Walter Reed Bethesda

NICoE
National Intrepid Center of Excellence

NICOE BRIEF TO THE RECOVERING WARRIOR TASK FORCE

14 January 2013

Agenda

Item 1: Overview of NICoE's mission

Item 2: How effective is NICoE? How do you know?

Item 3: Internal and External Factors Hindering Mission

Item 8: Size and Composition of Clinical Staff

Item 4: Primary Channels of Identification of PTSD and Referral for Care

Item 7: Addressing Treatment Non-completion

Item 5: Meeting the RW's (both AC and RC) Needs across the MHS with both PTSD and TBI

Item 6: Best/Promising Practices in Evidence-Based Treatment for both PTSD and TBI

Item 9: Evidence-Based Treatments Provided by Staff

Item 10: Assessing Provider Use of Evidence-Based Treatments

Item 1: Overview of Mission

Vision: To be the nation's institute for traumatic brain injury with psychological health conditions dedicated to advancing science, enhancing understanding, maximizing health and relieving suffering.

Mission: As the Military Health System institute dedicated to understanding complex, comorbid traumatic brain injury and psychological health conditions, we deliver comprehensive and holistic care, conduct focused research, and export knowledge to benefit service members, their families and society.

- **Research**: A **DoD Institute** with a unique patient base and the most current technical and clinical resources for initiating innovative pilot studies designed to advance the characterization of the pathophysiology of the co-morbid state, while additionally serving as a "hub" for exchanging information with federal and academic partners
- **Training and Education**: A venue for the dissemination of next generation standards of care and resilience to providers as well as service members and families
- **Clinical**: A model of holistic, interdisciplinary evaluation and treatment in a family focused, collaborative environment that promotes physical, psychological and spiritual healing of service members (SM) with the complex interaction of TBI and PH conditions who are not responding to conventional therapy elsewhere in the Military Health System (MHS)

Item 1: Overview of Mission

- Consistent with NICoE's five-year strategic plan, two imperatives for the organization are to:
  - Advance the understanding of the comorbid TBI/PH disease state in order to improve diagnosis and treatment
  - Influence improvements in the quality of care through partnerships across the MHS, VA and civilian sector

Item 2: How effective is NICoE? How do you know? (Clinical)

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- The following six clinical evaluations are performed pre- and post-NICoE treatment
  - Satisfaction with Life Scale (SWLS)
  - Neurobehavioral Symptom Inventory (NSI)
  - Epworth Sleepiness Scale
  - PTSD Check List-Military (PCL-M)
  - Dizziness Handicap Inventory (DHI)
  - Headache Impact Test (HIT)
- Each of these evaluations have demonstrated quantitative improvement

Item 2: How effective is NICoE? How do you know? (Clinical)

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Outcome Measure	n	Admission Mean (Standard Deviation)	Discharge Mean (Standard Deviation)	p-value
Satisfaction with Life (SWLS) *	181	3.98 (1.84)	4.65 (1.67)	<0.001
Neurobehavioral Symptom Inventory (NSI)	178	46.04 (16.90)	35.13 (17.99)	<0.001
Epworth	181	10.38 (6.08)	9.31 (5.60)	.002
PCL-M	179	55.08 (15.59)	44.25 (18.33)	<0.001
Dizziness Handicap Inventory (DHI)	47*	44.62 (28.25)	37.11 (29.10)	<0.001
Headache Impact Test (HIT)	182	61.87 (8.15)	58.01 (8.72)	<0.001
Neurobehavioral Symptom Inventory (NSI) score for Headaches	115	3.10 (.816)	2.81 (.760)	.001

Data collected June 2011 – November 2012

*Satisfaction with Life scores reflect response for question 3: "I am satisfied with my life."
*The NICOE only administers the DHI to patients who present with dizziness as a symptom.

Item 2: How effective is NICoE? How do you know? (Clinical Experience of Care)

		Ratings Scale								
		Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5				
	Did not respond or rated N/A	**Rated 1**	**Rated 2**	**Rated 3**	**Rated 4**	**Rated 5**	**Total Responses**	**Satisfaction**	**Survey**	**N**
Part A	**163**	**24**	**57**	**335**	**1,869**	**7,517**	**9,965**	**96%**	Survey A	89
Part B	**110**	**52**	**87**	**225**	**1,336**	**5,779**	**7,589**	**95%**	Survey B	70
Total	**273**	**76**	**144**	**560**	**3,205**	**13,296**	**17,554**	**95%**	Survey A & B	159

Overall Patient Satisfaction Score is 95%

Free Text Feedback:

Positives: Team Approach, Team takes time to listen to me and they care

Negatives: Program needs to be longer, concern that they will return to care as usual

Source of Data: NICoE Patient Satisfaction Survey
Timeframe = September 2011 through October 2012

*126 questions are currently being asked; 4 questions are being reviewed for submittal
** Patient Satisfaction Score was calculated excluding N/A responses

Item 2: How effective is NICoE? How do you know? (Education)

- NICoE staff are developing more than 40 hours of wellness skill building and self-management education modules for patients and families based on Stress Inoculation Training (Meichenbaum, 1985) and SPIRIT SMART (Benson, et al., 2012)
- In a collaborative effort with First Lady Michelle Obama and Dr. Jill Biden's "Joining Forces" initiative, encouraged dissemination of curricula for TBI education across the nation's medical, nursing and allied health programs.
- NICoE leadership has provided train the trainer lectures for the Area Health Education Centers (Los Angeles, CA; Denver, CO; Dallas, TX; San Antonio, TX)
- Hosted 123 conferences/training seminars since opening on 24 June 2010. Notable conferences include:
  - Center for Disease Control Concussion Definition Working Group
  - Massachusetts Institute of Technology: Regeneration of Brain Synapses – Science, Implications, and Opportunities
- Initiated Project Extension for Community Healthcare Outcomes (ECHO) for TBI to enhance sharing of best practices through a tele-education network.

Item 2: How effective is NICoE? How do you know? (Research)

- 15 IRB approved and IRB pending research protocols. Examples include:
- Pathophysiology of Comorbid TBI/PH
  - Predictors of PTSD & Post Concussive Syndrome in OIF/OEF Veterans
  - NICoE Clinical Research Database to Study the Natural History of TBI and PH Outcomes in Military Personnel
- Improving Diagnosis
  - Differential Assessment of mTBI and PTSD Using Functional Brain Imaging Techniques (MEG and MRI)
  - Assessing the Impact of mTBI on Multisensory Integration While Maneuvering on Foot
- Improving Treatment
  - Enhancing Exposure Therapy for PTSD: Virtual Reality and Imaginal Exposure with Cognitive Enhancer
  - The ViRTICo-DP Trial: Virtual Reality Therapy and Imaging in Combat Veterans with Blast Injury and PTSD

Number of Active Studies in FY2012				*# of articles in Peer-Reviewed Publications*	*# of Poster/ Podium Presentations*
# Under Development	*# in IRB Review*	*# in Data Collection*	*# Completed*		
3	2	13	0	9	39

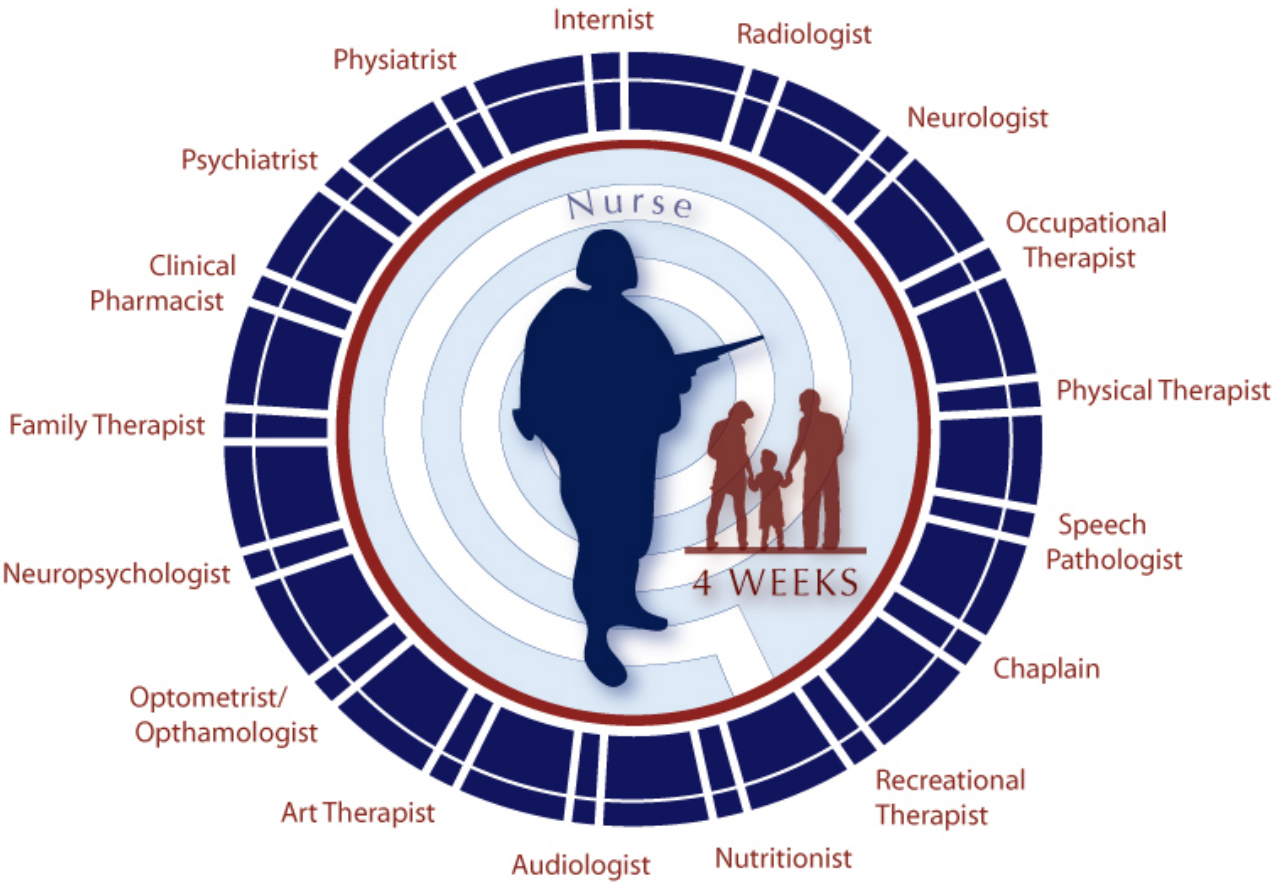
Item 3: Internal and External Factors Hindering Mission

- Staffing
  - No manning document, especially problematic when military members transfer
  - NICoE Network requirements will increase staffing needs
  - Civilian Hiring process slow

- Research (Funding and IRB)
  - Lack of dedicated funding impedes development of research projects and recruitment of qualified research staff
  - Single IRB to support research across the Network would minimize delays in initiating research projects; this issue is being addressed by NICoE, Walter Reed Bethesda and the OSD IRB offices.

- Business Rules
  - Current productivity measures hinder a patient centered, team approach to care for complex patients; recommend relief from use of RVU productivity metrics for satellites in conjunction with exploration of alternative measure of productivity

Item 8: Size and Composition of Clinical Staff



Item 8: Size and Composition of All Staff

	Vacant	Filled	Total
Administration	6	9	15
Clinical	9	44*	53
Research	7	15	22
Education	4	1	5
Contract	3	7	10

*An estimated 0.15 Clinical FTEs currently devoted to research with a goal of increasing to 0.25

As of 12/18/2012

Item 4: Primary Referral Patterns

Breakdown of 378 Patients Accepted by Service, October 2010 – November 2012

	119 Marine	161 Army	77 Navy	21 Air Force
Referral Sources by Service	Camp Lejeune, NC Camp Pendleton CBIRF/Indianhead, MD Cherry Point, NC Dover AFB, DE JT Boone BHC I, VA Little Creek NAB, VA NBHC New River Air Station, VA NHCL NH Okinawa NNMC USMC Base Quantico USMC HQ in Arlington, VA WRAMC	CBWTU-AR CBWTU-MA CBWTU-Rock Island, IL CBWTU-VA Fort Bliss, TX Fort Bragg, NC Fort Campbell, KY Fort Carson, CO Fort Detrick, MD Fort Drum, NY Fort Eustis , VA Fort Hood, TX Fort Huachuca, AZ Fort Knox, TN Fort Meade, MD Fort Riley, KS Pentagon Schofield Barracks, HI West Point WRAMC	Andrews Air Force Base Camp Lejeune, NC Camp Pendleton, CA Fort Belvoir, VA Great Lakes, IL Guantanamo Bay Little Creek NAB, VA Naples, Italy Navy Special Warfare NNMC Patuxent River, MD Quantico, VA NMC Portsmouth, VA NMC San Diego, CA Sigonella, Italy SOCOM Virginia Beach	AFMSA, Rosslyn, VA Andersen AFB, Guam Andrews Air Force Base Aviano AB, Italy Barksdale AFB Bolling Air Force Base Elgin AFB, FL Hurlburt Field, FL NNMC WRAMC

Item 4: Primary Referral Patterns

Due to the requirement that patients referred to NICoE have been receiving care, patients have been identified and primary care managers are the main vehicle of referral

The Primary Care Manager or Treatment Team initiates the referral

NICoE Treatment Team evaluates and determines appropriateness of referral

If accepted, command approval requested, memo and NICoE information sent, and commander input provided to NICoE Treatment Team

If not accepted, NICoE Evaluation Team provides recommendation for more appropriate placement or treatment necessary prior to re-evaluation.

SAMPLE OF 13 PATIENTS REFERRED

Providers	Number	%
PCM	7	54%
Neurologist	4	31%
Psychiatrist	1	7.5%
Emed	1	7.5%

Item 7: Addressing Treatment Non-Completion

- NICoE has few treatment non-completion challenges because focus is on evaluation and treatment planning
- Early departures from NICoE program
  - Limited in number: 2-3 patients have chosen to leave early, ~10 have had to leave the program or be transferred to residential care because of substance abuse issues or psychiatric acuity
  - For all premature departures, discharge report is completed and home base is contacted
  - Patient referred to specific specialty care as appropriate (e.g., inpatient psychiatry, residential substance abuse treatment, etc.)

Item 5: Meeting RWs' Needs Across the MHS

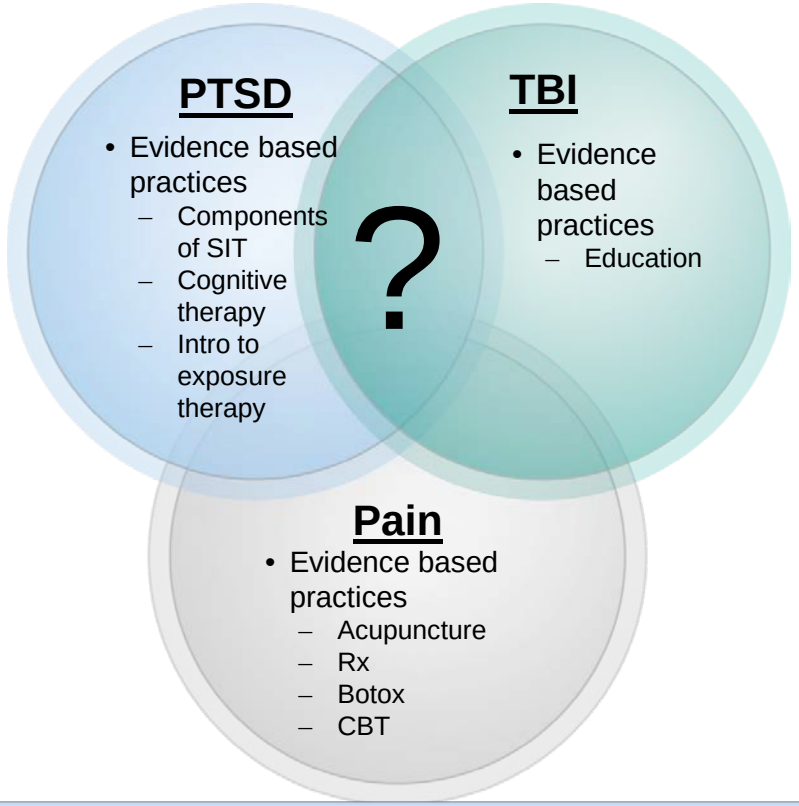
- Opportunities for the MHS to advance RW treatment
  - Coordinated and collocated, interdisciplinary care
  - Foster the NICoE Network to enhance opportunities for sharing of knowledge and best practices with the desired result of standardization of high quality care across services
  - Expand case based education efforts via ECHO
    - Project underway, but resource support (provider time, admin support, IT support and CME's) required to grow and sustain this effort
    - As this matures can increase reach to locations addressing RC needs
  - Coordinate and fund research efforts that will advance treatment

Item 6: Best/Promising Practices with PTSD and TBI

Specific promising practices currently in use at NICoE

- Interdisciplinary Team Model
- Patient and family centered holistic care
- Timely sequenced care
  - Goal Set 1: Safety, Sleep, Pain (physical, emotional, moral/ethical), Trust
  - Goal Set 2: Intensive Diagnostics, Decrease Polypharmacy, Enhance Self Awareness, Establish recovery goals
  - Goal Set 3: Enhance Self Management/Self Efficacy, Improve Relationships, Improve Function, Improve Performance
- Empowerment of the patient through skills based education
  - Patient and family education curriculum developed at NICoE is based on Stress Inoculation Training (SIT) and SPIRIT SMART
- Patients are introduced to the tenets of Evidence Based Treatment (EBT) to help identify modalities likely to meet patient approval and compliance
- Emphasis on improved patient outcome over throughput

Item 9: Evidence-Based Treatment Used by Clinical Staff



The NICoE seeks to accurately diagnose the co-morbid condition and test treatment modalities for the referring provider.

- There are no consolidated CPGs that take into consideration the limits of treating mTBI with PH conditions
  - Guidelines are written for a single disease entity
  - Some PTSD guidelines may contraindicate mTBI guidelines*
  - NICoE is working to inform the development of clinical practice guidelines for the treatment of mTBI with PH conditions

Item 10: Assessing Provider Use of Evidence-Based Treatments

- While providers introduce patients to evidence based treatment, definitive treatments cannot be completed in the 4 week time period
- Provider assessment/accountability
  - Every day, each provider presents their ongoing appraisal of the patients' progress and the modalities they have been using

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BACKUP

NICoE-ECHO Project

- Design:
  - Leveraging video teleconference technology to educate on TBI/PH for clinical providers based on University of NM's ECHO (Extension for Community Healthcare Outcomes)
    - Each session includes case presentations and a didactic presentation
  - Feedback from participants is collected at each session and at 6 month follow up regarding how ECHO changed their practice
- Purpose:
  - Share clinical knowledge on TBI/PH
  - Support development of the NICoE Network between NICoE Institute and the NICoE Satellites
- Past Sessions
  - First sessions conducted on 28 September and 6 December
  - Participants were NICoE Institute and future NICoE Satellite locations Ft. Belvoir and Camp Lejeune
    - Participants will be added each session
  - 26 CEU's and 48 CEU's were offered during the first and second sessions respectively

Care Referral

Active duty service members with a mild to moderate TBI complicated by other impairing PH conditions, who are not responding to conventional therapy and who are having challenges with military duty requirements and interpersonal relationships

The profile of service members seen includes:

- Active Duty (to include National Guard and Reservists on orders)
- Mild to moderate TBI with PH conditions (OEF/OIF/OND related)
- Persistence of symptoms despite receiving treatment
- No active/untreated substance abuse disorder (no potential for withdrawal)
- Service Members will be assigned temporary duty to the NICoE on unit funded travel orders as required (lodging at the Fisher House will be provided at no cost to the Service Member)
- Capable of participating in an Intensive Outpatient Level of Care, including:
  - Able to perform all ADLs and live independently in a Fisher House at WRNMMC
  - Able to independently obtain/provide for their own food, transportation and conduct their own financial affairs
  - Not a danger to self or others
  - Not in need of services requiring a level of nursing care or medical monitoring higher than what can safely be provided in an outpatient setting

NICoE Goal Sets

The NICoE Approach systematically targets specific areas of focus with the goal of reducing suffering, instilling hope and addressing moral injury:

Goal Set 1

~ Day 1 and throughout program

- Ensure Safety
- Improve Sleep
- Decrease Physical Pain
- Decrease Psychological Pain
- Decrease Moral/Ethical Pain
- Facilitate Positive Use of the Health Care System/Restore Trust in the System

Goal Set 2

~ Day 1 – 4 and throughout program

- Intensive/Integrative Diagnoses
- Decrease Polypharmacy
- Self-Awareness – patient and family centric approach to understand problems preventing recovery
- Establish Goals for recovery

Goal Set 3

- Enhance Self-Management/Self-Efficacy
- Improve Relationships (family, chain of command, peers)
- Improve Functional Cognitive Performance
- Improve Psychosocial Functioning
- Improve Physical Performance