



VA Polytrauma System of Care

Presentation to Recovering Warrior Task Force

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Lucille Beck, PhD

Chief Consultant, Rehabilitation and Prosthetic Services

Inquiry from Task Force

- Describe the polytrauma system of care from the MTF to the community
- What type of polytrauma and rehab services will the current generation of Veterans need long term?
- How prepared is VA to care for the most severely injured?
- What types of issues are experienced with information and records transfer?

VA Rehabilitation and Prosthetic Services

Meeting the rehabilitation and prosthetic needs of Veterans:

- Providing lifelong support, many with special needs including:
 - Over 2,500 moderate-severe brain injured (Veterans and Service Members) inpatient rehabilitation stays since 2003
 - 38,000 with major limb amputations
 - 21,000 with spinal cord injuries and disorders
 - 50,000 blind and visually impaired
- Providing advanced care, technologies, and continuity of services for Veterans transitioning from DoD to VA that are necessary to maximize function and independence



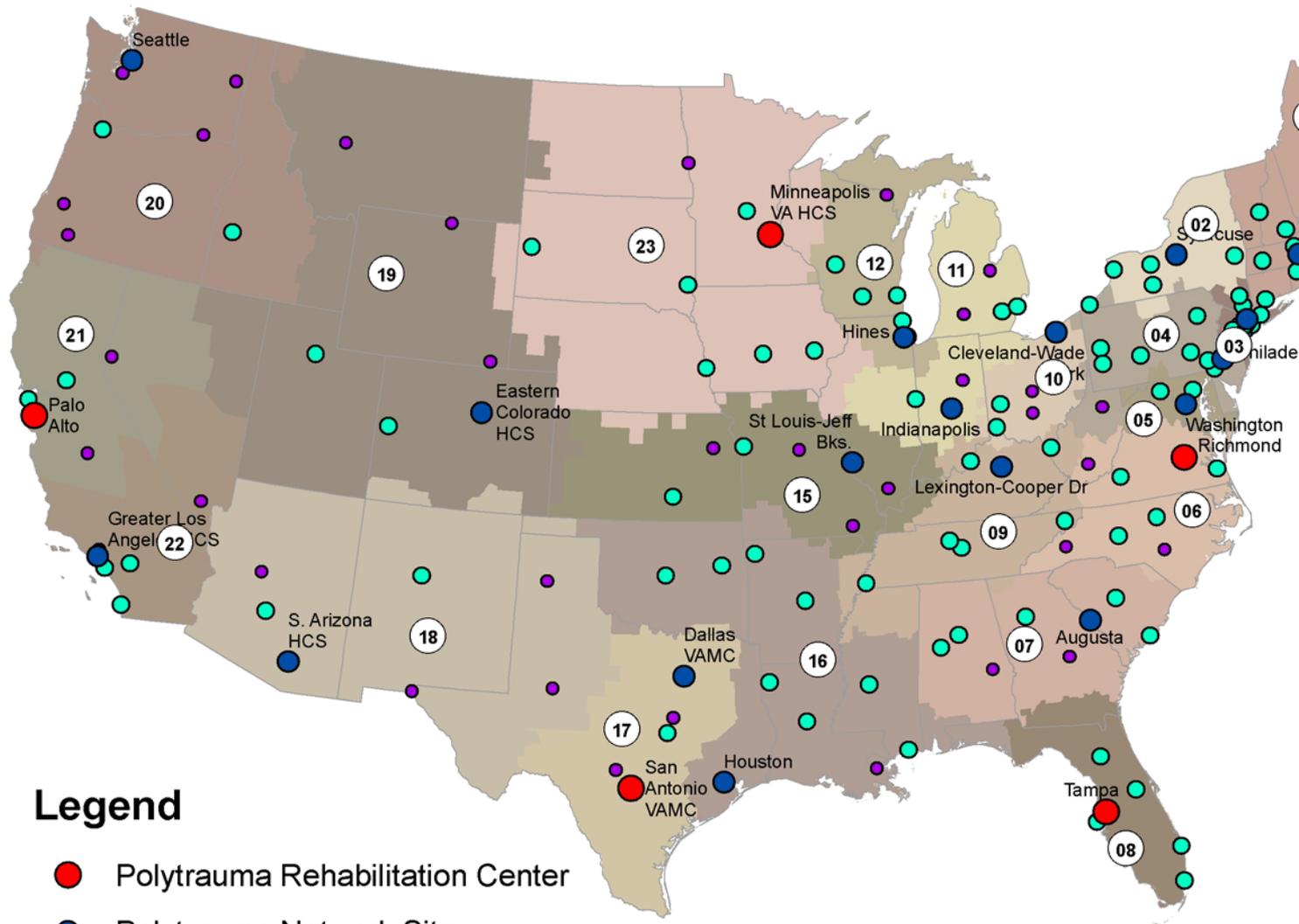
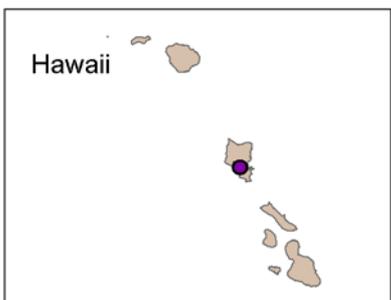
VA Polytrauma System of Care Evolution

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- **Oct 11:** 5th PRC / 23rd PNS at San Antonio opens, additional PSCTs (86)
 - **Apr 09:** Assistive Technology Labs added at Polytrauma Rehabilitation Centers
 - **Sep 08:** Additional Polytrauma Support Clinic Teams (82)
 - **Jun 08:** Amputation System of Care designated (100+ sites)
 - **Mar 08:** Additional Polytrauma Network Site (22)
 - **Jul 07:** Polytrauma Transitional Rehabilitation Program initiated
 - **Apr 07:** VA TBI Screening / Evaluation Program for OEF/OIF Veterans implemented
 - **Mar 07:** 76 Polytrauma Support Clinic Teams, 50 Polytrauma Points of Contact
 - **Jan 07:** Emerging Consciousness Program initiated
 - **Jul 06:** Polytrauma Telehealth Network established
 - **Dec 05:** 21 Polytrauma Network Sites Designated (1 in each VISN)
 - **Feb 05:** TBI Lead Centers designated as Polytrauma Rehabilitation Centers; VA Polytrauma System of Care established
 - **1992:** Defense and Veterans Brain Injury Consortium (DVBIC) initiated
 - **1983:** MOU established for VA to provide acute rehab for SCI, blind, amputees to DoD

VA Polytrauma System of Care

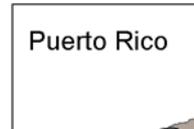
- 110 specialized rehabilitation sites across VA:
 - 5 Polytrauma Rehabilitation Centers
 - 23 Polytrauma Network Sites (1-2 per VISN)
 - 87 Polytrauma Support Clinic Teams (2-8 per VISN)
 - 39 Polytrauma Points of Contact
- DoD/VA Memorandum of Agreement that VA may provide rehabilitation services for Service Members with TBI, SCI, Polytrauma, and Amputation
- PSC locations matched geographic distribution of Veterans and Service Members with VA locations of clinical expertise
 - Most are from “rural” areas (>30 miles) surrounding major cities

VHA Polytrauma/TBI System of Care FY 2013

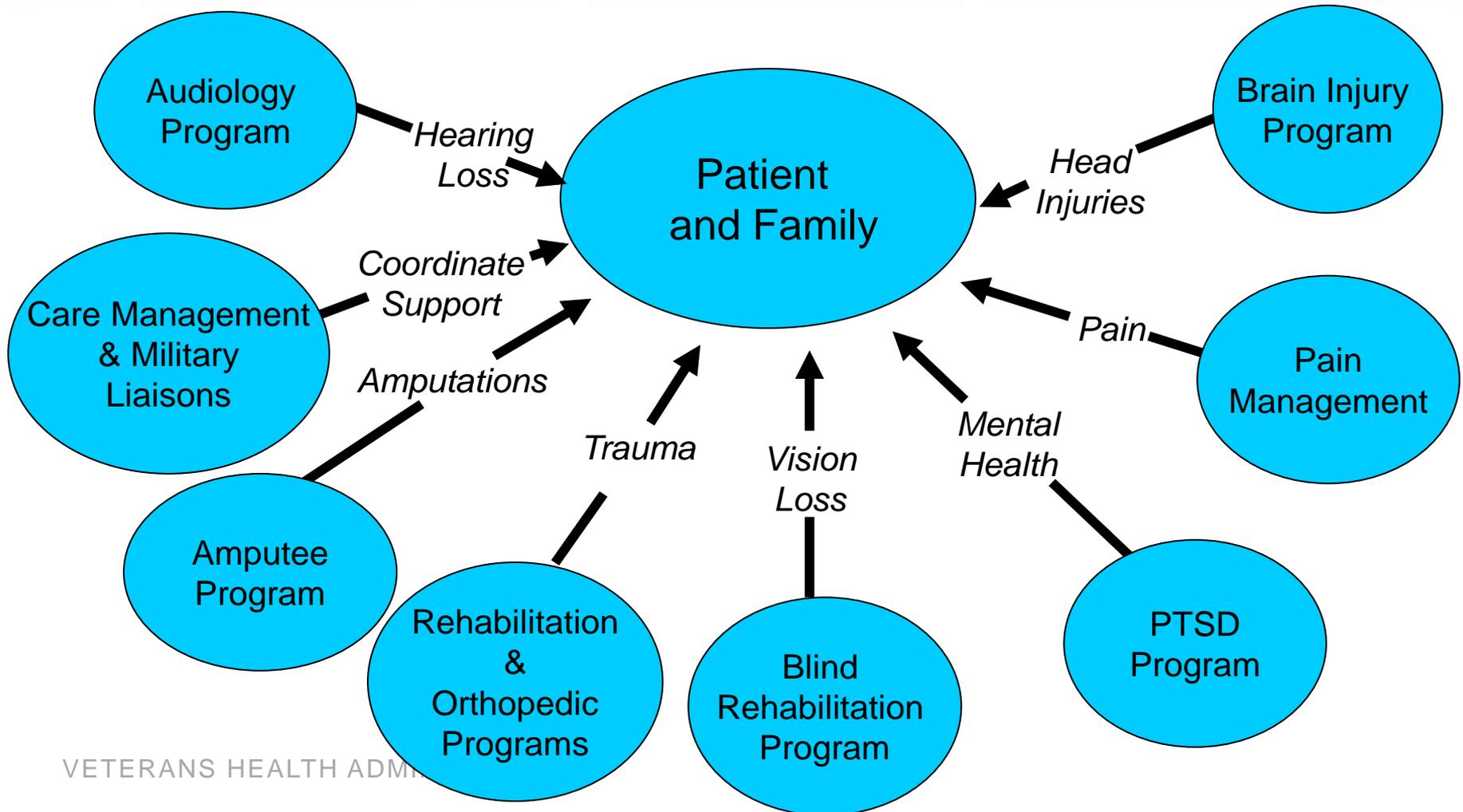


Legend

- Polytrauma Rehabilitation Center
- Polytrauma Network Site
- Polytrauma Support Clinic Team
- Polytrauma Point Of Contact



Integration of Comprehensive Rehabilitation Care



Continuum of Special Programs

- Transitional Rehabilitation Program
- Emerging Consciousness Program
- Polytrauma Telehealth Network
- Assistive Technology Centers of Excellence
- Advanced Technology Applications
- Drivers Training Programs (Simulator/Road)
- Amputation System of Care
- Blind Rehabilitation
- Mild TBI Screening and Evaluation Program

Key to Success

- Polytrauma and Blast-Related Injuries Quality Enhancement Research Initiative (QUERI):
 - Assessed needs / input of patients, family, in order to develop, evolve, and implement new models of care based on best evidence
 - Portfolio includes 40 funded studies, 34 publications associated with QUERI-related grants
- VA / DoD Collaborations
 - VA Polytrauma Nurses assigned to Walter Reed and Bethesda
 - Use of Polytrauma Telehealth Network to transfer patients from Clinical Team-to-Clinical Team
 - VA staff assigned to military medical centers, treatment facilities, Defense Centers of Excellence, and DoD Center for Intrepid
 - Military liaisons assigned to Polytrauma Rehabilitation Centers

Key to Success

- Collaboratively developed initiatives benefitting medicine:
 - Emerging Consciousness Care protocol
 - Clinical practice guidelines for amputation care
 - Clinical practice guidelines for PTSD
 - Common definition for mild TBI and clinical practice guidelines for mild TBI
 - Revised clinical codes (ICD-9-CM) to improve identification, classification and tracking of TBI
 - TBI Screening tool utilized for OEF/OIF Veterans
 - Uniform training curriculum for family members providing care and assistance to Servicemembers and Veterans with TBI
- Polytrauma Rehabilitation Centers partnership with TBI Model Systems to benchmark VA outcomes with those of national TBIMS Centers
- OEF/OIF Veterans TBI Health Registry

Polytrauma Rehabilitation Center Inpatients (March 2003 through September 30, 2013)

2,735 total patients have received (inpatient) care

1,532 (56%) were Active Duty SMs

- *107 new AD patients in FY13*

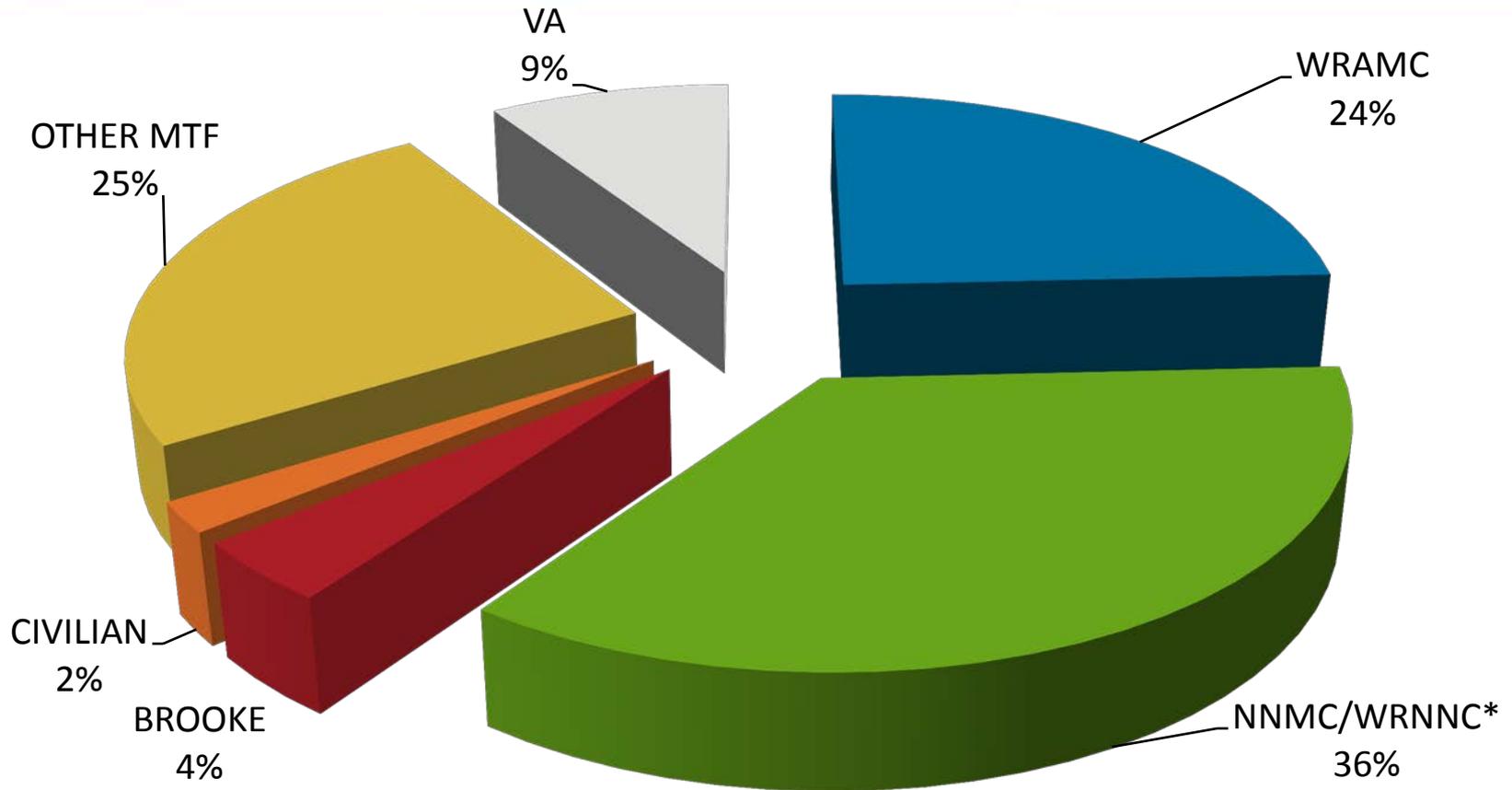
1,132 of SMs (74%) were injured in foreign theatre

- *54 new patients in FY13*

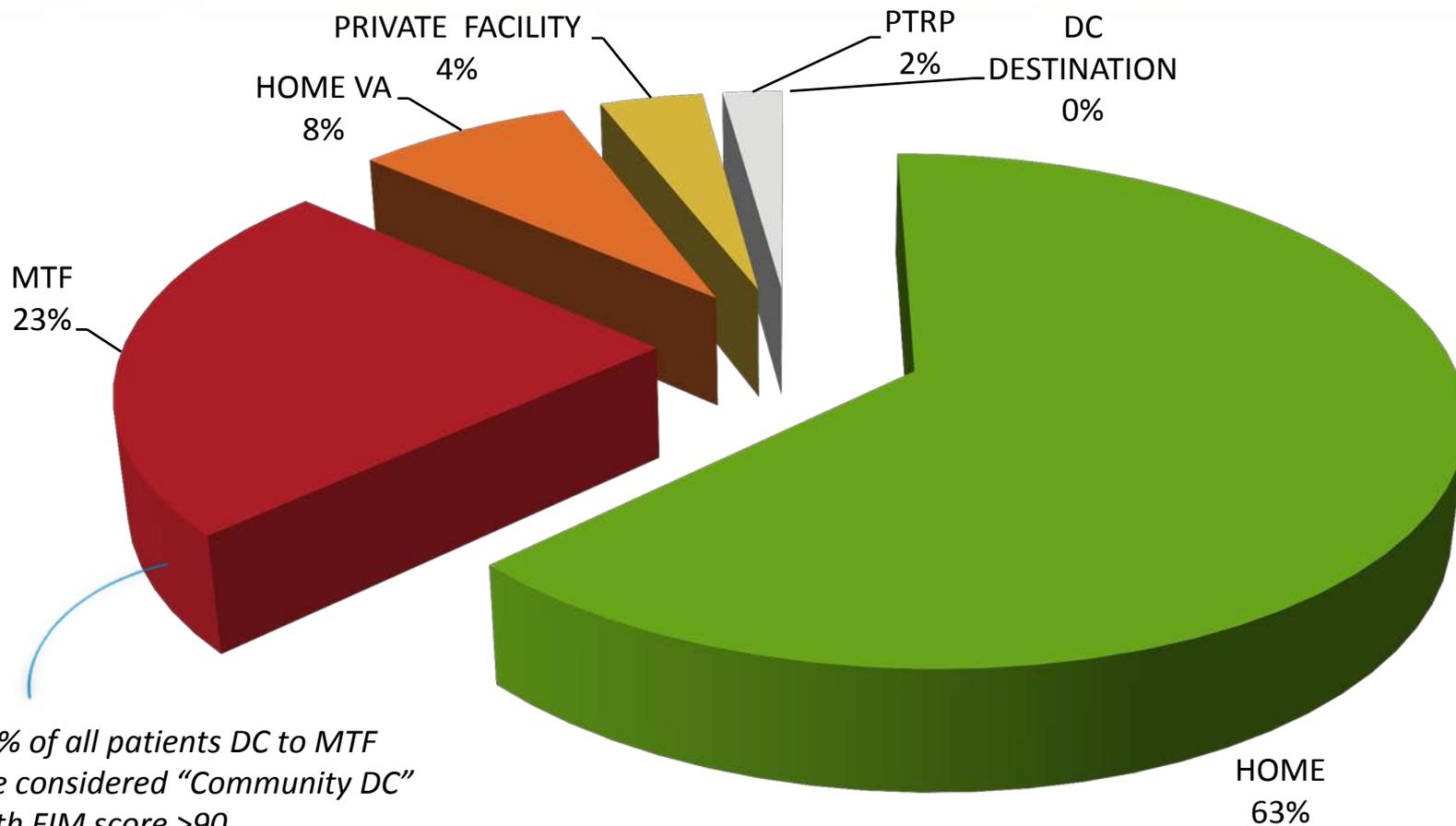
1,203 Veterans

- *140 new patients in FY13*

Referrals to PRCs for Foreign Theatre Injured (FY2003- FY2013)



PRC Discharge for Foreign Theatre Injured (FY2003 – FY2013)



Current Utilization of PRCs

- Occupancy rates for FY2013: range from 53% - 88%
- Length of stay new foreign theatre cases in FY2013: 36.2 days
FY2003 – FY2013:
 - More severely injured: average 85.7 days LOS
 - Less severely injured: average 28.5 days LOS
- About 83% of foreign theatre injured treated in FY2013 have a 'Community Discharge'
 - 63% to Home
 - 20% back to Military

Polytrauma Telehealth Network

- Links VA all PSC sites
- Capacity to link with DoD sites
- High-resolution videoconferencing
 - Remote clinical provider-to-clinical provider consultation
 - Facilitates patient transfers, care coordination, discharge planning
 - Remote evaluation for specialized services
 - Educational resource for providers and families



Sharing of Patient Records

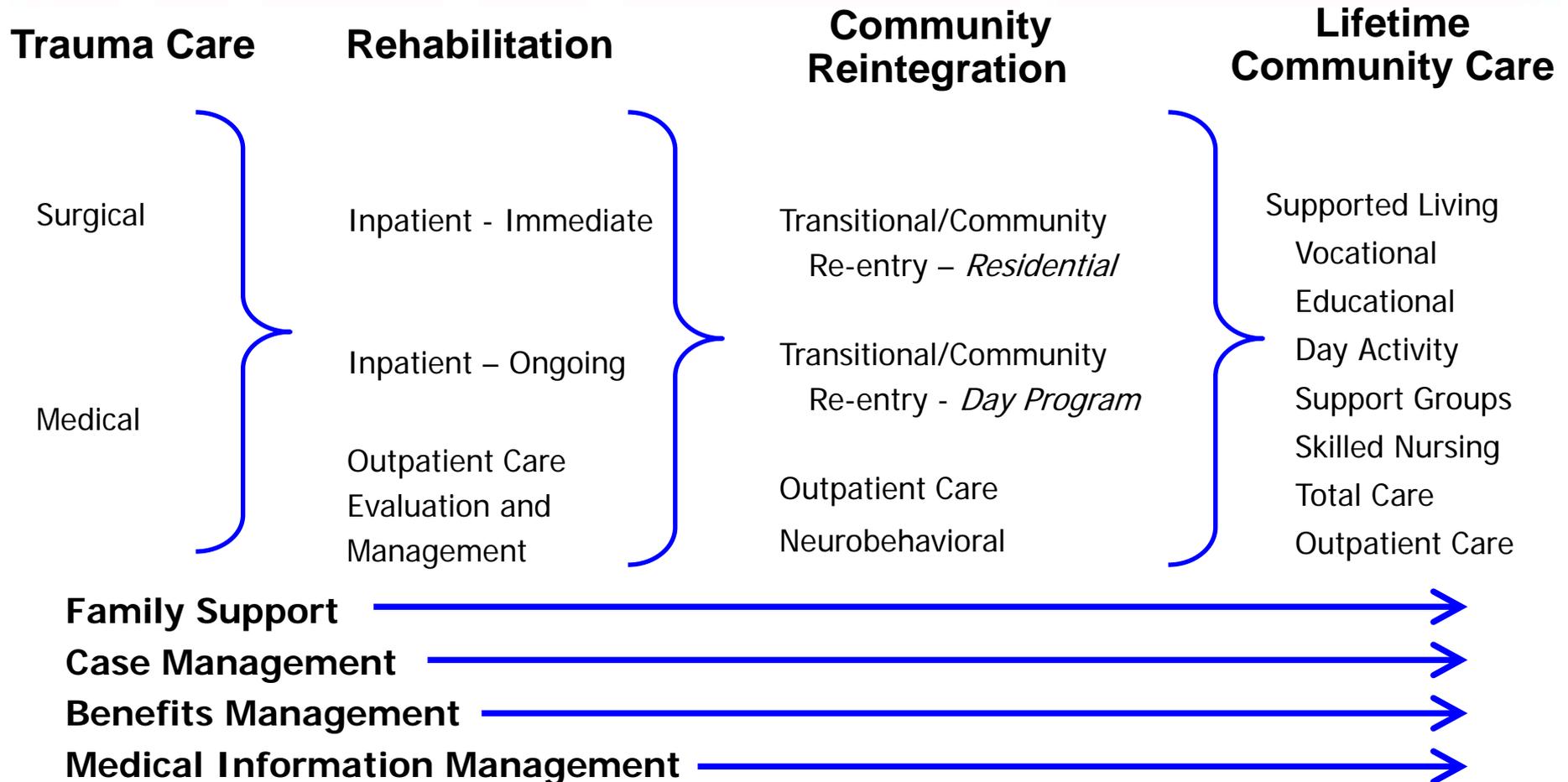
JANUS Joint Legacy Viewer

- Web-based Graphical User Interface (GUI) with integrated view of VA and DoD patient electronic health records
- Improved ability to transition OEF/OIF/OND Wounded Warriors into the VA with stable, reliable access to DoD outpatient records in the AHLTA system
- Improved quality and efficiency of care delivery for Severely Wounded Warriors in the Polytrauma Rehabilitation Centers
- Health Information Exchange viewer with improved usability as compared to current systems (e.g., improvements in latency and ability to match directly to clinical workflows)

JANUS Viewer – Current Pilot Sites

- Audie L. Murphy VA Hospital (STVHCS)
- North Central Federal Clinic (STVHCS)
- VA Palo Alto Health Care System
- Minneapolis VA Health Care System
- James A. Haley's Veterans Hospital
- Hunter Holmes McGuire VA Medical Center
- Alaska VA Healthcare System
- Joint Base Elmendorf-Richardson Hospital
- Walter Reed National Military Medical Center

Continuum of Integrated Healthcare



Polytrauma Case Management

- All patients receiving rehabilitation services within Polytrauma System of Care are assigned a Polytrauma Case Manager (PCM)
- 234 PCMs with caseloads distributed as follows:
 - 1 PCM for every 6 PRC inpatients - provide 24 / 7 coverage
 - 1 PCM for every 10 inpatients in Polytrauma Transitional Rehabilitation Program
 - PCM for patients at Polytrauma Network Sites and Polytrauma Support Clinic Teams, based on case mix and geographic region (rural versus urban)
- Specialty case management includes:
 - Coordination of services
 - Ongoing evaluation of rehabilitation, psychosocial needs
 - Family education and support services
 - Partnership with other VA and DoD case managers to assure continuity in care management from battlefield to home

Long Term (>5 Years) Needs after TBI

Literature Review of Civilian Experience

- Mental Health care: 15-50+%
- General Medical care: 100%
- Medical Rehabilitative Services: 0-100%
- Vocational Rehabilitation (supported employment): 20-40%
- Access to Assisted Living (for placement or respite): <5%
- Community Living Center / Nursing Home care: <5%

Combat-Associated mTBI Long Term Needs

(Anticipated from Literature + VA Experience)

- Long-term access to Mental Health care: 50%
- Long-term access to Primary Care: 100%
- Long-term access to Medical Rehabilitative Services: <10%
- Vocational Rehabilitation (supported employment): 50-70%
- Access to Assisted Living (for placement or respite): <1%
- Community Living Center / Nursing Home care: <1%

Addressing Long Term Services in PSC

VA initiatives include:

- Oct 2008: VA Geriatrics and Extended Care Polytrauma Rehabilitation Task Force
- Jun 2009: Polytrauma Rehabilitation and Extended Care Workgroups
- Oct 2012: Polytrauma Lifelong Care Summit
- Ongoing:
 - VHA Steering Committee Long Term Support for Seriously Injured Younger Veterans
 - VHA Advisory Committee on Care for Veterans with TBI

Addressing Long Term Services in PSC

VHA continually defines, develops, and implement lifelong care strategies for severely injured patients, such as:

- Caregiver Services (respite options, etc)
- Residential Care Options (Assisted Living for TBI Pilot)
- Staged Restorative Program (inpatient admissions for re-evaluations, periodic rehabilitation, family training)
- Enhancing the transition to home (home-based primary care, secure messaging, home clinical video telehealth)
- Lifetime Care Needs (PACT collaborations for Veterans with persistent symptoms or functional deficits after completing rehabilitation)
- Vocational Rehabilitation (Supported Employment)
- Long Term Institutional Care (Community Living Centers, Medical Foster Home)

Challenges

- Varying waiver requirements across TRICARE regions to authorize VA care
- Continuity of care for former Service Members that are never referred or identified to VA



VA
HEALTH
CARE

Defining
EXCELLENCE
in the 21st Century

VA Polytrauma System of Care

- OEF/OIF/OND Service Members are eligible for care within VA for 5 years after service (~ 55% of eligible OEF/OIF/OND Veterans utilize VA services compared to 45% of all other Veteran groups)
- In Fiscal Year 2013:
 - 50,516 unique Veterans were served in PSC (outpatient) clinics
 - 1,381 unique patients were treated in PSC inpatient units, of which as many as 67% were Service Members comprised in a given week

PSC Accomplishments

FY2005 - FY2013

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- More than 2,700 inpatients received PRC (inpatient) care
- More than 570 patients received PTRP (residential) care after inpatient services
- More than 183,000 unique individuals treated in PSC (outpatient) clinics
 - More than 980,000 total PSC (outpatient) encounters
- More than 3,400 telehealth encounters
- More than 760,000 OEF/OIF Veterans screened for TBI
- More than 107,000 Comprehensive TBI Evaluations

Polytrauma Rehabilitation Centers

- Five Level 1 medical centers providing the highest echelon of comprehensive medical and rehabilitative services (inpatient / outpatient) for the most complex and severely injured:
 - 12-18 inpatient bed unit providing acute interdisciplinary evaluation, medical management, and rehabilitation (70+ beds total)
 - 10 inpatient bed residential Transitional Rehabilitation Program (50+ beds total)
 - Emerging Consciousness Program (15+ beds total)
 - Assistive Technology Lab
- National VA leaders in polytrauma / TBI providing consultation, medical education, research, and program development for PSC
- Accredited by Commission on Accreditation of Rehabilitation Facilities (CARF) for inpatient TBI and general rehabilitation
- Collaborate with DVBIC and national TBI Model Systems project

Polytrauma Network Sites

- 23 regional Level 2 medical centers providing full range of comprehensive follow-on medical and rehabilitative services (inpatient and outpatient) for patients recovering from polytrauma and TBI (1-2 per VISN):
 - Develop and support patient's rehabilitation plan through comprehensive interdisciplinary, specialized team
 - Serve as resource and coordinate services for TBI and polytrauma across VISN (VHA, DOD, private sector)
- VISN leader for polytrauma/TBI consultation, education, monitoring outcomes, and program development for system of care
- Accredited by CARF for inpatient general rehabilitation (300+ inpatient beds available)

Polytrauma Support Clinic Teams

- 87 Level 3 medical centers with dedicated outpatient interdisciplinary teams of rehabilitation specialists
- Provide specialty rehabilitation care closer to home
 - Evaluate and develop individualized treatment plan
 - Provide interdisciplinary rehabilitation care and long-term management of patients with rehabilitation needs
 - Coordinate clinical and support services for patients and families
- Conduct comprehensive evaluations of patients with positive TBI screens, develop and implement rehabilitation and community re-integration plans

Polytrauma Point of Contact

- Designated at 39 medical centers without specialized rehabilitation teams
- Designated VA primary care staff member knowledgeable in the Polytrauma System of Care
- Coordinate case management and referral within Polytrauma System of Care
- Knowledgeable of rehabilitation services provided within local community, and facilitates referral for such services as necessary

Transitional Rehabilitation

Polytrauma Transitional Rehabilitation Program

- Located at each PRC site, linked in with local and regional military treatment facilities
- 10-20 beds for extended stay rehabilitation (1-6 months)
- Focus on community reintegration and vocational rehabilitation
- Additional specialized treatment and program support provided as necessary to include:
 - PTSD services
 - Substance abuse
 - Pain management
 - Drivers Training Rehabilitation
 - Vocational Rehabilitation

Polytrauma Transitional Rehabilitation Program FY2009-FY13

Average Length of Stay

70.2 days

Average Age

34.6

**520 Unique
Patients**

OEF/OIF

26.0%

Female

5.0%

Assistive Technology (AT) Centers

- Comprehensive AT Teams established at 5 PRC sites
 - Rehabilitation Engineers
 - RESNA-certified therapists
 - Cognitive Therapists
 - Mobility Therapists
 - Collaboration with U Pitt Center for Assistive Technology
 - CARF preparation underway at all sites
 - Uniform templates for all assessments and treatments
- Virtual consultation through telehealth across PSC
- Equipment and services available to any Veteran with need

Assistive Technology



Balance/Vestibular



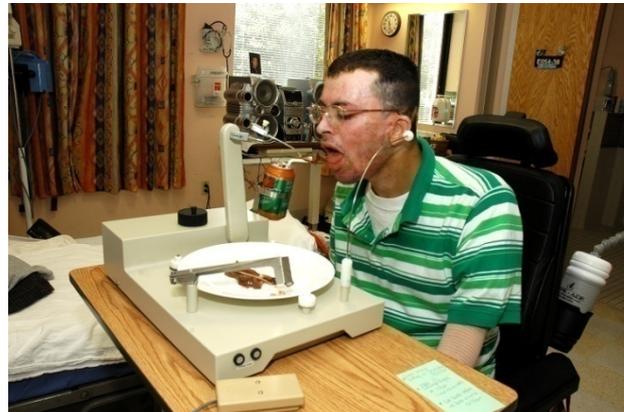
Driving Simulator



Erigo



Eye Gaze



Assisted Eating



Laser cane

Emerging Consciousness Program

- Emerging Consciousness Program
 - 2-4 beds at each PRC
 - Common assessment and management protocols
 - Linked with academic centers who are leaders in DOC
 - Embedded Epilepsy Centers of Excellence



Emerging Consciousness Program Outcomes

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Outcomes of the VHA Emerging Consciousness:

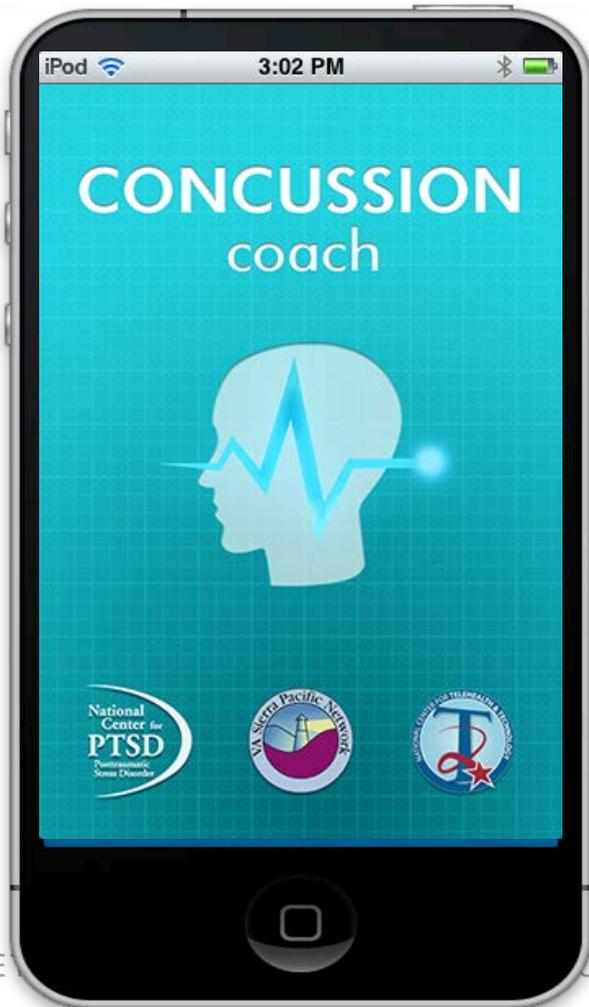
- >166 patients
- Consecutive admissions at 4 PRCs 2003-2011
- Main outcome - emergence to consciousness based on:
 - Coma Recovery Scale - R
 - Object Use (feeding)
 - Communication (responding to commands)
 - Rancho 3 or higher
- Emergence from coma in 70% blast TBI, 85% non-blast TBI and 60% anoxic BI
- Of those who emerge, 75% do so by 4 months post-injury

Traumatic Brain Injury (TBI) from GWOT

- 7-12% of OEF-OIF-OND Veterans who received medical care in the VA have confirmed TBI
 - ~ 60,000 total (of 750,000 screened)
 - 95% mild
 - 5% moderate-severe (2,500-3,000)
- 73% of Veterans with symptomatic mild TBI also have mental health diagnosis, most commonly Posttraumatic Stress Disorder
- > 90% also have either PTSD or chronic pain disorder

Source: www.queri.research.va.gov/ptbri/docs/vha-tbi-screening-eval.pdf

Concussion Coach



Concussion Coach is a mobile phone application for Veterans and Service members who experience symptoms that may be related to brain injury

It can be used as a **stand-alone** education and symptom management tool, **or to augment** face-to-face care with a healthcare professional

Completed Beta testing and pending release

Ongoing Polytrauma Education

- Veterans Health Initiative: TBI Independent Study Course
 - 200+ page handbook-based course, released April 2010
 - Web based course launched February 2011
 - Completed by over 19,500 providers
 - Developed by VA PM&RS experts, in collaboration with colleagues from Mental Health, Primary Care, Pharmacy, DVBIC, and academia.
 - <http://www.publichealth.va.gov/docs/vhi/traumatic-brain-injury-vhi.pdf>
- More than 50 multimedia presentations available on VA website from VA and DoD
- Frequent live presentations available via satellite broadcasts
- TBI 'mini-residencies' offered at Polytrauma Network Sites

Amputation System of Care

- Comprehensive rehabilitation system to care for Veterans and Active Duty Servicemembers with amputations transitioning to the VA. Integrated with PSC to leverage skills with care needs.
 - Regional Amputation Centers (7)
 - Inpatient, outpatient, prosthetics, assessment
 - Polytrauma Amputation Network Sites (15)
 - Outpatient, prosthetics, assessment
 - Amputation Clinic Teams (100)
 - Assessment, outpatient
 - Amputation Points of Contact (30)
 - Primary care, case management

Key VA / DoD Partnerships

- VA is a collaborative strategic advisor and member of:
 - Joint Executive Committee and Health Executive Committee
 - DoD/VA Interagency Care Coordination Committee
 - Joint Task Area Steering Committee for Blast-induced Brain Injury Studies
 - DoD Joint Program Committees for PTSD and TBI
 - DoD Centers of Excellence Oversight Committee
 - Recovering Warrior Task Force