VA Polytrauma System of Care

Presentation to Recovering Warrior Task Force
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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

- **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
• 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
  o Most are from “rural” areas (>30 miles) surrounding major cities
Integration of Comprehensive Rehabilitation Care

- Audiology Program
- Brain Injury Program
- Care Management & Military Liaisons
- Pain Management
- Amputee Program
- PTSD Program
- Rehabilitation & Orthopedic Programs
- Blind Rehabilitation Program
- Head Injuries
- Pain
- Trauma
- Vision Loss
- Amputations
- Hearing Loss
- Coordinate Support
- Mental Health

Patient and Family
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):
  o Assessed needs / input of patients, family, in order to develop, evolve, and implement new models of care based on best evidence
  o Portfolio includes 40 funded studies, 34 publications associated with QUERI-related grants

• VA / DoD Collaborations
  o VA Polytrauma Nurses assigned to Walter Reed and Bethesda
  o Use of Polytrauma Telehealth Network to transfer patients from Clinical Team-to-Clinical Team
  o VA staff assigned to military medical centers, treatment facilities, Defense Centers of Excellence, and DoD Center for Intrepid
  o Military liaisons assigned to Polytrauma Rehabilitation Centers
Key to Success

• Collaboratively developed initiatives benefitting medicine:
  o Emerging Consciousness Care protocol
  o Clinical practice guidelines for amputation care
  o Clinical practice guidelines for PTSD
  o Common definition for mild TBI and clinical practice guidelines for mild TBI
  o Revised clinical codes (ICD-9-CM) to improve identification, classification and tracking of TBI
  o TBI Screening tool utilized for OEF/OIF Veterans
  o 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 benchmarks 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)

- **WRAMC**: 24%
- **NNMC/WRNNC***: 36%
- **OTHER MTF**: 25%
- **CIVILIAN**: 2%
- **BROOKE**: 4%
- **VA**: 9%

*WRNMMC created in Q1 FY12*
84% of all patients DC to MTF are considered “Community DC” with FIM score >90
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

Trauma Care
- Surgical
- Medical

Rehabilitation
- Inpatient - Immediate
- Inpatient - Ongoing
- Outpatient Care Evaluation and Management

Community Reintegration
- Transitional/Community Re-entry - Residential
- Transitional/Community Re-entry - Day Program
- Outpatient Care Neurobehavioral

Lifetime Community Care
- Supported Living
- Vocational
- Educational
- Day Activity
- Support Groups
- Skilled Nursing
- Total Care
- Outpatient Care

Family Support
Case Management
Benefits Management
Medical Information Management
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
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 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

- 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:
  o 12-18 inpatient bed unit providing acute interdisciplinary evaluation, medical management, and rehabilitation (70+ beds total)
  o 10 inpatient bed residential Transitional Rehabilitation Program (50+ beds total)
  o Emerging Consciousness Program (15+ beds total)
  o 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
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%

Source: Treatment Specialty Code Cube
Treatment Specialty Code 82 @ PRC Facilities
Data pulled 10/21/13
Assistive Technology (AT) Centers

• Comprehensive AT Teams established at 5 PRC sites
  o Rehabilitation Engineers
  o RESNA-certified therapists
    – Cognitive Therapists
    – Mobility Therapists
  o Collaboration with U Pitt Center for Assistive Technology
  o CARF preparation underway at all sites
  o 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
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
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

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.

- 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
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