA to develop procedures for bi-directional sharing of TBI data between the DoD and VA.

APPENDIX F

DEFENSE AND VETERANS BRAIN INJURY CENTER

Planned actions in Screening and Surveillance for 2013:

- Through growing partnerships with the Armed Forces Health Surveillance Center (AFHSC), Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC), Air Force Medical Support Agency (AFMSA), CENTCOM, and theater leadership, the DVBIC Office of Surveillance will continue to expand our analytical capabilities across the continuum to provide our stakeholders, leadership and the Services with timely, relevant and comprehensive traumatic brain injury surveillance information. As the designated single office of responsibility for the consolidation of all TBI-related incidences and prevalence information for the DoD, the Office of Surveillance will provide more in-depth analysis of the DoD Worldwide TBI Numbers.
- Define remaining challenges that limit the use of post-injury NCAT in theater and in the continental United States, and effectively resolve those problems.
- Work with VACO to develop a surveillance registry of Service members with TBI.
- Finalize TBI workgroup charter with federal agencies involved in the collection and reporting of TBI epidemiological information.
- Continue to evaluate healthcare utilization for TBI in the direct and purchase cared setting.
- Continue comprehensive, retrospective analyses of relevant event triggered concussion data and activities of the Services and combatant commanders and coordinate blast-specific data analyses with JTAPIC Program office.
- Continue review and analyze concussion clinical algorithms to provide updates as indicated.

Leadership and Advocacy

Accomplishments made during 2012 in Leadership and Advocacy:

- Expanded and increased visibility of TBI Quad Service Working Group in order to continue to improve communications across 12 organizations within the DoD TBI community.
- Developed and conducted clinical investigations to respond to DoD-identified research gaps: Treatment and Clinical; Management Epidemiology of TBI; Screening and Diagnosis of TBI; and TBI Rehabilitation and Reintegration.
- Launched efforts to standardize network TBI training and education that is directly performed or facilitated by network regional educational coordinators by utilizing the DCoE created, quad service approved TBI slide decks.
- Shared the DVBIC research portfolio with the DoD and academic partners to leverage progress and developments in TBI research through coordination with MRMC and through interaction with federal and academic partners via TBI Model Systems.
- Supported the U.S. Army Medical Research and Materiel Command's effort in preparing 2012 DoD/VA TBI research portfolio review and analysis.
- Launched robust effort to provide clinical outreach and training to civilian providers via comprehensive online training opportunities on BrainLineMilitary.org and DVBIC webinar series.
- 27 Peer reviewed publications which highlighted TBI research and clinical practice by DVBIC sponsored investigators.

APPENDIX F

DEFENSE AND VETERANS BRAIN INJURY CENTER

- Disseminated evidence-based findings through publications and presentations to inform of best practices.

Planned actions in Leadership and Advocacy for 2013:

- Charter TBI Quad Service Working Group.
- Continue existing, and increase, research studies designed to enhance the MHS ability to more improve TBI treatment and outcomes, across the continuum.
- Leverage network research assets to facilitate new clinical investigations designed to fill DoD identified TBI knowledge gaps.
- Revise current, and develop new, education materials and resources to reflect evolving state of the science in TBI prevention, identification, care, and rehabilitation.

An assessment of outcomes related to the progress made for the projects in Research and Development:

- Developed and conducted clinical investigations to respond to DoD-identified research gaps: Treatment and Clinical Management; Epidemiology of TBI; Screening and Assessment of TBI; and TBI Rehabilitation and Reintegration
- Continued recruitment for TBI research studies mandated by Congress or that have garnered high Congressional interest:
 - The Study of Cognitive Rehabilitation Effectiveness for Mild Traumatic Brain Injury. This study will evaluate the effectiveness of cognitive rehabilitation in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) Service members with a history of mTBI and persistent cognitive complaints.
 - A 15-year longitudinal study, "Traumatic Brain Injury Incurred by Service Members of the Armed Forces in OEF and OIF," is identifying long-term health, medical, and supportive care needs of OEF/OIF Service members and veterans with TBI, and the effects of TBI on family members and caregivers.
 - A Psychometric Comparison of Brief Computerized Neuropsychological Assessment Batteries. This study will measure the test-retest reliability of computerized neuropsychological test batteries, and evaluate the sensitivity and specificity of the batteries to detect cognitive impairment after TBI.
 - Progesterone for the Treatment of Traumatic Brain Injury (ProTECT III). 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 ongoing at our site at Brooke Army Medical Center in San Antonio.
 - 27 Peer reviewed publications which highlighted TBI research and clinical practice
 - Disseminated evidence-based findings through publications and presentations to inform of best practices or TBI incidence.
 - Submitted proposals in response to program announcements for research funding to conduct TBI research studies that fall within DoD-identified TBI research gaps.
- Provided updates on studies in the DVBIC research portfolio with the DoD and academic partners to share progress and developments in TBI research.

APPENDIX F

DEFENSE AND VETERANS BRAIN INJURY CENTER

- Supported the U.S. Army Medical Research and Materiel Command's effort in preparing 2012 DoD/VA TBI research portfolio review and analysis.
- Adopted the Congressionally Directed Medical Research Program's Electronic Grant System to track progress and documentation for DVBIC research studies.

Description of actions planned for Research and Development in 2013:

- Complete data collection and analysis of “A Psychometric Comparison of Brief Computerized Neuropsychological Assessment Batteries.”
- In collaboration with the DVA, provide an overview report to Congress on the first three years of the John Warner National Defense Authorization Act for Fiscal Year 2007, Section 721, longitudinal study on the effects of Traumatic Brain Injury (TBI) incurred by members of the Armed Forces in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF)
- Continue existing research studies.
- Leverage network research assets to facilitate new clinical investigations designed to fill DoD identified TBI knowledge gaps.
- Stand up regulatory compliance office for DCoE PH/TBI.

APPENDIX G

THE CENTER FOR DEPLOYMENT PSYCHOLOGY AND THE CENTER FOR THE STUDY OF TRAUMATIC STRESS AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

THE CENTER FOR DEPLOYMENT PSYCHOLOGY (CDP):

- Conducted a range of training and education courses for DoD active duty and civilian BH providers.
- The CDP Conducted five iterations of its 8-day, military BH provider's course, "Topics in Deployment Psychology." This course is designed to prepare active duty providers for working in the deployed setting, in a joint environment, and with the types of PH and TBI issues seen in combat zones. In addition, providers learn self-care, the impact of deployments on family members, and receive training in evidence-based psychotherapies (EBPs) for PTSD and insomnia. A total of 133 active duty providers attended the course this year.
- In support of the DoD/VA Integrated Mental Health Strategy (IMHS), the CDP continued to conduct workshops in EBPs, primarily at military locations. This year, the CDP held 43 EBP workshops attended by 1492 military, VA, and civilian providers. Workshops included treatments for PTSD, insomnia and chronic pain.
- The CDP faculty developed workshops to train providers in the use of evidence-based treatment for depression as well as evidence informed suicide risk identification and reduction.
- The CDP Continued its efforts to ensure the use of EBP and fidelity to effective therapy models by providing consultation workshops and ongoing consultation for providers trained in the use of EBPs. In 2012, 11 providers attended these 2-day consultation workshops and CDP experts provided consultation to over 100 clinicians as a part of this ongoing project.
- In an effort to identify factors that promote or inhibit the implementation of EBPs, the CDP has launched a series of site visits to MTFs. In 2012, CDP personnel visited four sites and conducted interviews with 17 mental health personnel (e.g., providers, leaders).
- In an attempt to promote the effective implementation of EBPs, the CDP has reached out to individual MTFs to offer consultation services for identified providers who wish to gain advanced proficiency in these treatments. Four MTFs (of 10 contacted) have committed to participating in this project and are working to identify the providers who will participate.
- The CDP held five iterations of the 1-week, "Addressing the Psychological Health Needs of Warriors and their Families," course for civilian providers who work with Service members and their families. The course is held at locations across the country and attracts civilian providers from the communities in which it is offered. Clinicians that attend these workshops provide care to Service members, Active Duty, Reserve and National Guard, veterans and family members. The course covers military culture, deployment cycle stressors, suicide and depression, substance use, TBI, and training in EBPs for PTSD and insomnia. This year, 351 providers attended the course.
- The CDP held a 1-day University Counseling Center Core Competency (UC4) Course at 19 locations; 1400 participants from 106 institutions attended these workshops. The course introduces those interacting with Service members and veterans on college campuses to military culture, deployment cycle stress, reintegration issues, and major PH concerns.
- The CDP personnel presented lectures, symposia, and workshops at 26 events across the country including professional meetings, state/local professional organizations, and universities, etc. These programs were attended by more than 1700 participants.
- The CDP continues to work with the Military Family Research Institute (MFRI) at Purdue University to develop the STAR Behavioral Health Provider program (SBHP). The CDP provides training to civilian providers in Indiana that parallels the training in our 1-week course. In cooperation with the Indiana National Guard, MFRI works to facilitate access to these providers

APPENDIX G

THE CENTER FOR DEPLOYMENT PSYCHOLOGY AND THE CENTER FOR THE STUDY OF TRAUMATIC STRESS AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

by National Guard personnel in need of care. In 2012, more than 275 providers attended at least one SBHP workshop and 132 completed all three tiers of training. Recently we expanded the SBHP program to Michigan in cooperation with personnel at Michigan State University.

- The CDP maintains a Deployment Behavioral Health Psychologist (DBHP) attached to each of the 11 military clinical psychology internship programs. In 2012 the DPHPs supported the clinical/training programs through educational activities (520 hours of didactic instruction), clinical supervision (1700 hours), community outreach (1700 hours) and direct clinical care (5700 hours). In addition, DBHPs continued to provide significant administrative support to the clinical/training programs and deliver lectures and workshops at CDP courses.
- The CDP Website, www.DeploymentPsych.org continues to grow and provides a means for CDP to reach clinicians worldwide to provide education and training support for working with Service members, veterans, and their families. Connections with social media programs such as Twitter, Facebook, and LinkedIn, significantly increased traffic to the website. For the full year of 2012 the site received more than 87,000 visitors (about a 50% increase over the previous year), including more than 50,000 new visitors (57% increase) and nearly 33,000 returning visitors (38% increase). Visitors to the site clicked on an average of 3.6 pages each visit, more than 25% more page visits than the previous year.
- The CDP Perspectives blog that was launched late in 2011 now accounts for more than 10% of the page visits to the CDP Website.
- The CDP launched two new online courses in 2012, “Identification, Prevention, and Treatment of Suicidal Behavior for Service Members and Veterans” and “Depression in Service Members and Veterans”, bringing the total number of online courses to ten. Army One Source utilized three of the CDP online course in a pilot roll-out to One Source providers. In 2012, providers accessed over 10,000 CDP online courses.
- The Provider Portal continues to be a growing area on the CDP Website. This password-protected area of the website is available to clinicians who have completed CDP training courses (Military Courses and Evidenced Based Psychotherapy workshops). This offers clinicians the opportunity to receive consultation from CDP experts on the treatment of PH conditions, such as PTSD and insomnia, as well as the chance to collaborate with their peers on the treatment of Service members, veterans, and their families. The number of providers enrolled in the Portal rose by more than 1000 in 2012 to reach a total of 4690.
- During 2012, the CDP launched several online tools to facilitate the use of EBPs for PTSD. These efforts include making therapist forms available through the CDP Provider Portal, developing the first of a series of short videos entitled “Session Notes” to illustrate EBP techniques, and supporting an “Ask the Expert” feature on the Provider Portal.
- In 2012, the CDP successfully incorporated instruction on the Prolonged Exposure (PE) mobile app developed by the National Center for Telehealth and Technology into our PE workshops.
- In 2012, the CDP held the first EBP workshop delivered as an online distance-learning event.

CDP Plans for 2013:

- Continue to offer 2-week “Topics in Deployment Psychology Course” to military providers. With the planned changes to military deployments and changes in the use of military behavioral health professionals (e.g., embedded providers), the CDP will also undertake an effort to re-align the military provider course with the needs of the military healthcare system.

APPENDIX G

THE CENTER FOR DEPLOYMENT PSYCHOLOGY AND THE CENTER FOR THE STUDY OF TRAUMATIC STRESS AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

- The CDP will continue to expand its efforts to disseminate EBPs with ongoing workshops to include delivering new workshops in the treatment of depression and prevention of suicide.
- The CDP will work to promote implementation of EBPs by providing consultation to clinicians, training DoD clinicians to provide consultation and developing an “implementation manual” that identifies barriers to implementation of EBPs within the DoD and possible solutions to these barriers.
- The CDP will continue to conduct courses and workshops to increase awareness and knowledge among civilian behavioral healthcare providers to include conducting 6 1-week civilian courses and presenting up to 30 lectures or symposia at meetings and workshops.
- The CDP plans to conduct 24 UC4 courses during 2013. In addition, we will expand this program to include 6 multi-day workshops on the use of EBPs to treat PTSD.
- The CDP anticipates expanding the SBHP program in up to five additional states during 2013.
- The CDP, through the DBHPs, will continue to support the training and clinical missions of the military clinical psychology internship programs.
- The CDP plans an overhaul of its website to simplify user experience and to support more interactive content and engagement among users.
- The CDP will expand its use of distance learning technology to include the presentation of live online training events, the development and launching of a series of on-demand online courses and the delivery of a series of webcasts and podcasts available through the CDP website.

THE CENTER FOR THE STUDY OF TRAUMATIC STRESS (CSTS):

Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS)

Screening and Surveillance

Leadership and Advocacy

Resiliency

The Army Study to Assess Risk and Resilience in Servicemembers (Army STARRS), the largest and most comprehensive study of mental health risk and resilience ever conducted among military personnel, is a five-year project that is designed to investigate risk and protective factors for suicide, suicide-related behavior, and other mental health issues. Army STARRS involves seven study components designed to approach the problem from different angles but all study components have the same goal which is to identify factors that help protect a Soldier’s mental health, to identify factors that put a Soldier’s mental health at risk, and to produce actionable findings for the Army.

The study components include an historical study of more than 1.1 billion existing records for more than 1.6 million Soldiers on active duty from 2004 to 2009, and data collection studies that included more than 100,00 Soldiers, involving a large cohort of new Soldiers during their first week of Basic Combat Training, a cohort of Soldiers from all across the Army both inside and outside the U.S., a case-control study of completed suicides, a case-control study of hospitalized suicide attempters, a longitudinal study of Soldiers prior to combat deployment to Afghanistan that follows them at multiple time-points after redeployment, and a calibration study to validate or adjust the diagnostic assessments used in the other studies, thus ensuring that Army STARRS findings are meaningful for practical application. The case-control study of completed suicides will be the largest psychological autopsy of a military population ever conducted, and one of the largest psychological autopsy studies ever conducted on any population.

APPENDIX G

THE CENTER FOR DEPLOYMENT PSYCHOLOGY AND THE CENTER FOR THE STUDY OF TRAUMATIC STRESS AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

Army STARRS goals accomplished in CY 2012 included the collection of data at 70 different Army locations throughout the U.S. and abroad from more than 100,000 active-duty Soldiers across all the various study components. At the end of 2012, data collection for the largest study component ended successfully with approximately 55,000 Soldiers attending data collection sessions, and approximately 35,000 Soldiers providing a blood sample, during their first week of Army service. The calibration study was also successfully completed in CY 2012. The other studies continue into CY 2013 and have included approximately 38,000 Soldiers in the study across the entire Army, approximately 10,000 Soldiers (and approximately 9,000 blood samples) prior to deployment in the longitudinal study, and approximately 1,000 Soldiers in the two case-control studies and the calibration study. The unprecedented complexities involved in designing the complex set of studies to work in military settings; building the security and other infrastructures necessary to carry them out; obtaining the many necessary approvals from Army and civilian offices and committees; coordinating the many offices, units and personnel required to launch the studies; assembling and recruiting participants; collecting a broad range of complex data from such a large number of participants; and collecting, shipping, processing, and storing a large number of blood samples; has been a tremendously complicated and enormously challenging effort, but was achieved very successfully.

Since the start of CY 2013, as the major data collection efforts are winding down, the team has been shifting its focus to the equally challenging task of preparing the many complex datasets based on a huge volume and wide array of data, and constructing the vast number of analytic variables needed to analyze the data.

As findings became available from each study component, they have been reported to Army leadership. CY 2013 will be a period when large-scale analyses will begin and many findings will emerge. These findings will continue to be communicated to Army leadership so that the Army may apply them to its ongoing health-promotion, risk-reduction, and suicide-prevention efforts. Army STARRS will benefit not only Soldiers but the nation as a whole because the findings will have widespread public and behavioral health implications.

Mortuary Affairs Soldiers: Early Intervention and Altering Barriers to Care for Traumatic Stress and PTSD (AKA TEAM Study)

Resiliency and Access to Care

TEAM (Troop Education for Army Morale) is a resilience and stress management intervention program designed to improve post-deployment readjustment for US military personnel at high risk for psychological health problems. This novel educational intervention is based on the principles of Psychological First Aid and Cognitive Behavioral Therapy. Research establishing the effectiveness of TEAM was begun in 2008 with Army Mortuary Affairs (MA) Soldiers at Fort Lee, VA. Recruits are randomized into an intervention or control group. The intervention group receives monthly workshops at 1, 2, 3, and 6 months, educational handouts, access to a specially designed intervention website, and an email and telephone service. Outcomes are assessed in both groups at 1, 2, 3, 6, and 9 months. Specific aims include: 1) demonstrating the feasibility of TEAM for care, support, and lessening barriers to care and 2) assessing the effectiveness of TEAM on disorder (e.g., PTSD, depression), distress, health risk behaviors (e.g., alcohol or tobacco use), work function, marital conflict, and barriers to health care utilization. The findings from this study will inform interventions with other military and civilian populations.

APPENDIX G

THE CENTER FOR DEPLOYMENT PSYCHOLOGY AND THE CENTER FOR THE STUDY OF TRAUMATIC STRESS AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

CY2012: As of 2012, 105 MA Soldiers were recruited and study activities were conducted and progressed as planned. Early preliminary statistical analyses found rates of probable PTSD and depression of 27.8% and 24.5%, respectively, supporting the need for such interventions. In addition, MA Soldiers report benefit from the intervention, particularly in the area of self-care and stress management.

CY2013: As per study objectives, subject recruitment, implementation of the intervention, and assessment of outcomes will continue through 2013 in preparation for data analysis and presentation of findings in 2014. The analyses conducted in 2012 suggest that these findings can be quickly implemented in the broader military community to reduce psychological health problems after deployment.

Daily Diary Assessment of Post Traumatic Stress Symptoms in US Military Service Members (AKA Daily Diary Study)

Screening and Surveillance

The Daily Diary Study is designed to better understand the relationship between daily Post Traumatic Stress Symptoms (PTSS) a psychiatric disorder (e.g., probable PTSD), distress, health risk behaviors (e.g., alcohol and tobacco use), and other areas of health and functioning in US military Service Members (SM). SMs will be recruited from the Walter Reed National Military Medical Center (WRNMMC) Behavioral Health Clinic, using an ecological momentary assessment methodology, will complete four daily PTSS assessments (i.e., daily diary) for 15 days. Variability in daily PTSS will be compared with the outcomes of psychological health and functioning obtained at the outset of the study, after completion of the daily assessments, and at one and three month follow-up assessments. In Phase I of this research, 50 SMs will complete daily diary assessments on paper. In Phase II, up to 350 SMs will complete daily diary assessments on a portable handheld electronic device (i.e., Apple iPad). This research will improve our understanding of the (1) burden of PTSS in active duty SMs (i.e., screening and surveillance) and (2) the feasibility and benefits of using computerized EMA methods in psychiatric research, as well as, identify (3) whether PTSS variability is indicative of a trajectory of illness, and (4) the relationship between PTSS variability and a hosts of variables (e.g., quality of sleep, level of pain, grief, guilt, loneliness, etc.) that may be related to long-term outcome.

CY2012: Completed design of study procedures and development of assessments and other study materials. Gained approvals for collaborative research between the Uniformed Services University of the Health Sciences (USUHS) and WRNMMC. Established cooperative development of the electronic assessment application (for study Phase II), which is being produced by the National Center for Telehealth and Technology (T2). Obtained Human Subjects Institutional Review Board (IRB) approval to conduct the study at WRNMMC.

CY2013: Completed research assurance and received site approval from the USUHS Office of Research. Submitted IRB documents to USUHS for secondary approval. Training recruitment personnel. Anticipate Phase I subject recruitment to begin in February. Actively developing Phase II electronic assessment application with T2 with completion by July. Anticipate Phase II recruitment to begin in the fall.

APPENDIX G

THE CENTER FOR DEPLOYMENT PSYCHOLOGY AND THE CENTER FOR THE STUDY OF TRAUMATIC STRESS AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

The National Military Family Bereavement Study

Screening and Surveillance Resilience

The National Military Family Bereavement Study is the first large scientific study of the impact of a U.S. service member death on surviving family members. The research is being conducted by Uniformed Services University of the Health Sciences (USUHS) Center for the Study of Traumatic Stress (CSTS) in Bethesda, Maryland. The death of a family member is a life-changing event for the entire family. Although bereavement eventually occurs in every family, not all bereaved persons grieve in the same way. Surviving members of military families may offer a unique perspective to understanding grief. From the initial distress of notification to longer-term challenges, family members face difficult emotional and practical issues possibly related to distinctive characteristics of military death. However, families impacted by a U.S. military death may also possess unique protective factors that affect their bereavement process and experience of loss.

There is a lack of substantive research on the impact of the death of a family member serving in the U.S. military. The need to study individual and family bereavement when a U.S. military service member dies is critical to understanding the experience of grief and loss in this unique survivor population.

This study's findings will help to provide a scientific basis to inform policies effecting survivor care. This study seeks to better understand the impact of a service member's death on his or her family of origin and family of procreation. The study investigates the impact of community support and services on the bereaved and how available resources impact resilience or vulnerability in surviving families. Finally, this study builds on the growing evidence addressing the intersection of grief and trauma and its effects on military family member's bereavement process.

CY 2012: Completed design of study procedures and development of assessments and other study materials. Obtained Institutional Review Board (IRB) approval at USUHS and HRPO for all phases of the study. Completed data collection and initiated analysis of DMDC existing data describing population of military deceased in ten year period from 9-2001 until 9-2011. Began data collection for all prospective (cross sectional and longitudinal) phases of the study.

CY 2013: Completing data analysis on existing DMDC data set and preparing manuscript for submission describing population of military deceased and their dependent family members. Currently, have enrolled 640 bereaved military family member adults into study and collected initial questionnaires from this group, as well as 250 saliva samples for biomarker analysis. Enrolled 80 bereaved military families into longitudinal study. Conducting preliminary analyses of data outlining similarities/differences between military clinical samples and civilian clinical samples in collaboration with colleagues at Columbia University. Manuscripts are in preparation describing the results of these preliminary analyses.

APPENDIX G

THE CENTER FOR DEPLOYMENT PSYCHOLOGY AND THE CENTER FOR THE STUDY OF TRAUMATIC STRESS AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

STRESS and BIOMARKERS in a MILITARY OPERATIONAL POPULATION

Screening and Surveillance
Resilience

The Stress and Biomarkers project is an ongoing periodic surveillance of the Special Operations and 82nd Airborne populations at Fort Bragg, NC which combines extensive anonymous self-report data on traumatic exposure, PTSD, TBI, Substance Use, Depression, and sub-syndromal symptoms of distress (e.g., absenteeism, presenteeism, health-care utilization, and high-risk behaviors) with matched collection of serum and saliva for identification of potential biomarkers for illness, risk, and protective factors. Although the initial target enrollment goals were nearly met in CY 2012, the value of comparative samples in deploying Army National Guard populations was recognized and the study has been expanded to include the elements of the California Army National Guard (CAARNG).

CY2012: Continued data collection from troops at Fort Bragg; obtained support for data collection from leadership of CAARNG, received IRB approval, and initiated data collection at multiple sites within California. Published brief report identifying Brain Derived Neurotrophic Factor gene variants as potential markers of both vulnerability and protective factors for increased startle and PTSD (Molecular Psychiatry, 2013)

CY2013: Will continue collection from populations in North Carolina and California; will expand to include a pre-during, and post-deployment collection of saliva (rather than merely cross-sectional data) in CAARNG population (protocol submitted to IRB) and expand analysis to explore potential biomarkers using recently acquired high-throughput technology.

National Capital Area Clinical Study Site for INTRUST Consortium for Psychological health and TBI

Resilience
Screening and Surveillance
Transition of Care

As one of only two Active Duty sites within the Congressionally funded INRRUST consortium, the National Capital Area Site developed and actively participates in multiple clinical intervention trials for PTSD, TBI, and combat related comorbidity. We are the lead site for the Brain Indices Study—a longitudinal study of service members hospitalized for TBI combining brain imaging, neuropsychological testing, and electrophysiologic measures to develop a model for predicting risk of PTSD in persons mild to moderate TBI. We are the only Active Duty site participating in a clinical trial of Acceptance and Commitment Therapy (ACT) for post-deployment mental illness (PTSD, depression, and/or TBI) and one of two sites participating in a pilot study of Transcranial Magnetic Stimulation (TMS) to reduced suicidal thinking and behavior in veterans with PTSD. Finally we participate actively in the Consortium's biorepository and its multi-site trial of Ganaxolone (a synthetic neurosteroid) for PTSD.

CY12: Completed Enrollment in ACT study, continued enrollment in TMS study, received IRB approval and initiated enrollment in biorepository. Continued enrollment in both Brain Indices and Ganaxolone studies.

APPENDIX G

THE CENTER FOR DEPLOYMENT PSYCHOLOGY AND THE CENTER FOR THE STUDY OF TRAUMATIC STRESS AT THE UNIFORMED SERVICES UNIVERSITY OF THE HEALTH SCIENCES

CY13: Will complete follow-ups for all participants in ACT study and commence data analysis. Will complete enrollment in TMS and Ganaxolone. Will continue enrollment in brain Indices and Biorepository studies.

All of these studies represent active collaborations between VA and DoD sites and thus contribute to the dialogue between institutions facilitating transition of care from DoD to VA; development of new interventions to treat PTSD and TBI contributes to resilience of the fighting force, and screening/predictive model studies seek to refine the strategies for health surveillance.

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

The Deployment Health Clinical Center (DHCC) vigorously promotes Access to Care for psychological health (PH) in the Military Health System. DHCC leads efforts to bring PTSD treatment to Service members in cutting-edge systems that integrate psychological health (PH) care into primary care. In collaboration with national and international mental health leaders, DHCC's health service delivery research evaluates innovative population-based primary care systems and collaborative care models, pioneers alternative delivery methods, and is on the forefront of finding low stigma, high efficiency therapies specifically designed for and easily used by Service members. DHCC also pioneers efforts to improve access to PH specialty care in the military.

Access to Care

Accomplishments made during 2012 in Access to Care:

I. Health service delivery research accomplishments:

a. \$15 Million Multi-Site Clinical Trial to Improve Access to Care.

- DHCC has partnered with RAND and RTI International to provide the STEPS UP intervention (**ST**eppered **E**nhancement of **P**TSD **S**ervices **U**sing **P**rimary care), which enhances access to PTSD and depression treatment.
- Intervention includes the combination of a nurse who provides telephonic centralized care management to closely monitor patients and the use of evidenced-based PH treatments including remote access Web-based and telephonic modalities.
- STEPS UP is being implemented in 18 primary care clinics at six Army posts (Fort Bliss, TX; Fort Bragg, NC; Fort Campbell, KY; Fort Carson, CO; Fort Stewart, GA; and Fort Lewis, WA) where the current standard of care is already optimal.
- Researchers plan to recruit 1500 active duty soldiers in this five-year trial.

b. DHCC Improves Access with Alternative PH Treatment Delivery Methods.

- DHCC's study DESTRESS-PC (*DEL*ivery of *S*elf-*T*raining & *E*ducation for *S*tressful *S*ituations - *P*rimary *C*are *I*ntervention): A Brief Online Self-Management Tool for PTSD evaluates a secure, Web-based cognitive behavioral therapy that leads Service members with PTSD to healing. This delivery method is also relevant for providing timely, high quality access to low-stigma mental health services for victims of terrorist attacks or disasters.
- *DEL*ivery of *S*elf *T*raining & *E*ducation for *S*tressful *S*ituations - *T*elephone (DESTRESS-T) is a six-week telephone-based structured psychotherapy intervention for war-zone exposed soldiers diagnosed with PTSD. This is the first study of its kind in the military. A telephone care management protocol is used to monitor patients and support their adherence to treatment. This cutting-edge concept offers an intensive, low stigma, and low burden psychosocial intervention for service members seeking mental health treatment.

II. Primary care integration accomplishments:

a. Implementation of the Patient Centered Medical Home – Behavioral Health (PCMH-BH) program at Army primary care clinics

- Developed and implemented a training program for Psychologists and Social Workers hired to fill the role of Internal Behavioral Health Consultants (IBHC) in Army MEDCOM

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

Primary Care clinics. These personnel help to meet an unmet need for focused interventions, in-clinic consultation for the development of assessments and development of treatment plans.

- Developed referral, staffing and team interaction processes for team members.
- b. Initiated a VA/DoD working group formed to examine the feasibility of a pilot for a VA/DoD crisis line.

III. Specialty care accomplishments:

- a. Began discussions with POCs at Camp Lejeune who expressed a desire to develop and implement an intensive outpatient program for PTSD treatment in 2013.
- b. Completed RAND study on mental health needs of remote and rural Service members and their families initiated.
- c. Initiated “Psychological Health Dashboard” and “Pathway to Care” projects to begin to quantify enterprise level access to care data, in order to monitor quality and outcomes.
- d. Completed “Report to Congress on Barriers to Treatment for PTSD” and made recommendations to reduce barriers to care.

An assessment of outcomes related to the progress made for the projects in Access-to-Care:

I. Health service delivery research outcomes:

- a. STEPS UP: The trial launched enrollment at five of the six data collection sites: Joint Base Lewis-McChord, Fort Bliss, Fort Carson, Fort Campbell and Fort Stewart. To date, more than 337 individuals are participating in the study.
- b. DESTRESS-PC: Data collection was completed, data analyzed, and the study was closed out, with reports sent to the NIH and DoD funding agencies. Results from the study were presented at meetings for the International Society for the Study of Traumatic Stress Studies (ISTSS) and the American Public Health Association (APHA).
- c. DESTRESS-T: The study received full Institutional Review Board (IRB) review and approval of study protocol at Walter Reed National Military Medical Center (WRNMMC) and Uniformed Services University of the Health Sciences (USUHS). Progress towards study implementation has been impeded while study team navigated the changing regulatory environment, due to IRB mergers and site staff turnover. Site protocols at Fort Benning, GA, and Fort Hood, TX, are being finalized and efforts are underway to hire clinical staff.

II. Primary care integration outcomes:

- a. 60 IBHCs, 23 Behavioral Health Case Managers (BHCM), and 18 Administrative Assistants trained in the PCMH-BH model.
- b. Initial draft of pilot created through joint collaboration with VA.

III. Specialty care outcomes:

- a. RAND developed geospatial mapping of Service member location and their access to PH providers.
- b. Dashboard and Pathway work groups created charters, which are pending approval.

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

Planned actions in Access-to-Care for 2013:

- I. Health service delivery research plans:
 - a. STEPS UP: Enrollment and data collection at Fort Bragg is scheduled to begin early 2013. Over the course of the year, the study team expects to enroll the majority of the participant sample.
 - b. DESTRESS-PC: The study team is producing a manuscript on the study findings. Manuscript should be completed and submitted for publication in 2013.
 - c. DESTRESS-T: The study team will hire clinical staff and initiate recruitment at both study sites in 2013.

- II. Primary care integration plans:
 - a. Complete the conversion of program manuals for all roles from the previous RESPECT-Mil to the PCMH-BH model and publish them.
 - b. Initiate demonstration projects to assess effectiveness of implementation of the PCMH BHT and associated services at Ft. Sill and Ft. Benning.
 - c. Expand the coverage of PCMH-BHT model of care in the AMEDD from active duty service members only to include all adult beneficiaries with depression, posttraumatic stress disorder, anxiety disorders, and/or alcohol misuse.
 - d. Continue planning efforts with Air Force (AFMOA) and Navy (BUMED) to implement the case management portion of PCMH-BHT.

- III. Specialty care plans:
 - a. Continue to assist Camp Lejeune to stand-up Intensive Outpatient Program (IOP) for PTSD by summer 2013. Will identify additional MTFs interested in DCoE assistance to implement new evidence-based programs.
 - b. RAND will complete geospatial mapping to better inform access to care issues; ongoing collaboration with International Initiative for Mental Health Leadership (IIMHL) project.
 - c. Dashboard and Pathway initiatives will monitor and analyze access to care issues. The Pathway initiative starts with a focus on PTSD but is intended to move beyond; the Dashboard initiative collects measures on multiple PH conditions.

Quality of Care

Accomplishments made during 2012 in Quality of Care:

Accomplishments made during calendar year 2012 in Quality of Care

- I. Health service delivery research accomplishments:
 - a. \$15 Million Multi-Site Clinical Trial to Improve Quality of Care.
 - DHCC has partnered with RAND and RTI International to provide the STEPS UP intervention (**ST**epped **E**nhancement of **PT**SD **S**ervices **U**sing **P**imary care), which seeks to improve quality of PTSD and depression treatment.

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

- Intervention includes the combination of a nurse who provides telephonic centralized care management to closely monitor patients and the use of evidenced-based PH treatments including remote access Web-based and telephonic modalities.
 - STEPS UP is being implemented in 18 primary care clinics at six Army posts (Fort Bliss, TX; Fort Bragg, NC; Fort Campbell, KY; Fort Carson, CO; Fort Stewart, GA; and Fort Lewis, WA) where the current standard of care is already optimal.
 - Researchers plan to recruit 1500 active duty soldiers in this five-year trial.
- b. DHCC Improves Care Quality with Alternative PH Treatment Delivery Methods.
- DHCC's study DESTRESS-PC (*DELivery of Self-TRaining & Education for Stressful Situations - Primary Care Intervention*): A Brief Online Self-Management Tool for PTSD evaluates a secure, Web-based cognitive behavioral therapy that leads service members with PTSD to healing. This delivery method is also relevant for providing timely, high quality access to low-stigma mental health services for victims of terrorist attacks or disasters.
 - *Delivery of Self TRaining & Education for Stressful Situations - Telephone* (DESTRESS-T) is a six-week telephone-based structured psychotherapy intervention for war-zone exposed soldiers diagnosed with PTSD. This is the first study of its kind in the military. A telephone care management protocol is used to monitor patients and support their adherence to treatment. This cutting-edge concept offers an intensive, low stigma, and low burden psychosocial intervention for service members seeking mental health treatment.

II. Specialty care accomplishments:

- a. Provided contract oversight and assisted with facilitation of the Institute of Medicine (IOM) independent congressionally mandated study of the treatment of Posttraumatic Stress Disorder (PTSD) within the DoD.
- b. Participated in the development of the congressionally mandated Veterans Affairs/ Department of Defense Clinical Practice Guidelines (CPGs) for suicide prevention.
- c. Completed development of provider clinical support tools to provide care in accordance with the VA/ DoD Clinical Practice Guidelines: Management of Substance Use Disorder, Management of Posttraumatic Stress, and Management of Opioid Therapy for Chronic Pain.
- d. Completed program evaluation of National Guard Psychological Health Programs.
- e. Continued the quality of care work of the VA/DoD Integrated Mental Health Strategic (IMHS) Actions:
- IMHS 10: Recommend quality measures for mental health services based on DoD-VA Clinical Practice Guidelines (CPG) and related evidence-based practices.
 - IMHS 12: Coordinate mechanisms for evaluation of patient outcomes from mental health care services, and the use of outcome data for clinical decision support, quality improvement, program evaluation, and comparative effectiveness studies.
 - IMHS 26: Promote the translation of mental-health related research into innovative actions, programs, and policies for returning service members, veterans, and families.

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

- IMHS 27: Support review of pilot and demonstration projects, innovative local and regional programs, and other mechanisms of potential innovation – including use of Complementary and Alternative Medicine – to identify and disseminate promising practices.
- IMHS 28: Use information from research and the evaluation of clinical and administrative data to explore gender differences in the delivery and effectiveness of mental health services. Use findings to improve the accessibility and quality of care, develop strategies for overcoming health care disparities and barriers to care, and to identify the need for further research.

III. Primary care integration accomplishments:

- a. Completed certification process for the Psychological and Behavioral Health Tool for Evaluation and Risk Management (PBH-TERM) through DBSMC. PBH-TERM is an IT platform that supports an automated guided case management system employed by all Care Facilitators/BH Case Managers in primary care throughout AMEDD and one BUMED installation.

An assessment of outcomes related to the progress made for the projects in Quality of Care:

I. Specialty care outcomes:

- a. IOM published a report in July 2012 entitled “Treatment for Posttraumatic Stress Disorder in Military and Veteran Populations: Initial Assessment.” Wrote Report to Congress on behalf of the Secretary of Defense that responded to the recommendations in the IOM report and provided information on where the DoD stands with respect to implementing or further expanding implementation of these recommendations.
- b. VA/ DoD established relationships with multiple DoD agencies and academic experts to complete a systematic review of the literature related to suicide prevention and to develop evidenced-rated suicide prevention, assessment, and risk mitigation recommendations.
- c. Provided information and recommendations to the Cost Assessment and Program Evaluation Office and National Guard Bureau to assist with program evaluation.
- d. Established a one-year joint evaluation project with a Trauma, Risk, and Resiliency Fellow in the Warrior Resiliency Program at Fort Sam Houston, to evaluate quality of IOP care at Fort Benning.
- e. Provided ongoing consultation to programs at Fort Carson, Fort Benning, and Fort Bliss to improve clinical treatment outcomes measurement.

II. Primary care integration outcomes:

- a. PBH-TERM FIRST-STEPS Control Room has provided a major portion of reporting periodic performance reports at an installation and case manager level to inform sites of case activity, assessment of suicide risk, and disposition of cases.

Planned actions in Quality of Care for 2013:

I. Specialty care plans:

- a. Submit a Report to Congress in response to IOM recommendations for the treatment of PTSD within the DoD.

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

- b. Develop and disseminate clinical support tools to assist providers to follow the VA/DoD CPGs for suicide prevention, management of posttraumatic stress, and management of opioid therapy for chronic pain.
- c. Complete, disseminate, and analyze results of measures of provider utilization of CPG-based clinic support tools.
- d. Continue to expand network of identified Specialty Care Programs, conduct site visits, and assist with implementation of evidence-based PH programs.
- e. Disseminate the results of the one-year joint evaluation project with the Trauma, Risk, and Resiliency Fellow in the Warrior Resiliency Program at Fort Sam Houston, to evaluate quality of IOP care at Fort Benning.
- f. Sponsor a two-day summit concurrent with the Warrior Resiliency Conference in San Diego in April 2013, to inform providers of current best practices in specialty care programs.

II. Primary care integration plans:

- a. Expand PBH-TERM FIRST-STEPS capabilities necessary for management of non-active duty patients and added BH conditions of anxiety disorders and alcohol misuse and expand control room capabilities for enhanced program evaluation reporting.
- b. Expand access to PBH-TERM FIRST-STEPS for AFMOA installations and additional BUMED installations as those programs engage in primary care management of BH conditions via case managers.
- c. Complete annual recertification process for PBH-TERM with the DBSMC and obtain certification of funding needed for the next few years.

Resilience

Accomplishments made during 2012 in Resilience:

The Real Warriors Campaign (RWC) is a multimedia public awareness campaign designed to encourage help-seeking behavior among Service members, veterans and military families coping with invisible wounds. It was launched by DCoE in 2009 “to satisfy the recommendation of the DoD Task Force on Mental Health to develop and execute an anti-stigma campaign.” The RWC uses conferences and events, social media, traditional media outreach, and its website to get the word out about psychological health resources, overcoming resistance to seeking care, and how resilience and early intervention play a role in recovery:

- The Realwarriors.net Website has received 450,503 unique visitors, 618,138 visits and 3,902,134 page views since launch.
- RWC launched its podcast series, garnering 5,050 listens.
- RWC launched the video profile of Sgt. Maj. Raymond Chandler, the senior most enlisted service member in the U.S. Army, who experienced and successfully overcame combat stress following his deployment to Iraq.

The April 2012 Warrior Resilience Conference IV, “Restoring Readiness: Individual, Unit, Community, and Family,” was delivered to 700 attendees, more than 400 of whom were web stream observers.

The 2012 Annual DoD/VA Annual Suicide Prevention Conference, “Back to Basics: Enhancing the Well-Being of our Service Members, Veterans and their Families,” was held in Washington, DC and attended by more than 1100.

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

Reviewed the Services' doctrine, policies, procedures and programs to evaluate potential barriers to care for PH and to formulate recommendations to improve overcome them.

Section 733 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 charged the Department of Defense (DoD) with forming a task force "to examine matters relating to prevention of suicide by members of the Armed Forces." In response to this mandate, the Secretary of Defense established the Task Force on the Prevention of Suicide by Members of the Armed Forces for which DCoE:

- Developed evidenced-based guidelines for stigma reduction campaigns and provided recommendations that addressed policy improvements to reduce stigma.
- Developed campaign that focused on help seeking behaviors and well-being, connectedness, and psychological and spiritual fitness.
- Took steps to make 'mental fitness' commensurate with 'physical fitness' within military culture as a core value of military life.
- Completed literature and program reviews within both DoD, VA and civilian sectors of successful peer-to-peer support programs.
- The Integrated Mental Health Strategy Strategic Action # 23 expanded the role of chaplains in the continuity of psychological healthcare for active duty and veterans.
- The Integrated Mental Health Strategy Strategic Action #24 promoted resilience and building better behavioral healthcare systems to ensure continuity of psychological healthcare for active duty and veterans.

An assessment of outcomes related to the progress made for the projects in Resilience:

Coordinated with RAND on three studies:

- Family Resilience in the Military Project
- The Three Year Deployment Life Study, which began in 2010
- Research on Suicide Prevention

Designed the Mental Health Self-Assessment Program (MHSAP), a comprehensive mental health education program for Service members and their families.

Finalized the Integrated Mental Health Strategy Strategic Action # 24 report and submitted to the DoD/VA IMHS team.

Created screening and assessment tools and resources for suicide prevention

Planned actions in Resilience for 2013:

Complete evaluations for:

- The Army Ask Care and Escort Suicide Intervention program
- The Navy Families Over Coming Under Stress™ (FOCUS) program
- The Marines Never Leave a Marine Behind Junior Marine Suicide Prevention Program
- The Air Force Defender's Edge (DEFED) resilience training program, First-Term Airman Center Resilience Training, Comprehensive Airmen Fitness (CAF), Master Resilience Training Course, and the First-Term Airman Center

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

Finalize retrospective analyses and reports on risk and resilience factors related to psychological health and other behavioral outcomes within the Department of Defense, and the Air Force's Community Assessment Survey data.

Finalize RAND studies

- Family Resilience in the Military Project
- The Three Year Deployment Life Study, which began in 2010
- Research on Suicide Prevention

Implement the recommendations proposed by the Institute of Medicine study of the Physical, Mental Health, and other Readjustment Needs of Members and Former Members of the Armed Forces who deployed in OIF and OEF.

Transition of Care

Accomplishments made during 2012 in Transition of Care:

inTransition was developed in response to the Integrated Mental Health Strategy (IMHS) Strategic Action #13 and was designed to enhance continuity of care for Service members who are relocating within or across Departments and who are receiving ongoing mental health care. The program is increasing its reach with 114% increase in cases from FY11 to FY12 with a total case volume of 2,769 (FY11: 881 coaching cases; FY12: 1,888 coaching cases). A majority of cases enter through self-referral (54%) and the primary Service component that utilizes the program is Army (Army, 63%; Air Force, 17%; Marines, 8%; Guard, 6%; Navy, 6%). The program continues outreach efforts to ensure effective utilization.

Outreach Metrics

Briefings to 842 Military Clinical Health Care Providers via Video Teleconferences

- 18 CONUS MTF locations and 4 OCONUS MTF locations
- Site Visits: 6 MTF location
- Teleconferences: 4 locations
- Adobe Connect: 1 MTF location

VA Collaboration

- IMHS #13
 - Monthly VA Meetings
 - *inTransition* **Live to Tape Video** added to *inTransition* main webpage and broadcast on MIST
 - 10 VA Medical Centers Outreach Project
 - Presentations to VA Polytrauma Case Managers

FY2012 Conferences

- Recovery Care Coordination Trainings: Oct, Dec, March, August, October
- AMSUS, November 2011
- SAMHSA Policy Academy: December 2011
- Trauma Spectrum Conference, December 2011
- MHS Conference, January 2012
- Warrior Resilience Conference IV, March 2012
- Brain Injury Awareness Fair - Congressional TBI Awareness Day, March 2012
- Congressional Gala, March 2012

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

- Annual DoD VA Suicide Prevention Conference, June 2012
- Pentagon Health Fair, September 2012
- SAMHSA Policy Academy, September 2012

Yellow Ribbon Events

- Yellow Ribbon Symposium
- Exhibit Booth and Presentation at 6 Yellow Ribbon Reintegration Events and supported 5 additional events. 6000 service members and family

US Army Reserve Demobilization Collaboration

Ft Dix, Camp Shelby, Ft Bliss, Ft Hood

An assessment of outcomes related to the progress made for the projects in Transition of Care:

Monitoring of Service member and Veteran Satisfaction with *inTransition*

As reflected in the section below, monitoring of patient satisfaction is ongoing with high levels of Service members and Veterans endorsing that the program enhanced continuity of care during calendar year 2012.

- Did the product or service meet your needs? 99%
- Would you recommend the services provided by the *inTransition* program to others? 99%
- Were you satisfied with your experience at this office /
 - facility? 98%
- Did the assistance you received from the *inTransition*
 - Program increase the likelihood that you would
 - continue your treatment at your new location 98%

Planned actions in Transition of Care for 2013:

- *inTransition* will continue to reach out to MTF clinical staff via VTCs.
- Will support the Guard and Reserve during Yellow Ribbon events.
- Continue outreach to the Army National Guard Demobilization sites.

In Progress for FY13 to be continued:

- USO collaboration
- CONUS and OCONUS Fleet and Family Support Centers (FSSC)
- VA OIF/OEF Care Management Team
- Physical Evaluation Board Liaison Officers (PEBLOs)
- Warrior Transition Units
- Individual Ready Reserves
- Feature article in the University of Phoenix Military magazine and portal
- Discussions with representatives from Deployment Health Assessment Program (DHAP) to consider implementing the *inTransition* program with the PDHRA process.
- Military Family Life Consultants
- Partner Websites
- Yellow Ribbon Fund
- Mental Health Association of Montgomery County (MHAMC)

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

- www.gotyour6.org
- Army.mil Transition Resources

Screening and Surveillance

Accomplishments made during 2012 in Screening and Surveillance:

A. Health service delivery research accomplishments: N/A

B. Specialty care accomplishments:

- Completed Congressionally-mandated Report to Congress on the use of neuroimaging to diagnose PTSD.
- Continued work of Dashboard and Pathway initiatives to develop improved data related to current screening and surveillance efforts in the MHS.

C. Primary care integration accomplishments:

- The Re-Engineering Systems of Primary Care Treatment, more commonly referred to as RESPECT-Mil is an innovative collaborative care model where primary care providers screen all their patients for PTSD and depression and manage their PH care in the primary care setting:
 - a. Implemented six new sites increasing the program to thirty nine installations.
 - b. Monitored the primary care screening of active duty service members at 94 AMEDD and 2 BUMED clinics through an established screening format (e.g., MEDCOM Form 774).

An assessment of outcomes related to the progress made for the projects in Screening and Surveillance:

A. Health service delivery research outcomes: N/A

B. Specialty care outcomes:

- Members of Congress will be able to access the Report to Congress to make informed decisions about future legislative efforts of proposed expenditures related to the use of neuroimaging for diagnosis of PTSD.

C. Primary care integration outcomes:

- 1,047,489 active duty service member visits screened for PTSD and depression.
- Of screened visits, 13.3 percent have been positive and 46.4 percent are associated with a depression or possible PTSD diagnosis.
- 20,243 referred on for treatment of depression and/or posttraumatic stress.

Planned actions in Screening and Surveillance for 2013:

A. Health service delivery research plans:

- SIPS: A study to evaluate a revised version of the (S)ingle (I)tem (P)TSD (S)creening tool will begin data collection and enrollment at WRNMMC.

APPENDIX H
DEPLOYMENT HEALTH CLINICAL CENTER

- Alternate-Form PCL Study: data collection for this study will be completed; a report of findings on the influence of Likert scoring on responses to the PCL-C will be submitted for publication.
- PCL Psychometrics Article: manuscript on the operating characteristics of the PTSD Checklist (PCL) in a military primary care setting will be submitted for publication.

B. Specialty care plans

- Phased completion of Dashboard and Pathways over the next five years.

C. Primary care integration plans:

- Facilitate expansion of routine AMEDD primary care screening for behavioral health conditions to all adult beneficiaries to include depression, PTSD, anxiety disorders and alcohol misuse via the MEDCOM 774 screening form.

APPENDIX I

NATIONAL INTREPID CENTER OF EXCELLENCE

Mission

As the Military Health System institute dedicated to understanding complex, comorbid traumatic brain injury (TBI) and psychological health (PH) conditions, the National Intrepid Center of Excellence (NICoE) delivers comprehensive and holistic care, conducts focused research, and exports knowledge to benefit service members, their families and society.

Goals and Strategies

1. We are focused on conducting research to inform diagnosis and treatment of comorbid TBI and PH conditions.
2. Impacting care across the MHS and beyond for patients with comorbid TBI and PH conditions.
3. Being recognized as a leading national resource for comorbid TBI and PH conditions.
4. Establishing the NICoE as an organization that values and invests in its people.

Purpose

The NICoE seeks to address active duty Service members suffering from a combat or mission-related mild to moderate TBI complicated by other impairing PH conditions, who are not responding to conventional therapy.

Once admitted, each Service member that participates in the NICoE four-week clinical program receives an interdisciplinary, holistic, patient and family centered assessment. This assessment informs a detailed treatment plan which allows the NICoE's clinical staff to lay the groundwork for physical, psychological and spiritual recovery with the aim of returning service members back to full duty and/or productive civilian lives. Intensive engagement with this focused patient population allows the NICoE an unparalleled opportunity to study this population and identify the patterns and pathophysiology of the comorbid TBI and PH disease state.

Calendar Year 2012 Initiatives

Clinical Care: 2012 represents the first full year of a standardized four-week evaluation, treatment, and treatment planning model. NICoE received 310 referrals from 110 MTFs, admitted 192 Service members, resulting in almost 20,000 patient encounters with the clinical staff.

In addition to the interdisciplinary care, NICoE has added music therapy, expressive writing, and biofeedback training to the behavioral health and wellness programs; outreach to high operational tempo forces with tailored psycho-educational onsite interventions; and ongoing down range (OEF) support of clinical care in TBI and PH conditions in collaboration with the Concussion Restoration Clinic Center (CRCC); and implementation of 6 pre and post clinical outcomes scales and 8 key follow up data elements to assess clinical benefits.

NICoE Network Clinical Coalition: The Clinical Coalition was established in 2012 to continually support collaboration between the NICoE Satellites, NICoE Institute, and other DoD and VA partners to advance the body of knowledge surrounding delivery of care to Service members with TBI, with or without comorbid PH conditions. Monthly meetings are scheduled to begin in January 2013.

NICoE Education & Training Initiatives

1. **WRNMMC TBI/PH Provider Educational Opportunities:** NICoE worked with the larger Walter Reed National Military Medical Center (WRNMMC) community and external partners to provide training to NICoE staff and other MHS providers. Conferences and other educational opportunities in 2012 that were in collaboration with external partners included:

APPENDIX I

NATIONAL INTREPID CENTER OF EXCELLENCE

- **NICoE Satellite Conference:** NICoE Network stakeholders conference to provide updates on the status of NICoE Satellites, begin dialogue regarding NICoE Network model of care, and plan NICoE Network research initiatives. The conference included training external providers on NICoE's model of care and in-take process.
- **Healing Arts Conference:** Presenters spoke on the role of the arts in TBI/PH treatment. Conference was organized in collaboration with the Oncology Service of The National Military Medical Center, the Oakleaf Club, and the Mary Jane Sanford Project.

Additionally, NICoE also provided space and technical support for a number of recurring WRNMMC educational opportunities for WRNMMC staff and patients, including:

- WRNMMC Department of Psychiatry Visiting Professors Grand Rounds
- TBI Lecture Series
- TBI Deploying Providers Training Course
- WTB Stand Down Suicide Awareness

2. **NICoE-ECHO:** In 2012, NICoE initiated the NICoE-ECHO program, modeled after the University of New Mexico's Project ECHO and designed to establish and disseminate best practices for the treatment of TBI/PH throughout the MHS. The primary participants are the NICoE Institute and the future NICoE Satellite locations, although other partners within the MHS also participate. Each NICoE-ECHO session includes a case presentation and a didactic presentation on TBI/PH treatment. The first two sessions were completed in September and December of 2012, with five ECHO sessions scheduled for 2013.

NICoE Director Conference Participation and Outreach: The NICoE Director, Dr. James Kelly, attended 14 TBI/PH and Military conferences in 2012, 11 of which the Director was an invited speaker including one international invitational presentation to Germany's military neurosurgeons. Dr. Kelly also performed outreach visits to the Navy SEALs (2), Marines (2) and Army (2) installations. He coordinated meetings to establish or strengthen academic partnerships with the NICoE Satellite Center locations at Fort Belvoir, Camp Lejeune and Fort Campbell. He hosted the Joining Forces initiative of the First Lady at NICoE and joined her in Richmond, VA to roll out the plan for including medical school deans and remains engaged in this important White House initiative.

Research Initiatives:

NICoE is currently engaged in 14 research protocols, nine of which are new for 2012. Thirteen of these protocols address comorbid TBI and PTSD. Total subject consents in 2012 were 562. Additionally, we have three protocols funded or pending IRB approval and seven grant proposals submitted for funding. This research activity represents collaboration with 33 academic partners, including Harvard, NIH, and National Endowment of the Arts. NICoE staff engaged in 18 scientific presentations, two accepted articles with four in preparation, and over 30 lectures delivered.

In coordination with the Defense Health Service Systems Program Executive Office, NICoE is developing an IT infrastructure and database aligned with the DoD/NIH TBI/PH database, establishing an extensive pilot systems requirement specification to support the collection of clinical research data elements at the NICoE and its satellites.

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH
UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND,
JOINT PROGRAM COMMITTEES 5 AND 6

Joint Program Committee (JPC) 5

Description of Outcomes for Research and Development and Future Directions

The return on investment from Congressional funding for TBI and PH has begun and will continue over the next several years as findings from the initial round of studies are beginning to yield outcomes and actionable results. Working groups have been established and help guide the translation of research findings to clinical use. Research focuses on exploring and validating new treatment options to ensure that Service members receive the best evidence-based and effective care. Additional foci include better treatments for those who do not respond to or are reluctant to engage in treatment. The VA, DoD, and National Institutes of Health (NIH) continue to increase collaborative efforts to comprehensively address the research gaps that exist in psychological health and well-being.

The following section provides more detail on research accomplishments over the last year as well as future directions to continue pushing toward solutions. Please note the findings of any one study should not be construed to be a definitive conclusion for the scientific basis regarding the cause and effect for PH issues. Scientific repetition with additional changes in study parameters of comparable data is necessary to development clinical conclusions.

Posttraumatic Stress Disorder (PTSD):

Pre-clinical (animal) Studies:

- The effects of chronic stress alone and in combination with blast were studied in a rodent model to determine behavioral, cognitive and neurophysiological changes. The findings indicate that exposure to repeated stress alone causes a short, transient increase in anxiety, with no significant memory impairment or cellular and molecular changes. In contrast, when stressed animals were exposed to a single blast, they showed lasting behavioral and neurophysiological changes, characterized by memory impairment and neuronal and glial cell loss. In another related study also using a rodent model, it was found that mild TBI (mTBI) alone can result in increased fear learning and anxiety states that mimic the symptoms of generalized anxiety disorder and PTSD, which result from alterations to cell death and neuronal number in the limbic regions of the brain (hippocampus and amygdala).
- In a mouse stress model, the expression levels of over 40 miRNAs changed in the amygdala when the stress condition elicited an acute stress reaction; however, no such change was seen in the hippocampus, where the miRNA expression profile appeared to be more sensitive to the inherent behavioral makeup rather than the external stress stimuli. In a related fear conditioning study in mice, it was shown that a commercially available drug (sodium butyrate) did not accelerate fear conditioning. In another study on fear extinction, two novel classes of glutamate system enhancing compounds, ampakines and glycine transporter inhibitors, did facilitate extinction learning. Doses that facilitate extinction, however, do not appear to block reinstatement, and higher doses may be needed to see this dual effect. In contrast, results suggest that the administration of beta blockers alone shortly after trauma will not prevent the development of PTSD in rodent models; however, low dose combination therapy of beta-2 and D5 receptor antagonists might prevent PTSD when given shortly after the trauma.

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

- In a mouse model to assess the effects of hormonal regulation on fear extinction, similar to what is seen in humans, both young and adult female mice treated with high concentrations of estrogen exhibited enhanced fear conditioning compared to controls, suggesting a possible mechanism for increased PTSD and anxiety disorders in females. Testosterone in males did not affect fear conditioning or extinction.
- In a series of studies to understand the underlying mechanisms of fear startle caused by inescapable shock, investigators showed that inescapable shock is not necessary to increase startle reactivity (a proxy for anxiety). Further, naloxone (an opioid antagonist) does not appreciably influence startle reactivity. Thus, increased activity can result from either avoidable or inescapable stress, neither of which is a product of a pain-dependent opiate mechanism.
- An animal model for use in a high throughput screening paradigm was developed that would lead to the identification of new neural targets, which would (1) serve as new drug targets for which pharmaceuticals can be screened, resulting in new PTSD drugs, (2) serve as new neuromodulation targets at which electrical or magnetic fields can be directed, thus enabling new or more powerful methods of deep brain stimulation (DBS) or transcranial magnetic stimulation (TMS) for PTSD treatment, and (3) serve as targets which could be directly optically modulated in human patients, thus resulting in new kinds of neuromodulation development. The findings from this work have shown that cell bodies in specific regions of the brain (amygdala) can modulate fear extinction, and that the serotonin neurons of the dorsal raphe can be silenced to prevent fear development in stressful situations. Thus, a set of neural targets have been identified that could be modulated to prevent the fear aspects associated with PTSD, including doing so through the development of new drugs.

Clinical Care Studies:

- Veterans who received cognitive processing therapy (CPT) for PTSD as part of a residential rehabilitation program reported significantly fewer PTSD symptoms as measured by the PTSD checklist than those Service members who received trauma-focused therapy, indicating that effective implementation of evidence-based treatment, such as CPT, is superior to “treatment as usual” paradigm, thereby producing improved patient outcome.
- A study was undertaken to determine if sleep and activity could be objectively measured in Soldiers who were suffering from mTBI and PTSD, while undergoing clinical assessments and care. Not surprisingly, the findings showed powerful correlations between sleep and mTBI and PTSD. All subjects in the study exhibited irregular sleep patterns and poor sleep hygiene, including going to sleep late at night, not getting sufficient sleep, a high incidence of napping throughout the day, with weekends being the most disruptive. These findings indicate the critical need to use technology to accurately measure sleep hygiene of Service members undergoing clinical care.
- A major effort was undertaken to determine the prevalence and predictors of major depression among Veterans compared to those who never served in the military. In addition, this study examined the relationship between major depression and health outcomes in Veterans over 8 years (1998-2006). The findings indicate that Veterans

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

are not at higher risk for major depression than non-veterans, even after controlling for potential confounders. These findings support the conclusion that in a nationally representative study, Veterans are not at higher risk for major depression.

- A study was conducted to determine if an on-line, self-help training and education program conducted in a primary care setting will reduce PTSD symptoms for Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) Veterans and Operation Desert Storm/Desert Shield Veterans compared to treatment as usual for PTSD in a primary care setting. Findings indicated that this program shows promise as an effective intervention for the treatment for PTSD and depression, especially for Veterans.
- A study was undertaken to compare female and male Veterans' rates of mental health disorders. Overall, several significant gender differences in demographics were noted, with women more likely to be young, black, single and Veterans of the Air Force. Further, female Veterans were more likely to receive a depression diagnosis, and men more likely to receive PTSD and alcohol problem diagnoses.
- The efficacy of a PTSD psychotherapy treatment plus adjunct sleep intervention was assessed by comparing prazosin, a behavioral sleep-focused intervention (BSI) and a placebo on a clinician administered, self-report and objective sleep measures, and on daytime symptoms of PTSD, mood, anxiety and disability of male and female Veterans who experience stress-related sleep disturbances. The results indicate an advantage of the behavioral intervention over prazosin and placebo for clinician-rated clinical improvements and self-report improvements in sleep and a reduction in self-reported nightmares.
- A cognitive behavioral social rhythm therapy (CBSRT) was compared to present-centered therapy (PCT) to assess its effectiveness in improving depressive symptoms in patients with PTSD, major depressive disorder, and sleep and social disturbances. The findings indicate that both CBSRT and PCT resulted in significant levels of clinical improvement. The lower attrition rate for CBSRT compared to PCT indicates that CBSRT may be more acceptable to patients. Neither the CBSRT nor PCT appear to treat PTSD, depression or sleep disturbances to the level of remission.
- To understand the brain mechanisms related to blast, Veterans who experienced blast-related concussions resulting in loss of consciousness (LOC) were compared to those who experienced alteration in consciousness (AOC) on a task involving self-awareness during functional magnetic imaging. Results indicated that those Veterans who experienced a LOC showed impaired self-awareness, which correlated with brain functioning in the ventromedial prefrontal cortex.
- In a study undertaken to assess neurochemical changes in the brain of individuals with PTSD using 4 tesla magnetic resonance imaging, important new findings showed that glutamate is increased in the temporal cortex of PTSD patients, with GABA reductions in the temporal and posterior-occipital cortices. These observed changes in neurochemical metabolites were not significantly impacted by depressive symptoms, alcohol drinking, and chronic smoking, common confounds in PTSD patients. Regional metabolite concentrations were related to measures of PTSD symptomatology (arousal and intrusion) and to sleep quality.

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

- In a recently completed study to identify potential blood biomarkers for PTSD, monocytes in healthy male PTSD subjects showed a predominant pattern of decreased gene expression. Notable categories of decreased expression pertain to cytokine/chemokine signaling, platelet function, and histone activity. These results are encouraging for identifying novel biological pathways affected by PTSD as well as understanding the molecular mechanisms for increased medical morbidity in PTSD.
- A psychophysiological study to weaken traumatic combat memories with post-reactivation (i.e., memory disruption in recall) with propranolol failed to reach the a priori minimum clinical significance level despite both groups showing relatively low psychophysiological reactivity to the combat trauma scripts. It should be noted that the overall findings were in the positive direction—just not at the expected level of scientific significance.
- Results from a study designed to investigate DNA methylation patterns in repetitive DNA elements and in cytokine promoter regions pre and post deployment showed some early preliminary findings. Key findings include: Soldiers who eventually became PTSD positive had reduced IL-18 methylation compared to controls pre-deployment, suggesting that IL-18 methylation may be an indicator of susceptibility; controls at post deployment had lower IGF-2 levels than they did at pre-deployment; and there were no clear patterns of cytokine promoter region hyper- or hypo-methylation.
- In an effort to improve dissemination of evidence-based care, an on-line, self-administered training for providers treating military deployment-related PTSD study was undertaken. This effort focused on evaluating a web-based, self-paced training program to provide skills-oriented training in cognitive behavior therapy (CBT). The findings of this effort confirmed that skills improved as a result of this training. Further skills were significantly enhanced when the web-based training was combined with consultation compared to web-based training only.
- Integrating mental health and primary health care services for OEF/OIF Veterans with PTSD and co-morbid disorders increased the proportion of OEF/OIF Veterans using mental health services, decreased the time to initial mental health evaluation, and facilitated follow-up specialty care.
- In a pilot study to address anger associated with PTSD, an existing evidenced based cognitive behavioral intervention (CBI) was adapted for Service members returning from combat. The results from this pilot study showed that CBI lowered anger, although CBI was not effective for other symptoms of PTSD.
- A study assessing the effectiveness of a military community network in helping Service members with the reintegration process was undertaken. Despite the relatively short period of time in which to achieve community wide change (one year), this pilot study did show increases in coordination, support, and community awareness compared to a control community. The professionals surveyed showed higher levels of confidence in knowledge of issues that Service members and families face and how to address those mental health issues.

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

- In a study to evaluate the health outcomes among infants born to female OEF/OIF deployers, it was found that infants born to women who inadvertently deployed to military operations during pregnancy were not more likely to be born pre-term, diagnosed with a major birth defect or diagnosed with a malignancy. The number of total birth defects and neoplasms among infants conceived within three months of paternal return from deployment are also within the expected range. In a related study on health outcomes of infants, there was an observed increase in premature birth of babies born to women reporting depression symptoms or men reporting panic or anxiety disorders.
- A research study undertaken to develop a PTSD population registry showed that significant associations exist between PTSD, mTBI and functional impairment, with PTSD symptoms explaining more of the variance. The presence of PTSD and co-morbid mTBI was associated with overall worse functional impairment compared to those with mTBI only.
- The Systems Biology research group has recently identified a significant group of biomarkers (genomic and miRNA) that are associated with a positive PTSD diagnosis, using both murine modeling and human serum specimens. It is anticipated that validation studies now underway will inform a down-selection process to yield a limited assay that will serve as an objective measure of PTSD status. Metabolic syndromes, long term degradation in organ system function, and shortening of telomere length (impacting longevity), all appear to be risks associated with PTSD.

Approximately 78 studies have closed out from the initial investment in psychological health research in 2007 and earlier. Another approximately 250 studies are scheduled to be closed out by the end of calendar year 2014. Although the average time to translate research into clinical practice is more than 16 years from bench to Service member, there are results from the initial studies funded in 2007 that are informing the way in which Service members are cared for as well as new lines of research. For example, research within the VA evaluating the utility of supported employment for Veterans has yielded findings that have led to a follow-on large scale trial within the VA in order to determine whether the approach could be recommended for rollout. Another VA-based pilot study provided critical information needed that encouraged the VA to implement the model into all 152 VA Medical Centers as “The Spousal Telephone Support Program.” This program provides telephone support groups for spouses of Iraq and Afghanistan Veterans. Spousal satisfaction with the groups was high, and over the course of the pilot study, spouse depression and anxiety were decreased and social support was increased. Spouses reported a decreased level of concern about the effects of reintegration on their social life, home life, family, husband, and themselves. Additionally these findings validate the use of telephone support groups as a viable means of providing information, support, and skills to military spouses.

Suicide Research:

The Military Suicide Research Consortium (MSRC) was established in 2010 with PH/TBI funding. The MSRC is led by Dr. Peter Gutierrez, Denver VA and Dr. Thomas Joiner, Florida State University and involves the leading experts in the field of suicidology. The MSRC is guided by a Military External Advisory Board, which ensures that the work of the consortium is informed and addresses military relevant issues. Since its inception, the MSRC has initiated 15 studies that are led by the world’s experts in suicidology. The MSRC

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

is focused on delivering evidence-based effective suicide prevention interventions. Studies are expected to begin yielding actionable findings in the next 1-2 years. In addition to funding research projects, the MSRC is an invaluable resource and wealth of knowledge, keeps apprised of the literature and provides evidence-based responses to questions that incorporate the state of the science.

Resilience:

Another researcher at the University of Miami has received PH/TBI funding to support her work on mindfulness training effects on resilience and to examine its applicability and efficacy for use within a military population. Mindfulness training is a portable life skill and can be used across the military lifecycle. Preliminary work shows promise and suggests that mindfulness training can influence how a Soldier interprets and responds and that the techniques' efficacy is influenced by practice. Studies underway are aimed at determining the best ways of delivering the training and understanding how much training and practise is necessary for effectiveness.

The return on investment from Congressional funding for PH and TBI will continue to emerge over the next 1-2 years.

Description of Actions Planned for Research and Development

A draft National Research Action Plan is being developed and will establish a foundation for a joint research strategy that will involve cross agency interaction and collaboration aimed at enhancing the psychological health of Service members and their Families. The collaboration will include DoD, VA, the National Institute of Mental Health (NIMH), and the National Institute of Drug Abuse (NIDA).

In addition, a Research Program Announcement is underway that will focus exclusively on the development of bio-markers associated with PTSD. The award is funded jointly by the DoD and VA, will depend on the availability of funds, and will support a consortium of research in this area over the next five years.

Joint Program Committee (JPC) 6:

The DoD is deeply committed to providing a research program to prevent, mitigate, and treat the detrimental effects of traumatic stress and TBI on psychological and physical functioning, wellness, and overall quality of life for Service members, as well as for their caregivers and families. The DoD is focused on finding solutions in areas of the most pressing needs.

The PH/TBI research portfolio aligns with a continuum of care approach driven by requirements that directly benefit Service members. This process and strategy is creating unparalleled momentum that will revolutionize care for TBI and PH.

The return on investment from Congressional funding for TBI and PH has begun to yield knowledge and advancement towards solutions as some of the smaller, less complex FY07 and FY08 projects have come to a close. In Process Reviews and annual programmatic reviews of DMRDP-funded and Service-funded projects allow iterative realignment of research strategies consistent with current requirements. This has been especially important given the length of the current conflict. Working groups help refine research requirements

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

and methods as well as guide the translation of research findings to clinical use. The President's Executive Order entitled Improving Access To Mental Health Services For Veterans, Service Members, And Military Families dated 31 August, 2012, has brought the DoD, VA, the National Institute of Neurological Disorders and Stroke (NINDS) and the National Institute on Disability and Rehabilitation Research (NIDRR) into even closer communication and coordination as we develop a National Research Action Plan together. The following sections provide more details on our research accomplishments last year, such as the creation of two large DoD/VA research consortia to address research on PTSD and the chronic effects of TBI including Chronic Traumatic Encephalopathy.

Research Studies

Definition, Mechanisms, Screening and Diagnostics

DoD has maintained a “four-pronged” approach to screening and diagnostics. These are imaging (structural and functional), neurobehavioral testing (cognitive, emotional), physiological testing (function and performance), and biomarkers (objective evidence of damage to neurons or their supporting glial cells). Because every TBI is unique, it has become clear that no single screen or diagnostic tool is now or for the near future capable of diagnosing a TBI. Part of this is a conundrum with regard to mild TBI/concussion. Prior to the operations in Iraq and Afghanistan, “a concussion was a concussion.” However, by 2004, National Football League (NFL) physician-scientists had done additional detailed analyses of the biomechanics of concussion that led to significant concerns among the NFL medical staff. It has appeared that the increasing size, speed and strength of players from secondary school through professionals resulted in an increasing number of concussions. Meanwhile, military healthcare providers and scientists were becoming alarmed by the number of Service members suffering mTBI/concussion, in particular related to the increased use of improvised explosive devices (IEDs) by the enemy. In the process of working to address this, military clinicians and scientists soon found that saying someone had a concussion was about as clinically meaningless as saying someone had a heart attack. Neither term defined the problem. The victim of a heart attack is actually the victim of heart muscle ischemia, or insufficient blood and thus oxygen supply to the muscle. This latter nomenclature tells the healthcare provider what is going wrong—what is “broken.”

In a head injury the brain, the most complex organ in the body, is subjected to linear and or rotational forces—it is banged and spun. Within the skull are the meninges, a tough membrane that covers the brain and dives between the hemispheres as the tough *Falx Cerebri* and between the cerebrum and cerebellum as the *Tentorium Cerebelli*. The brain, covered in and penetrated by miles of blood vessels, utilizing 20% of the body's energy and blood when the body is at rest, has the consistency of marmalade save for the deep, myelinated white matter tracts. The skull has bony walls in front of the temporal lobes and an irregularly shaped floor with relatively large and sharp protrusions around the pituitary gland just anterior to the brain stem. The brain is bathed in cerebrospinal fluid that circulates around the brain and through its ventricles into the spinal cord and back. This fluid offers modest protection-as in if one were to slip and fall or bump one's head on a low doorway.

The internal structure of the brain is evolutionarily developed so that the stronger, myelinated nerve fibers coursing front and back, and side to side, offer some protection from

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

hits to the face or back of the head. However, this was not evolved to protect one from the effects of a 75G deceleration in a car collision or from two 240lb football players closing on one another at over 20MPH. Nor was it evolved to withstand the effects of multiple 155MM artillery shells being detonated yards or even feet away. In such cases the brain can hit the skull where cortical neurons and supporting glia can be crushed and blood vessels can be broken, twists under the *Falx* and *Tentorium* causing tears in the cortex and stretching of the thick white matter bundles running between the hemispheres, and micro-bleeds deep in the brain from torn vessels. During a blast, if one is not engulfed by flying debris or tossed about in a vehicle, the brain is at minimum exposed to transmission of the primary blast wave, the effects of which we are still struggling to understand.

At this point the inflammatory cascade initiates, causing secondary injuries and cell death. The mildest form of this insult, that we have called “concussion,” results in varying motor, attention, sensory, behavioral and cognitive deficits based upon the location and severity of the injury. These manifest as ringing ears, double vision, confusion, loss of consciousness, poor coordination and often pain in the form of headache among other features. Thus we need to define TBI based upon the unique spectrum of deficits that manifest in the victim and treat that victim according to their deficits. This may seem to be common sense, but it is not how “mild” TBIs began to be managed until perhaps the publication of the Defense and Veterans Brain Injury Center’s (DVBIC) guidelines for acute field management were published in 2006. Even then, these guidelines, the previously published guidelines by the Brain Trauma Foundation (that were primarily directed at moderate and severe injury), and Directive Type Memorandum (DTM) 09-033, "Policy Guidance for Management of Concussion/Mild Traumatic Brain injury in the Deployed Setting" (now DoDI 6490.11) have little in the way of high quality clinical evidence to support them because our culture had not been attuned to the frequency, severity and heterogeneity of brain injuries. This has been an iterative learning process, and in that process we have utilized congressional research funds to define the problem, diagnose it and treat it.

The following sections provide more detail on research accomplishments over the last year as well as future directions to continue pushing toward solutions. Please note the findings of any one study should not be construed to be a definitive conclusion for the scientific basis regarding the cause and effect for TBI issues. Scientific repetition with additional changes in study parameters of comparable data is necessary to development clinical conclusions.

Concussion Definition Study (Brain Trauma Foundation (BTF))

- The DoD and CDC funded the BTF to study the problem of concussion definition and to use that knowledge to develop a clinically useful definition and/or to identify what studies would be required to achieve such a definition. BTF convened a group of leading experts, including DoD and CDC, and utilized the impressive evidence-based medicine and comparative effectiveness study capabilities of The Methods Group from Oregon Health & Science University to define the problem. They worked from the definitions of McPherson (1998) and Morse (1992) who concluded, “A medical definition should be simple and easy to understand. It should be clinically useful. It should be specific such that the essential attributes could only refer to the entity to be

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

defined. It should be measurable, and should reflect current scientific knowledge.” The BTF team discovered that there are at least 42 published definitions for concussion, all based on expert opinion. In addition, they discovered that in a search of the literature from 1947 to 2012, over 5500 abstracts were potentially relevant to the topic of defining concussion. Over 1300 of these appeared to meet their inclusion criteria. On further evaluation, only 56 were of moderate bias and only 24 had inclusive case definitions AND reported data at fixed time points after injury. They found that the literature was plagued by variations in research methods as well as circularity, in that the process being defined cannot be the same as the essential attributes of that process. The group has begun drafting their initial report that will then be reviewed by DoD and CDC experts. One issue has become clear—that we must remove ourselves from the use of “mild,” “moderate,” and “severe” given that injury to the brain is a continuum, is heterogeneous in character, and unique to each victim. Just as cancer is staged, so must we develop a staging system or matrix for defining TBI. The challenge is to determine what characteristics should be measured and how best to measure them.

The Effects of Repeated Blast-induced Mild TBI on Endothelial Glycocalyx Structure and Function (Naval Medical Research Center)

- There has been much research and discussion regarding the effects of blast energy on the brain. A significant amount of this discussion has been negatively impacted by poor research technique or unsubstantiated claims. This project aimed to determine whether repeated low level blast exposure—in this case a shock wave modeling a blast wave was imparted on a rodent damaged the innermost component of the cerebral vasculature, the glycocalyx. In an electron microscope the glycocalyx looks like so much fuzz—much like wool. It is composed of complex branched sugars and proteins and confers a degree of protection upon the inside walls of blood vessels. This coating is involved in many processes, from movement of molecules and white blood cells through the vessel wall to the clotting of blood. The team discovered that when they exposed the rodents to 12 consecutive low level shock waves, the walls of the cerebral vessels were denuded of glycocalyx. They also discovered that this particular injury induced this damage selectively in the cortex and the amygdala, the latter being the seat of our basic emotions. This discovery science may have significant implications in TBI, PTSD and chronic effects of TBI.

Biomarker Assessment for Neurotrauma Diagnosis and Improved Triage System (BANDITS), (Banyan Biomarkers, Inc.)

- The Biomarker Assessment for Neurotrauma Diagnosis and Improved Triage System (BANDITS) program, also called Laboratory Assay for TBI (LATBI), is developing a blood test for brain cell damage, which may aid in the clinical assessment of patients with TBI. BANDITS has completed pilot and feasibility studies and has launched its pivotal trial which will enroll up to 2000 patients with mild, moderate and severe TBI. The markers used in this study are Glial Fibrillary Acidic Protein (GFAP), a marker of glial (supportive) cell damage and Ubiquitin carboxy-terminal hydrolase L1 (UCHL1), a marker of neuronal injury. GFAP has been shown to correlate with

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

injury severity and GFAP breakdown products-the “parts” of GFAP that can be found in serum after central nervous system (CNS) trauma, have themselves been shown to be identified in mild through severe TBI and their levels are associated with intracranial lesions (hemorrhage, bruising). UCHL1 has been shown to correlate to injury severity and can distinguish mild TBI from control trauma patients without head injury. This study will provide the regulatory requirements needed for Food and Drug Administration (FDA) review and assessment. Results of these studies as well as development of a handheld device for biomarker detection may allow for screening or diagnosis of TBI in far forward locations, as well as add to the development of more accurate predictive models of therapeutic effectiveness and outcome following TBI in both animal models and humans. Of note, these biomarkers are also being assessed in military populations to include Breachers and Route Clearance Teams who are subjected to repeated sub-clinical blast exposures. The data for the initial parts of these efforts is pending publication in peer-reviewed literature. This work provides insight into the effects of repeated exposures that up to this time have been deemed safe. This work may result in revisions of “standoff tables” used by our Explosive Ordnance Disposal Teams to remain out of harm’s way. The goal is to increase sensitivity and specificity and to also be able to assess the progression of an injury over time in order to develop more effective management and rehabilitation strategies. These biomarkers were also assessed in the theater environment in Operation Enduring Freedom in the summer of 2012. Casualties evacuated with possible concussion consented to having blood drawn. These samples are currently being processed and the data analyzed by Banyan Biomarkers, Inc. The results will be referenced to the final diagnoses and dispositions of the casualties to determine whether and how the biomarker data correlates with the clinical diagnosis. Ongoing work at Banyan has also yielded numerous publications, the latest of which demonstrate the utility of UCHL1 as a possible marker for predicting outcome in severe TBI.

Brainscope (Brainscope, Inc)

- The Brainscope device is a small, handheld quantitative electroencephalography device (qEEG). Initial work by this company in contact sports concussion demonstrated that they could identify concussion and follow its progression/resolution over time. The device consists of an adhesive template that is placed on the forehead and temples and a handheld processor that currently provides feedback as “Green,” low likelihood of concussion, “Yellow,” moderate likelihood of concussion, and “Red,” high likelihood. This device may serve as a screening tool along with other systems in development. They received DoD funding to perform a pivotal trial for FDA evaluation for approval at nine civilian and one military medical facility (San Antonio Military Medical Center (SAMMC)). As of January 2013 they have enrolled almost 700 patients which is 85% of their target enrollment. They recently announced plans to extend the study at their own cost in order to enroll more patients for what is hoped to be an even stronger study.

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

Natural History of TBI -Subacute to Chronic NeuroImaging (National Intrepid Center of Excellence (NICoE) and the Center for Neuroscience and Regenerative Medicine (CNRM), Uniformed Services University of the Health Sciences (USUHS) and NINDS)

- This study aimed to develop comprehensive, advanced magnetic resonance imaging (MRI) scan protocols relevant to TBI, especially mild TBI, using clinically feasible techniques and to develop and implement functional MRI tests to probe neuronal circuits likely to be affected by TBI and/or PTSD. An additional goal was to create a multimodal neuroimage database of TBI patients and controls. NICoE is charged with the responsibility of caring for the most challenging TBI and PTSD cases in the military. They have both a clinical and research component in order to achieve this. Here, NICoE partnered with CNRM, itself a partnering of USUHS and NINDS neurotrauma experts spanning discovery science to clinical trials. TBI patients were recruited and consented from NICoE, the Walter Reed National Military Medical Center (WRNMMC), and related military populations. Development and refinement of their existing neurocomprehensive MRI protocol, developed with earlier DHP funding, occurred during the first 1.5 years of the project. Subsequent efforts have been directed at improving recruitment, advanced data analysis, identifying important TBI and PTSD sub-groups, and increasing sensitivity to provide useful diagnosis for individual patients. They collected imaging data—40,000 images per patient when combined—on over 400 patients. They concluded that combining multi-modal neuroimaging data with a thorough neuropsychiatric assessment is needed to accurately diagnose TBI and to differentiate TBI from PTSD. They plan to continue to analyze this data and add to it in order to improve the sensitivity of functional neuroimaging, along with image analysis and display techniques, to achieve the goal of accurate patient diagnosis.

These are representative of the efforts ongoing to define, understand and diagnose TBI. Other ongoing studies include longitudinal epidemiological studies, studies on the mechanisms of blast and impact TBI to include multiple hit models and studies of chronic effects such as chronic traumatic encephalopathy, efforts to improve and standardize animal modeling in order to achieve appropriate scaling between these models and the human condition and to enable comparisons across experiments, development of even more advanced imaging modalities such as High Definition Fiber Tractography, and pivotal trials of neurobehavioral assessment tests and smooth pursuit eye tracking technology.

Therapies

Operation Brain Trauma Therapy (OBTT) (University of Pittsburgh, Walter Reed Army Institute of Research, Banyan Biomarkers, Inc., University of Miami, Virginia Commonwealth University)

- Relatively soon after the initial 2007 congressional funds were appropriated, DoD program managers determined that there was a need for a standardized set of TBI models and methods in order to improve the previously poor record of translating TBI therapies from animals to humans. In fact, no therapies have been thus translated. as no less than 30 human trials have failed. We have learned that three of the reasons

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

for failure were poor correlation between the animal models and humans, inability to reproduce the results of a project in an independent laboratory, and poor quality of clinical trial design to include insensitive outcome measures. OBTT is a consortium formed to be the “Underwriter’s Laboratory” of TBI drug development. It includes some of the most respected, capable neurotraumatologists in the United States. The group is led by the University of Pittsburgh and functions by selecting drugs that are “low hanging fruit” – drugs that have some evidence of benefit and are in most cases FDA approved for neurological or other indications. The labs select three drugs per year to study. They initiated with Nicotinamide, Erythropoietin and Cyclosporine-A, all FDA approved for other indications. Each drug is blinded by the Principal Investigator (PI) and is studied in parallel at the labs. Each lab does a different rodent model of brain injury and Banyan Biomarkers assesses GFAP and UCHL1 biomarkers. If a drug is promising it goes to a swine model (second species – something we now demand) at VCU and can go to a blast model if successful at VCU. Their findings thus far are that Nicotinamide does well at sparing brain from secondary injury but doesn’t significantly improve cognition. It may serve as a candidate for combination therapy with a drug that is able to improve cognition. They also learned that the GFAP biomarker was very promising as a cross-model assessment of injury severity and could possibly serve that role across the TBI research establishment if this pattern is validated. GFAP also appears to be effective as a marker of therapeutic efficacy which, if borne out, would be a tremendous benefit to the TBI research community. The results of the other two drugs are pending analysis. In 2013 the team will study Simvastatin, Minocycline and Levetiracetam – all FDA approved for other uses and the latter for epilepsy. Its funding period ends in September, 2015.

Phase II Clinical Trial of NNZ-2566 (Neuren Pharmaceutical, Ltd)

- Development of an investigational new drug/agent (IND), NNZ-2566, is ongoing. This drug is an analog of Glypromate® (Glycine-Proline-Glutamate), a naturally occurring small molecule neuroprotectant, derived from IGF-1 (Insulin-like Growth Factor). A Phase II clinical trial for patients with moderate to severe TBI, using intravenous NNZ-2566 launched in May 2010 and has accrued half of the required subjects. The study evaluates the safety of NNZ-2566 and whether clinical outcomes are improved compared to placebo. A further objective is to ascertain its impact on non-convulsive seizures, a serious problem in moderate and severe TBI because it can cause additional injury, and regulation of gene expression. This year a clinical trial with an oral formulation of NNZ-2566 will be launched for patients with mild TBI. Though this drug received a Fast Track designation in 2009, there is concern regarding the continued development of this drug because the FDA has determined that two phase III trials will be necessary. This type of requirement has a significant impact on DoD’s ability to complete drug development because of the substantial time and cost required for each phase, with Phase III being the most expensive.

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

Cranial Nerve Non-Invasive Neuromodulation (CN-NINM)

- The CN-NINM device, also called the PoNS™ device, provides neurostimulation to the tongue. The hypothesis is that this induces processes of neuroplasticity by noninvasive stimulation of two major cranial nerves: trigeminal, CN-V, and facial, CN-VII, that innervate the anterior 2/3rd of the human tongue. Using sequenced patterns of superficial electrical stimulation on the dorsal surface of the tongue the impulses stimulate all receptors to a depth of 200-400 microns in the tongue epithelia. This most likely includes various type of tactile mechanoreceptors, thermoreceptors, taste fibers and free nerve endings—in total approximately 15-20 thousands of nerve fibers located under the 3x3 cm electrode array. This stimulation excites neural impulses to the brainstem (pons and medulla), and cerebellum via the lingual branch of the trigeminal nerve, and chorda tympani branch of the facial nerve, to effect changes in the function of these targeted brain structures.

The study's training regimen involves using a neurostimulation intervention designed to amplify training that addresses symptoms of balance, gait, and cognitive difficulties associated with mild TBI and PTS. A randomized double blind study being conducted at Fort Campbell, KY will enroll 40 male subjects total, with 2 equal subgroups: 20 with an Active PoNS™, 20 with a Control (non-zero but minimal-stimulating) PoNS in a 2-week intensive intervention. All training and testing will be performed identically across all subjects in both groups. The intensive CN-NINM training program will focus on balance, gait, and relaxed attention with breathing regulation. Multiple assessment metrics will capture data at the beginning and end of the 2-week CN-NINM intervention period. If successful this study would indicate that using the CN-NINM device may reduce rehabilitation time, improve return to duty status, and enhance retention.

The DoD has a substantial number of therapies reaching translation and in clinical trials. The San Antonio Military Medical Center is a research site in the ProTECT III Phase III trial of progesterone in moderate and severe TBI. Other drugs being studied include Huperzine A, Omega 3/DHA, Hyperbaric Oxygen, Perfluorocarbons, Minocycline/N-Acetyl Cysteine, Methamphetamine, Erythropoietin, statin drugs and cell therapy/regenerative medicine. It has become clear that no single drug will be a “silver bullet” —rather, we will need to customize therapies to the patient and their specific deficits. In the end, multiple drug and rehabilitation strategies will be required for our Service members. This effort will be neither short in duration nor inexpensive, especially given the reluctance of large pharmaceutical companies to engage in what they believe is a costly, high risk, low yield enterprise. DoD has recognized that until we have appropriate diagnostic tools, biomarkers and outcome measures (most of what is currently used in the latter were developed for stroke, which is a focal brain injury, not TBI, which is more often than not global in impact), it does not make sense to pursue additional clinical trials. DoD efforts to strengthen criteria for defining when a drug or other therapy is “ready” to translate to human trials, to standardize and collect data on all clinical research in order to improve the quality of ongoing and future research and to leverage the latest information technology solutions to help us analyze what has become a flood of research data will yield significant benefit over the ensuing 3-5 years.

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH
UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND,
JOINT PROGRAM COMMITTEES 5 AND 6

Research Data Collection and Analysis

The Federal Interagency Traumatic Brain Injury Research (FITBIR) Informatics System

- NIH and DoD have built a central database for TBI research data. The FITBIR Informatics System is designed to advance comparative effectiveness research on brain injury treatment and diagnosis. It will serve as a central repository for new data, while linking to existing databases to facilitate sharing. Projects funded through the DoD are now required to enter their data into the FITBIR utilizing the Common Data Elements (see below). FITBIR is expected to aid in the development of:
 - a. A system to classify different types of TBI
 - b. More targeted studies to determine which treatments are effective and for whom, and under what conditions (comparative effectiveness research)
 - c. Enhanced diagnostic criteria for concussions
 - d. Predictive markers to identify those at risk of developing conditions that have been linked to TBI, such as Alzheimer's disease
 - e. Clearer understanding of the effects of age, sex, and other medical conditions on injury and recovery
 - f. Improved evidence-based guidelines for patient care, from the time of injury through rehabilitation.

TBI Common Data Elements

- The Common Data Elements (CDE) project has developed data standards for TBI in collaboration with the wider academic and Federal research community. The data elements identified by the CDE process will serve as the backbone of the FITBIR database. VA, Centers for Disease Control and Prevention, Department of Education, and DoD are co-sponsors of this effort, which was led by the National Institute of Neurological Disorders and Stroke. More than 20 publications have resulted from this ongoing effort. The most recent update to the database was posted on May 7, 2012, filling in gaps for mild and chronic injuries.

Collaborative Efforts with VA, Department of Education, and Department of Health & Human Services (HHS)

Chronic Effects of Neurotrauma Consortium (CENC)

- The DoD and VA initiated a large scale program announcement in 2012 for the elucidation of chronic effects of mild TBI. The objectives of the CENC include:
 - a. To establish the association (onset, prevalence, and severity) of the chronic effects of mTBI and common comorbidities as described below under Focus Areas.
 - b. To determine whether there is a causative effect of chronic mTBI/concussion on neurodegenerative disease and other comorbidities.
 - c. To identify diagnostic and prognostic indicators of neurodegenerative disease and other comorbidities associated with mTBI/concussion.

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

- d. To develop and advance methods to treat and rehabilitate chronic neurodegenerative disease and comorbid effects of mTBI/concussion.

Presidential Executive Order 31 Aug 2012: Improving Health Care for Veterans, Service Members, and Military Families Affected by TBI:

- Section 5 of the Presidential Executive Order focused on improved research and development and states that the DoD, VA, HHS, and Dept of Ed in coordination with the Office of Science and Technology Policy shall establish a National Research Action Plan within 8 months of the date of this order to improve the coordination of agency research of TBI, PTSD, and other mental health conditions to reduce the number of affected men and women through better prevention, diagnosis, and treatment.

The National Research Action Plan developed in collaboration with VA, HHS, and Department of Education will:

- a. Establish strategies to establish surrogate and clinically actionable biomarkers for early diagnosis and treatment effectiveness
- b. Develop improved diagnostic criteria for TBI
- c. Enhance understanding of mechanisms responsible for PTSD, related injuries and neurological disorders following TBI
- d. Foster development of new treatments for these conditions based on better understanding of underlying mechanisms
- e. Improve data sharing between agencies and academic and industry researchers to accelerate progress and reduce redundant efforts without compromising privacy
- f. Make better use of electronic health records to gain insight into the risk and mitigation of PTSD, TBI and related injuries
- g. Include strategies to support collaborative research to address suicide prevention

Strategic Planning

Neurotrauma Pharmacology Workgroup

- The Joint Program Committee-6 (JPC-6) Neurotrauma Steering Committee recognizes that a strategic, forward-thinking plan is required to effectively and efficiently advance the pharmacological treatment of patients with TBI. To facilitate the development of this strategic plan, the Neurotrauma Pharmacology Workgroup was established in 2012. The overarching goal of this workgroup was to provide a strategic research plan for developing pharmacologic treatments that improve clinical outcomes in individuals with TBI. The strategic approach was developed by (a) assessing the current state of the science and ongoing research, (b) identifying critical research gaps, and (c) defining the essential priority areas for advancing clinical care.

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH
UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND,
JOINT PROGRAM COMMITTEES 5 AND 6

The Workgroup identified the six most critical research priority areas in the field of pharmacological treatment for individuals with TBI. No priority area is more important than another; instead, the priority areas represent the parallel efforts required to advance clinical care. These priority areas will help the JPC-6 strategically guide their research portfolio to ensure effective pharmacologic approaches for treating patients with TBI are developed.

Priority Area 1: Refine and standardize preclinical models of TBI to optimize translation of pharmacologic agents from animal to human research studies.

Pharmacotherapy should ideally have broad-spectrum action in several preclinical models. Preclinical studies should be designed to optimize translation to clinical trials. Significant design limitations of animal studies include optimal selection of outcome measures and the method and schedule of pharmacologic administration. Outcome measures should focus on long-lasting motor, cognitive, or memory deficits that do not improve in the absence of pharmacologic intervention. The timing and method of administration of pharmacologic agents in the preclinical models should easily translate to administration in the clinical setting.

Priority Area 2: Develop and/or validate prognostic imaging biomarkers, biochemical biomarkers, and objective clinical measures that can be used to identify patients with mTBI who are likely to experience persistent symptoms and disabilities that interfere with activities of daily living.

Because most patients with mTBI appear to improve to their pre-injury baseline within weeks to months after injury, within our capabilities to clinically assess improvement, effective development of pharmacologic therapies must focus on those individuals most likely to experience long-term complications that interfere with activities of daily living. This priority is distinct from ongoing efforts to develop diagnostic biomarkers, and instead focuses on prognostic biomarkers to aid in subject selection to receive therapeutics. By focusing on the target population, clinical studies for these patients with mTBI would be smaller, more cost effective, and statistically more powerful to identify efficacious therapies.

Priority Area 3: Identify predictive and pharmacodynamic biomarkers of therapeutic response.

The identification of patients most likely to respond to therapy will increase benefit and decrease risk to subjects. To accomplish this goal, predictive biomarkers must be an integral part of drug development studies. Pharmacodynamic biomarkers assessing the biologic response to pharmacologic intervention are necessary to demonstrate that the therapy has engaged the relevant therapeutic target and changed levels of the biomarker in the desired direction.

Priority Area 4: Develop pharmacologic interventions aimed at promoting neurorepair, neuroregeneration, and neuroprotection.

Clinical research is lacking on pharmacologic interventions designed to promote neurorepair, neuroregeneration, and plasticity. Recent advances make clear that important cellular and molecular mechanisms that affect secondary neuronal injury and mediate neuroregeneration are active for days to months after injury. Therapeutic strategies designed to modulate these cellular and molecular pathways are promising

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH
UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND,
JOINT PROGRAM COMMITTEES 5 AND 6

strategies for improving long-term neurologic function and should be evaluated further.

Priority Area 5: Develop pharmacologic symptomatic interventions for disabilities prominent in the chronic period following TBI.

Pharmacologic interventions designed to treat the persistent symptoms associated with the chronic stage of TBI (e.g., memory disturbances, depression, headache) are widely used by clinicians at Military Treatment Facilities (MTFs) and the U.S. Department of Veterans Affairs (VA) Health Systems. These include pharmacotherapies aimed at modulating the dopaminergic, noradrenergic, serotonergic, glutamatergic, and cholinergic systems. However, strong evidence for their efficacy and safety is lacking. As a result, the selection of which drugs to use for particular patients, or which dose and duration to use, is empirical and highly variable among MTFs and VA Centers. Clinical trials are needed to assess the efficacy and toxicity of these pharmacologic interventions.

Priority Area 6: Develop pharmacologic interventions that can be used in combination to target multiple parallel mechanisms of injury.

Initial attempts to find drug combinations for the treatment of individuals with TBI should begin with FDA-approved drugs because the pharmacokinetics, adverse effects, and drug interactions are known. Even with assurances of their safety as monotherapy, FDA-approved drugs may have significant adverse effects when combined; therefore, close coordination with the FDA is needed during the testing of combination therapies. Drug combinations need to be tested in animal models that allow the therapeutic effect of the combination to be compared with those of the individual drugs. The safety and efficacy of the combination must be demonstrated, even if the safety and efficacy of the individual drugs are known.

Conclusion

Through congressional funding, the DoD has become the largest funder of TBI research in the world. This has proven beneficial for both the military and civilian sectors. The fact that Congress, through their funding and the President through his recent Executive Order, have identified and maintained TBI, PTSD, and Suicide as high visibility public health issues has induced industry, non-profit groups, patient advocacy groups, and academia to work alone or more often together to identify possible solutions. DoD is deluged with concepts, many of which have merit, some of which have a significant amount of evidence. However, in the current fiscal climate and with only the DoD, VA (intramural only), NINDS and NIDRR regularly funding clinical trials for neurotrauma therapies, rehabilitation or diagnostics, we risk losing momentum in this area. This will in turn signal to the research community at large that there is little to be gained from their own investments when they cannot look to DoD and our sister agencies for guidance and funding assistance. The TBI issue—especially blast TBI—is not new. It was described quite cogently during and immediately after WWI—and then forgotten. In WWII it was described in greater detail and with quite interesting and sometimes bizarre diagnostic and treatment methods that appear to have worked—and were forgotten. A 1971 NINDS report on long-term follow-up of Korean War TBI veterans that included consented interviews of their families, friends and employers yielded data regarding types and frequencies of complaints and disabilities that could have

APPENDIX J

DEFENSE HEALTH PROGRAM MEDICAL RESEARCH UNITED STATES MEDICAL RESEARCH AND MATERIEL COMMAND, JOINT PROGRAM COMMITTEES 5 AND 6

come from a 2012 publication—again this was forgotten. The cost to relearn all of this has been exorbitant, both in funding and time. The fact that we believe our Service members deserve the best evidence-based care in the world is time consuming and expensive—but worthwhile to all our citizens and the world at large. Should we repeat history, it will be both a tragedy and a burden. While what went for evidence-based in WWII is nearly comical (or frightening) to us, had it been followed up and entrained into the institutional memory of the DoD, we would have much less to do now, at much lower cost. We now have had the ability to develop numerous approaches to TBI that will require in some cases several years to bring to clinical practice. (Merely getting the medical community to accept new physical therapy guidelines can take over a decade.) The DoD and her sister agencies also have the organizational and technical wherewithal to institutionalize what we are learning so that it doesn't cost the taxpayer three times as much to re-do the work a decade from now.