Cognitive Rehabilitation in mTBI Information Brief

Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury

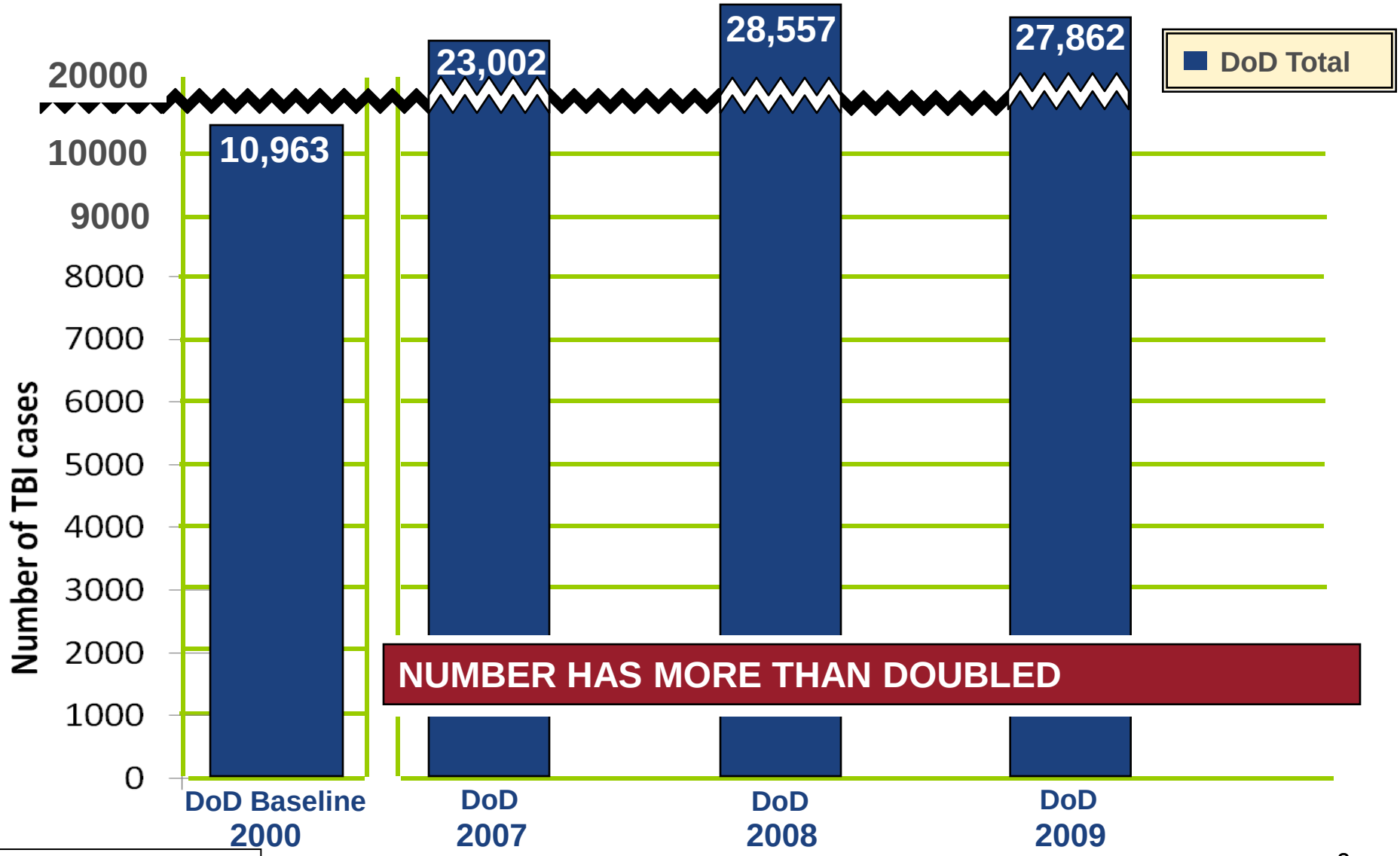
July 21, 2010

DEFENSE CENTERS OF EXCELLENCE
For Psychological Health & Traumatic Brain Injury

Purpose

- Provide an update on the Service-wide status of the HA Memo “Guidance for Implementation of the Cognitive Rehabilitation for Mild TBI Clinical Guidance Document”
- Request assistance from the forum in the implementation of the policy

TBI Surveillance: DoD Totals



Data Source: AFHSC

Current Situation

- Accelerating but still small body of scientific literature supporting cognitive rehabilitation in mTBI
- DoD Programs (current visibility):
  - USA: 2 programs, 6 sites with some capability
  - USAF: 2 programs
  - USN: 2 programs

- Consensus Conference – April 2009
  - 2-day; 50 members
  - DoD/DVA representation
  - Quad Service representation
  - SOCOM/Reserve Affairs representation
  - Civilian Subject Matter Experts

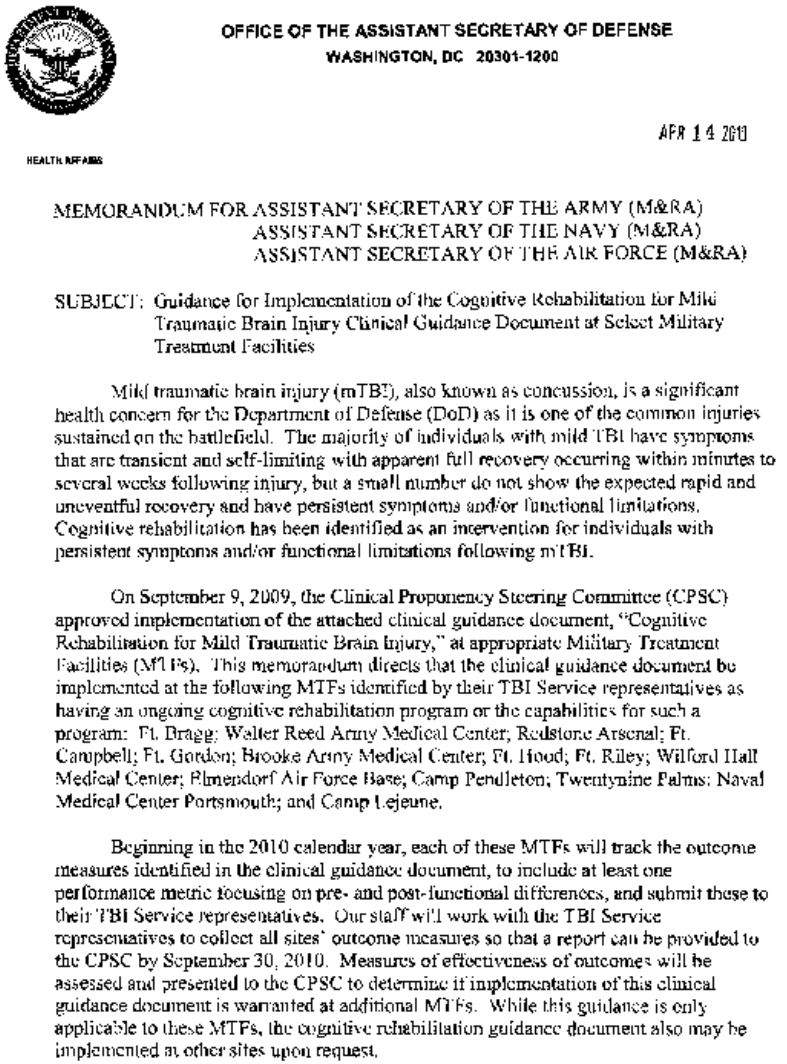
Apr 27-28, 2009 – Cognitive Rehabilitation in mTBI Conference Report: Recommended

Referral →	Intake Process →	Assessment →	Cog Rehab →	Re-Eval →	Discharge
•Can be initiated by any provider •TBI w/cog symptoms or complaints	•Evaluate for appropriate referral/other conditions that preclude cog rehab	•Neurological Assessment •Cognitive Assessment	•Targeting appropriate domains •Evidence-based interventions •Holistic approach •Team leader •Regular communication across providers	•Objective measures for re-evaluation to monitor progress and refine treatment goals	•Objective discharge criteria and defined plan •Aligned with other elements of a TBI Program •Objective outcome measures

Ideal Interdisciplinary Team: Primary Care/Neurology/PM&R, Neuropsychology, Mental Health, SLP, OT with coordination with Specialty Clinics as needed (i.e., Pain Clinic)

Policy signed Apr 14 2010 directed:

- Implementation at 14 MTFs
- Subsequent discussion with the Services resulted in modification of the 14 to the following: Ft. Bragg, WRAMC, Redstone Arsenal, Ft Campbell, Ft Gordon, BAMC, Ft Stewart, Ft Riley, Wilford Hall, Elmendorf, Camp Pendleton, Portsmouth, Camp Lejeune, and San Diego. (Out: Ft Hood and 29 Palms) (In: Ft Stewart, San Diego)
- Beginning in the 2010 calendar year each MTF will track outcome measures identified in the Clinical Guidance Document.
- Report back to the CPSC by Sept 30, 2010



OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-1200

APR 14 2010

HEALTH AFFAIRS

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (M&RA)
ASSISTANT SECRETARY OF THE NAVY (M&RA)
ASSISTANT SECRETARY OF THE AIR FORCE (M&RA)

SUBJECT: Guidance for Implementation of the Cognitive Rehabilitation for Mild Traumatic Brain Injury Clinical Guidance Document at Select Military Treatment Facilities

Mild traumatic brain injury (mTBI), also known as concussion, is a significant health concern for the Department of Defense (DoD) as it is one of the common injuries sustained on the battlefield. The majority of individuals with mild TBI have symptoms that are transient and self-limiting with apparent full recovery occurring within minutes to several weeks following injury, but a small number do not show the expected rapid and uneventful recovery and have persistent symptoms and/or functional limitations. Cognitive rehabilitation has been identified as an intervention for individuals with persistent symptoms and/or functional limitations following mTBI.

On September 9, 2009, the Clinical Proponency Steering Committee (CPSC) approved implementation of the attached clinical guidance document, "Cognitive Rehabilitation for Mild Traumatic Brain Injury," at appropriate Military Treatment Facilities (MTFs). This memorandum directs that the clinical guidance document be implemented at the following MTFs identified by their TBI Service representatives as having an ongoing cognitive rehabilitation program or the capabilities for such a program: Ft. Bragg; Walter Reed Army Medical Center; Redstone Arsenal; Ft. Campbell; Ft. Gordon; Brooke Army Medical Center; Ft. Hood; Ft. Riley; Wilford Hall Medical Center; Elmendorf Air Force Base; Camp Pendleton; Twentynine Palms; Naval Medical Center Portsmouth; and Camp Lejeune.

Beginning in the 2010 calendar year, each of these MTFs will track the outcome measures identified in the clinical guidance document, to include at least one performance metric focusing on pre- and post-functional differences, and submit these to their TBI Service representatives. Our staff will work with the TBI Service representatives to collect all sites' outcome measures so that a report can be provided to the CPSC by September 30, 2010. Measures of effectiveness of outcomes will be assessed and presented to the CPSC to determine if implementation of this clinical guidance document is warranted at additional MTFs. While this guidance is only applicable to these MTFs, the cognitive rehabilitation guidance document also may be implemented at other sites upon request.

Actions to Date

- **Discussed in weekly TBI QUAD Service Meeting (beginning in April 2010)**
- **Agreed on Phase 1 metrics (demographics)**
- **Finalized list of 14 demonstration sites: Sites approved by DASD (C&PP)**
- **Held teleconference with participation of all 14 sites on 14 July 10**
- **Metric collection will begin on 1 Aug**
  - Service specific requests on how data will come in and to whom

Metrics

- **Will contain Protected Health Information without Personally Identifiable Information**
- **Phase 1 – Demographics – Gender, age, marital status, branch of Service, component, rank, education, date of injury, mechanism of injury, date of admission, date of discharge, reason for discharge, facility information including staff**
- **Phase 2 – Outcome-based metrics – attention, memory, processing speed, therapeutic interventions, functional outcomes, patient satisfaction, etc**

Way Ahead

- **Services to disseminate HA Policy with clinical guidance document to their demonstration sites and direct them to implement the guidance which will standardize the approach to cog rehab in the MHS – This has been slow**
- **Services to educate cognitive rehabilitation providers of evidence-based interventions – No evidence of this**
- **DCOE has funding and expert personnel to assist with dissemination of HA policy and education, but must be invited by the Services**
- **The DCoE working with the Services needs to create standardized cognitive rehabilitation outcome measures and collect the metrics into a database to guide development of future DoD programs**
- **The DCoE will report back to the CPSC with results of implementation by the end of the year**
- **The Services are responsible for implementing the new program. Must be held accountable. DCoE is the main proponent at this time, but does not have authority to implement programs**
- **Requests assistance in moving the implementation of the Cognitive Rehabilitation Clinical Guidance**

Cognitive Rehabilitation in mTBI

- Questions?

BACK-UP SLIDES

Cognition

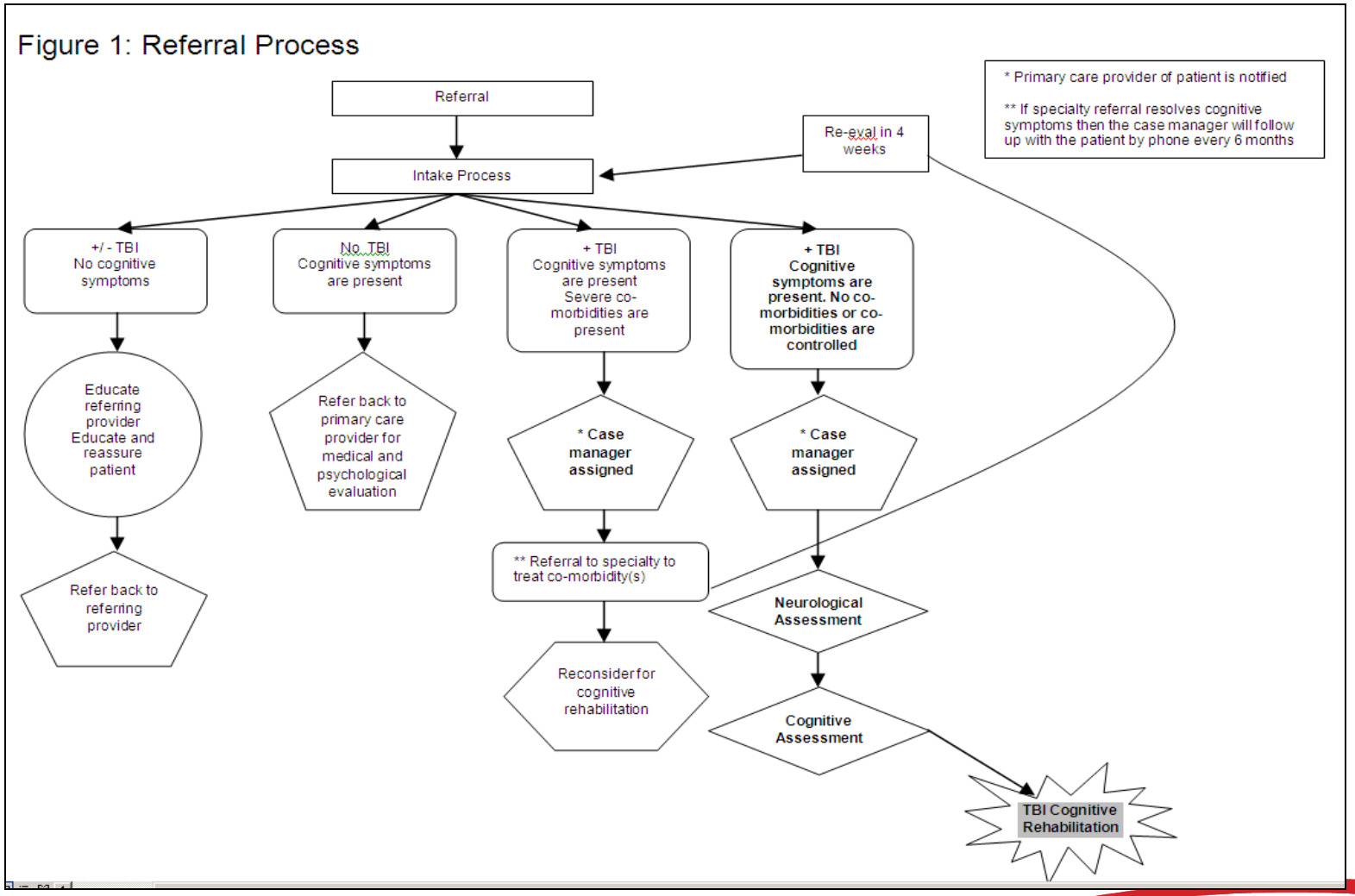
DVBIC/DCoE MAR08		Concussion Management Grid		Table 1
Cognition	**Memory loss or lapse** **Forgetfulness** **Poor concentration** **Decreased attention** **Slowed thinking** **Executive dysfunction**	Administer: **MACE if injury within 24 hours,** **Other neurocognitive testing as available (eg ANAM or other neuropsychological testing)** Gather: **Collateral information from family, command and others**		**Normalize sleep & nutrition** **Pain control** Refer: **Speech/language pathology** **Occupational therapy** **Neuropsychology**

Process

- Core Focus
  - SMs who are 3+ mos post mTBI with ongoing cognitive symptoms including memory, attention,
  - Acknowledge potential psychological and physical co-morbidities but guidance to focus on where/how in broader spectrum of care this treatment should be applied
- Conference Structure
  - 4 Breakout Groups
    - Assessments
    - Interventions
    - Outcome Measures
    - Programs

Conference Report Summary: Assessments

Figure 1: Referral Process



Conference Report Summary: Assessments

- Attention/Concentration
- Memory
- Processing Speed
- Executive Functioning
- Symptom Validity and Effort/Motivation
- PTSD Screen
- Post-concussive symptoms rating
- Pain screen
- Substance Abuse screen
- Depression screen

Conference Report Summary: Interventions

- Cognitive Domains affected after TBI
  - Attention
    - Foundation for other cognitive functions/goal-directed behavior
    - Efficacy of attention training established
  - Memory
    - True memory impairment vs poor memory performance from inattention
    - Evidence to support development of memory strategies and training in use of assistive devices (‘memory prosthetics’)
  - Social/Emotional
    - Evidence to support group sessions in conjunction with individual goal setting
  - Executive Function
    - Evidence to support training use of multiple step strategies, strategic thinking and/or multitasking
- Compensatory vs Restorative Therapy

Conference Report Summary: Interventions

Area of Cognitive Impairment	Empirically-supported interventions	Specific Examples
Attention	Attention process training Working memory training	Letter cancellation tasks with distracting noise in background Completing two cognitive tasks simultaneously
Memory	Various mnemonic techniques Visual imagery mnemonics	Story method Acronyms Sentences/ acrostics Method of loci Chunking Repetition Imagery based training
Attention **Memory** **Executive functioning**	Memory notebook External Cuing	Prosthetics PDA Supervised living BlackBerry Cell phone PDA
Executive functioning **Social pragmatics**	Social communication skills training groups	Group cognitive therapy
Attention **Memory** **Executive functioning** **Social pragmatics**	Problem solving training Error management training Emotional regulation training	Internal problem-solving Internal dialogue Individual and group self-awareness training Anger management groups
Attention **Memory** **Executive functioning** **Social pragmatics**	Integrated use of individual and group cognitive, psychological and functional interventions	

Conference Report Summary: Interventions

- TBI typically affects many brain regions resulting in many different cognitive and emotional functions
- Holistic programs
  - Interdisciplinary with strong leadership to coordinate and prioritize treatment objectives
  - Objective is to improve functioning in all major areas of life
  - Emphasizes use of person's current strengths to overcome TBI-related and other impairments

Conference Report Summary: Outcome Measures

- Defining the patient: cognitive deficit secondary to TBI vs comorbidity
- Administrative metrics
- Pre-post- assessment differences
- Pre-post- functional differences
- Patient status at discharge
- Consumer satisfaction
  - Patient, family, employer/Command, referral source

Conference Report Summary: Outcome Measures

Administrative Performance Metrics	Pre-Post-Assessment Differences	Pre-post-Functional Differences	Moderating Variables	Discharge Criteria & Patient Status at Time of Discharge	Consumer Satisfaction	Aggregate Program Outcome Data
•# of patients seen •# of patients referred for medical appts •duration & daily intensity of prgm •length of time patient is on limited duty	•formal neuropsych evaluation •symptom status •functional status •domains tested during Cognitive Assessment	•job performance •need for redesignation/ duty restrictions •pre-injury fitness reports/evals vs. current functional abilities •performance on simulators •quality of life assessment •community participation assessment	•degree to which co-morbidity may be resulting in cognitive symptoms •pain •severity of associated physical injuries •mechanism of injury •age •rank/MOS •gender •psychological health co-morbidities •substance abuse co-morbidities •# of deployments •date(s) of injury(s) •trauma history to include life events prior to entering the military •family/broader	•goals attained •plateauing of improvement and/or failure to improve •worsening symptoms	•patient, family, employer/ command, and referral source •education •treatments •efficacy	•type and # of service providers •range of services •consistent/ well-defined entry criteria •consistent/ well-defined discharge criteria •clear description of the program/ interventions •clear documentation

Conference Report Summary: Programs

- Considerations
  - Patient population
  - Resource utilization
  - On-site and local resource availability
  - Base characteristics
  - Special populations (SOCOM, Reserve, National Guard)
- Ideal
  - Holistic in nature
  - Interdisciplinary with coordination of care
  - Sub-component of a TBI program

Conference Report Summary: Programs

- Core Components
  - Comprehensive assessment prior to treatment
  - Individualized treatment goals
  - Development of interdisciplinary individualized treatment plan
  - Periodic cognitive reassessment and review of goals resulting in updates to treatment plan
  - Development of well-defined discharge plan