Neurological/Behavioral Health Subcommittee

Scientific Evidence of Using Population Normative Values for Post-Concussive Computerized Neurocognitive Assessments

Defense Health Board
February 11, 2015

Overview

- Membership
- Tasking
- Areas of Interest
- Timeline
- Way Ahead

Neurological/Behavioral Health Subcommittee Membership

- Nine members

Tasking
(1 of 4)

Background

"The Military Services have raised concerns about the utility and logistics of continuing to collect pre-deployment baseline neurocognitive tests because emerging scientific evidence suggests that before and after comparative testing using baselines may be no more effective than using relevant population normative values for the detection of cognitive deficits associated with the concussion."

- Under Secretary of Defense (Personnel & Readiness) [USD(P&R)] Memo dated July 25, 2014

Tasking
(2 of 4)

Request the Defense Health Board examine the state-of-science on neurocognitive assessment testing and consider the following questions:

1. Does the current state-of-the science demonstrate a continued need for baseline computerized neurocognitive tests to make return-to-duty/play determinations?

2. Is the current dataset of military relevant normative values of the ANAM4 (sample size 107,000) an adequately sized population to generate age, gender, education, and rank-matched military normative values, or should a larger dataset be implemented for the norms?

Tasking
(3 of 4)

3. Are population normative values (assuming an adequate number and military-relevant demographic profile) as scientifically sound as pre-deployment baseline tests for reliably detecting post-concussive neurocognitive deficits (within the limitation of ANAM4) for return-to-duty decision making and prognosis?

4. Is there any utility to expanding the use of neurocognitive assessment testing of military populations beyond the deployment cycle (pre-deployment, post-injury, post-deployment)?

Tasking
(4 of 4)

5. Is any additional direction for future research in neurocognitive assessment testing needed to improve protection of the fighting force?

6. What is the cost benefit of performing baseline testing for the Military Services in a fiscally constrained environment when logistics, contracts, personnel, and equipment sustainment are taken into consideration?

- USD(P&R) Memo dated July 25, 2014

Areas of Interest (1 of 2)

- ANAM effectiveness in post-injury evaluations
  - Comparison to individual baseline versus normative data
  - Impact of confounding factors (fatigue, comorbidities)
- Current ANAM testing program
  - Impact on decision making?
    - Diagnosis, Treatment, Prognosis, Recovery, Return to Duty?
- Current ANAM Normative dataset
  - Stratified by age and gender
  - Opportunities to improve with large data repository

Areas of Interest
(2 of 2)

- Costs/Benefits associated with ANAM use
  - Have adequate data been captured to assess benefits?
- Alternatives to ANAM
  - Effectiveness of other cognitive testing tools?

Timeline

Meetings since November 2014 Board meeting:

- December 18, 2014 - Teleconference
  - Discussed tasking with selected subject matter experts in neurocognitive assessment tools (NCATs)

Upcoming meetings:

- February 17, 2015 - Teleconference
- March 11, 2015 - In-person meeting
- April 27, 2015 - Teleconference

Way Ahead

- Continue literature review
- Meet with subject matter experts
- Continue monthly teleconferences or meetings
- Information gathering through mid-2015

Questions?