Mark Packer, Col, USAF, MC, FS
EXECUTIVE DIRECTOR

HEARING CENTER OF EXCELLENCE

Presentation to the Recovering Warrior Task Force
9 December 2013
OVERVIEW

• Introduction and Purpose of the Hearing Center of Excellence (HCE)

• Update since 14 January 2013
  – Dec 2013 FOC
  – Leadership changes, staffing updates and pending decisions/approvals
  – Overall progress towards completion of goals and objectives
  – Joint Hearing Loss and Auditory System Injury Registry (JHASIR)
  – Status of JHASIR utilization plan
  – Research Productivity and Dissemination
  – Hearing-related practices to be considered change
  – Research discovery dissemination
  – HCE Influence
  – Most important accomplishments
  – Support needed to help fulfill HCE mission

On-track to Full Operating Capability (FOC)
INTRODUCTION AND PURPOSE

Hearing Center of Excellence
INTRODUCTION

• Combat is chaotic
• The ability to hear and communicate is
  – Critical to safety (warrior and unit)
  – Central to effective command and control
  – A vital component for mission accomplishment
  – A key consideration in Force Management
    • Attrition, retrain, replace, recruit

• The capability to prevent is available
  – Education, Training & Surveillance
  – Hearing Protection Devices
  – Tactical Communication Devices

• Readiness requires both
  – Performance and Prevention
Scope of Injury

- Auditory injuries are the two most prevalent VA disabilities
  - 1.88 M Vets (970K tinnitus, 774K hearing loss)
  - 1.4M claims since 2001
  - 450K injuries from OEF, OIF, OND
  - $2B annual
  - Hearing loss is insidious, cumulative, progressive, invisible

- READINESS – Hearing is critical to Military function
- POPULATION HEALTH – loss is endemic in industrial nations

- HCE is uniquely responsible for a highly prevalent injury, but also for a ubiquitous environmental threat in theater, in garrison, and at home
Hearing Center of Excellence

Health Executive Council (DOD/VA)

Senior Military Medical Advisory Committee (DOD)

USAF Surgeon General

AF Medical Operations Agency

HCE Director
HCE Deputy Director (VA)
Chief Operating Officer

Army Audiologist
Navy Audiologist
Air Force Audiologist

Operations
Information Management
Prevention & Global Outreach
Clinical Care & Rehabilitation
Research Coordination
UPDATES SINCE JANUARY 2013

Hearing Center of Excellence
Attributes for FOC

- HCE Hearing Health Improvement Network Established
- JHASIR activated
  - DUA, DTA, DSA – Ground work sharing authority established (DoD-VA)
  - DOEHRS - Occupational Audiograms captured and shared
  - AUDBASE - Clinical Audiograms networked - Standardized
  - JHASIR concept approved
  - Reporting metrics established per NDAA
  - Auditory Data Mart complete

- DOD HCE is the “one voice” influencing DOD and other federal funding, regulation, and directives for issues regarding prevention, diagnosis, mitigation, treatment, rehabilitation, and research of hearing loss and auditory system injuries
- DOD VA transition partnership of auditory care defined
- DOD HCE prevention plan and education strategy implemented
LEADERSHIP/STAFFING UPDATES

• SECAF delegated as lead component; AF/SG oversight with Air Force Medical Operations Agency (AFMOA) support
  – CONOPS approved Jan 2012 – Director appointed Apr 2012

❖ VA Deputy Director selected: Lynn Henselman PhD

• Senior Military audiology liaison requested
  ❖ AF – filled
    – Army/Navy can not fill vacancies (manning shortages)

• Civil Service positions finalized/classified; hiring action frozen; Wounded warrior waiver submitted - pending.
  – Chief of Staff
  – Engineer, PEO Soldier
  – Neurotologist
    - Logistics Administrator
    - Resource Administrator
    - Program Analyst
HCE GOALS & OBJECTIVES UPDATE
## HCE GOALS & OBJECTIVES

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>01/13 Status</th>
<th>Now Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PREVENTION &amp; SURVEILLANCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop a Strategic Communications and Prevention Plan</td>
<td>[ ] Completed</td>
<td>[ ] Completed</td>
</tr>
<tr>
<td>Interval screening and questionnaire sampling of Military population</td>
<td>[ ] In Progress</td>
<td>[ ] Completed</td>
</tr>
<tr>
<td>Develop downloadable educational tools for HCE website</td>
<td>[ ] In Progress</td>
<td>[ ] Completed</td>
</tr>
<tr>
<td>Determine scope of FFD standards for appropriate Military Occupational Specialties (MOS)/AFSCs/Ratings</td>
<td>[ ] In Progress</td>
<td>[ ] Completed</td>
</tr>
<tr>
<td>Integrated development of EARPRO Qualified Products List</td>
<td>[ ] In Progress</td>
<td>[ ] Completed</td>
</tr>
<tr>
<td>Comprehensive Hearing Health Program Strategy developed</td>
<td>[ ] In Progress</td>
<td>[ ] Completed</td>
</tr>
<tr>
<td>Standardized surveillance strategy outlined</td>
<td>[ ] In Progress</td>
<td>[ ] Completed</td>
</tr>
<tr>
<td>Leveraging VA acquisitions for centralized purchase of hearing protection devices</td>
<td>[ ] In Progress</td>
<td>[ ] Completed</td>
</tr>
</tbody>
</table>

- **Completed**
- **In Progress**
- **Not Started**
## HCE GOALS & OBJECTIVES

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>01/13</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLINICAL CARE &amp; REHAB</strong></td>
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</tbody>
</table>
| Establish DOD Information Assurance Certifications and Accreditation Process (DIACAP) - interface Clinical audiometric data with JHASIR |   | ![status](icon_inprogress)
| Develop Clinical Practice Guidelines (CPGs), clinical tools, training enhancement: (simulation; dizzy; tinnitus; ASNHL; SSNHL) | ![status](icon_inprogress) | ![status](icon_completed) |
| Develop DoD fitness for duty standards; scope MOS/AFSCs/Ratings; catalogue noise environ; develop speech-in-noise test of critical task - 2015 | ![status](icon_inprogress) | ![status](icon_completed) |
| Develop acquisition policy for hearing prosthetics leveraging VA purchasing power and online contract services | ![status](icon_inprogress) | ![status](icon_completed) |
| Sponsor Conferences and Workshops: Acoustic Trauma/FFD/acquisition standards/Military Vestibular Assessment Rehabilitation (MVAR)/Blast tinnitus conferences/ ECHO/ Device trng | ![status](icon_inprogress) | ![status](icon_completed) |
| Identify gaps and translate emerging technologies for care into MHS/AOR: Auditory diagnostics in theater; four prosthetic devices MHS; Vestib tools | ![status](icon_inprogress) | ![status](icon_completed) |
| Establish plan for transitional care sharing with VA | ![status](icon_inprogress) | ![status](icon_completed) |
| Identify Tele-audiology value for MHS strategic tele-health planning | ![status](icon_inprogress) | ![status](icon_completed) |

- **Completed**
- **In Progress**
- **Not Started**

12/8/2013
# HCE GOALS & OBJECTIVES

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>01/13</th>
<th>Now</th>
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</thead>
<tbody>
<tr>
<td><strong>Global Outreach</strong></td>
<td></td>
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<tr>
<td>Hearing prosthesis acquisition standardization – Execute Policy</td>
<td>✅</td>
<td>✅</td>
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<tr>
<td>Partner with hearing health advocacy groups</td>
<td>✅</td>
<td>✅</td>
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<tr>
<td>Activate Hearing Health Caucus</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Promote FFD, CPGs and clinical tools to appropriate clinical and line communities</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Lead NATO effort addressing auditory injury and troop reintegration</td>
<td>✅</td>
<td>✅</td>
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<tr>
<td>Develop rehabilitation and restoration technologies with international partners; Coalition warfighter group; Inst of St Louis; Industry; ASIC</td>
<td>✅</td>
<td>✅</td>
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<tr>
<td>Establish advisory boards</td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>

- **完成了 (Completed)**
- **进行中 (In Progress)**
- **未开始 (Not Started)**
- **迭代 (Iterative)**
## HCE GOALS & OBJECTIVES

### INFORMATICS

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>01/13 Status</th>
<th>Now Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch website</td>
<td>In Progress</td>
<td>Completed</td>
</tr>
<tr>
<td>Interface Defense Occupational Environmental Health Readiness System-(DOEHRS-HC) data with authoritative personnel databases</td>
<td>In Progress</td>
<td>Completed</td>
</tr>
<tr>
<td>Develop JHASIR architecture to interface DOEHRS-HC data, clinical audiometric data, Joint Theater Trauma Registry (JTTR) data JHASIR</td>
<td>In Progress</td>
<td>Completed</td>
</tr>
<tr>
<td>Pilot JHASIR</td>
<td>In Progress</td>
<td>In Progress</td>
</tr>
<tr>
<td>Publish Inter-Agency business rules for data capture and sharing – including signed MOAs, DUAs, DTAs, DSAs</td>
<td>In Progress</td>
<td>Completed</td>
</tr>
<tr>
<td>Provide VA DOEHRS data for baseline documentation</td>
<td>In Progress</td>
<td>Completed</td>
</tr>
<tr>
<td>Develop reporting format and metrics</td>
<td>In Progress</td>
<td>Not Started</td>
</tr>
</tbody>
</table>
## HCE GOALS & OBJECTIVES

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>01/13</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESEARCH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop Auditory Research Program and charter Inter-Agency Auditory Research Working Group (ARWG); (AFFD; PIHL; CENC; ANSW2R)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner with Grant sponsoring agencies (provide Gap analysis, prioritization, scientific review, steering, programmatic review, and reporting)</td>
<td></td>
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</tr>
<tr>
<td>Coordinate auditory research portfolios between sponsoring agencies</td>
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<tr>
<td>Consolidate auditory-vestibular scientific interests, resources and opportunities on interactive web –based platform.</td>
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<tr>
<td>Host collaborative research conference</td>
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<tr>
<td>Formal approval of MOU for HCE-Centralized IRB</td>
<td></td>
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<tr>
<td>Enable and encourage multisite DOD HCE investigations</td>
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<td></td>
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<tr>
<td>Integrate with strategic planners for translational research</td>
<td></td>
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</tr>
</tbody>
</table>

- **Completed**
- **In Progress**
- **Not Started**
JOINT STRATEGIC PLAN PROGRESS

Develop a comprehensive plan for JHASIR utilization to encourage/facilitate research, development of best practices and clinical education
• 30 Jun 2012
  – Develop a comprehensive plan for JHASIR utilization to encourage/facilitate research, development of best practices and clinical education
• 14 Jan 2013
  – JHASIR architecture and reports feature under development – Course of Action approved January 2013
• Today
  – Developing Auditory Data Mart Under HSDW
  – Launching Audbase to standardize clinical data and pilot infrastructure
  – Hearing Health Improvement Network established to analyze and disseminate information
  – Active collaboration to utilize registry information are ready
CENTERS FOR HEARING AND BALANCED CARE
FULL OPERATING CAPABILITY
DECEMBER 2013

DoD  VA

AIM  WEB  Clinical  DOEHR  ARP  DUA  JHASIR  Central IRB

Medical Centers  Research Labs  VA Polytrauma

12/8/2013
<table>
<thead>
<tr>
<th>Service</th>
<th>Baseline Assessment</th>
<th>Annual Assessment (Population Health)</th>
<th>Annual Assessment (“Risk-based”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Army</td>
<td>Yes</td>
<td>Operational Personnel (90% of force since 2006)</td>
<td></td>
</tr>
<tr>
<td>Navy</td>
<td>Yes</td>
<td>(In progress)</td>
<td></td>
</tr>
<tr>
<td>Marine Corps</td>
<td>Yes</td>
<td>Yes (since 2012)</td>
<td></td>
</tr>
<tr>
<td>Air Force</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>
RESEARCH PRODUCTIVITY & DISSEMINATION

- Coordination for Auditory Research (ARWG)
  - Pharmaceutical Interventions for Hearing Loss (PIHL)
  - Auditory Fitness for Duty (AFFD)
  - DOD Otology Collaboration
  - DoD/VA epidemiology

- Cross-COE efforts
  - Allied NeuroSensory Warrior Related Research (ANSW2R/Polytrauma)
  - Chronic Effect of Neurotrauma Consortium (CENC)
  - Joint Steering Committees – (Gap analysis, prioritization, translation)
  - DoD/VA Guide to Collaborative Research

- International Efforts
  - NATO RTO 229
  - Coalition Warfare Program
  - Air and Space Interoperability Council (ASIC) – Aircrew Hearing Protection Project

<table>
<thead>
<tr>
<th>Number of Active Studies in FY2013 (Coordination Efforts)</th>
<th>Articles in Peer-Reviewed Publications</th>
<th>Poster/Podium Presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number in Development</td>
<td>Number in IRB Review</td>
<td>Number in Data Collection</td>
</tr>
<tr>
<td>26 (grant aps)</td>
<td>21 (contracted)</td>
<td>84 (active)</td>
</tr>
<tr>
<td>Performance</td>
<td>Prevention</td>
<td>Acute Care</td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>MOM</td>
<td>CCC</td>
<td>CRM</td>
</tr>
<tr>
<td>NIH</td>
<td>ORD</td>
<td></td>
</tr>
</tbody>
</table>

**Performance**
- Service Members

**Prevention**
- INJURY
  - brain
  - psyche
  - vision
  - hearing
  - pain
  - extremity

**Acute Care**

**Rehabilitation**

**Injury Area**
- MOM
- CCC
- CRM
- ONR
- AFMS
- NIH
- ORD

**12/8/2013**

**Performance Acute Care Prevention Service Members Veterans**

**Portofolio Coordination**

**Veterans**
- Service Members
Millennium Cohort: enrollment begins a 21-year contribution to understanding the impact of military service

Margaret A.K. Ryan, Tyler C. Smith, Besa Smith, Paul Amoroso, Edward J. Boyko, Gregory C. Gray, Gary D. Gackstetter, James R. Riddle, Timothy S. Wells, Gia Gumbs, Thomas E. Corbeil, Tomoko I. Hooper

*Department of Defense Center for Deployment Health Research, Naval Health Research Center, P.O. Box 85122, San Diego, CA 92186-5122, USA
*Army Research Institute of Environmental Medicine, Military Performance Division, Natick, MA, USA
*Seattle Epidemiologic Research and Information Center, Veterans Affairs Medical Center, Puget Sound, Seattle, WA, USA
*Department of Epidemiology, College of Public Health, University of Iowa, Iowa City, IA, USA
*Department of Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, Bethesda, MD, USA
*Air Force Research Laboratory, Wright-Patterson Air Force Base, OH, USA

Accepted 7 May 2006

N = 200,000 by 2011 – matching subjective losses with DOEHR data for hearing losses
• OAE devices are handheld units which are utilized like aural temperature probes
  – Test is conducted via probe in the ear canal - 30 seconds per ear - **FAST**
  – Effectively administered by technicians: newborn nursery, home health care
  – Portable OAE systems are **low cost, Booth-less**

• HCE evaluating OAE screens w/ dental readiness exams

“...low-level OAEs indicate an increased risk of **future hearing loss** by as much as nine fold.”
(Marshall et al., 2009)

“...[OAEs] provide an indication of cochlear damage **prior to** any change in the pure tone audiometric threshold.”
(Prasher & Sulkowski, 1999)

**Acceleration of Age-Related Hearing Loss** by Early Noise Exposure: Evidence of a Misspent Youth
(Kajawa & Liberman, *J Neurosci*. 2006)
<table>
<thead>
<tr>
<th>Condition</th>
<th>ICD-9-CM Codes</th>
<th>CPT Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensorineural hearing loss</td>
<td>389.10 (sensorineural hearing loss, unspecified)</td>
<td>NA</td>
</tr>
<tr>
<td></td>
<td>389.11 (sensory hearing loss, bilateral)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>389.15 (sensorineural hearing loss, unilateral)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>389.16 (sensorineural hearing loss, asymmetrical)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>389.17 (sensory hearing loss, unilateral)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>389.18 (sensorineural hearing loss, bilateral)</td>
<td></td>
</tr>
<tr>
<td>Noise-induced hearing loss</td>
<td>388.10 (noise effects on inner ear, unspecified)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>388.11 (acoustic trauma, explosive, to ear)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>388.12 (noise induced hearing loss)</td>
<td></td>
</tr>
<tr>
<td>Significant threshold shift</td>
<td>794.15 (nonspecific abnormal auditory function studies)</td>
<td></td>
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<tr>
<td>Tinnitus</td>
<td>388.30 (tinnitus, unspecified)</td>
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<tr>
<td></td>
<td>388.31 (subjective tinnitus)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>388.32 (objective tinnitus)</td>
<td></td>
</tr>
</tbody>
</table>

- The code set and groupings of hearing injury specific diagnoses used in this case definition are a subset of the broader code set used as a “Watch List” for post deployment NIHI and comorbidities.²
Personnel effectiveness issue = DoD issue

<table>
<thead>
<tr>
<th>Performance Measure</th>
<th>Good Hearing</th>
<th>Poor Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time to Identify Target</td>
<td>40 sec</td>
<td>90 sec</td>
</tr>
<tr>
<td>Incorrect Command Heard</td>
<td>1%</td>
<td>37%</td>
</tr>
<tr>
<td>Correct Target Identification</td>
<td>98%</td>
<td>68%</td>
</tr>
<tr>
<td>Enemy Targets Killed</td>
<td>94%</td>
<td>41%</td>
</tr>
<tr>
<td>Wrong Target Shot</td>
<td>0%</td>
<td>8%</td>
</tr>
<tr>
<td>Tank Crew Killed by Enemy</td>
<td>7%</td>
<td>28%</td>
</tr>
</tbody>
</table>

Source: Garinther & Peters (1990)
**Hearing Critical Task**

Tasks in which the speed and accuracy to identify, locate, interpret, and respond to sounds are essential to safe, successful military operations.

**Acoustic Environment**

Recordings will include gunfire, crowd noise, vehicle noise, etc.

**Clinical Assessment**

Mission critical audio signals will be identified, and H3s will be asked to identify them. Vignettes may be provided to set the context of each event.
Little duplication of investment in neurosensory trauma (n=1300 projects)

Research to date emphasizes:

- Single injury paradigms
- Acute stages of injury (esp. mTBI)
- Diagnostic and etiological objectives (Technical Readiness Levels 1-2)
Given the challenges and our advantages, these are strategies we can employ.
• Conferencing:
  – Military Vestibular Assessment and Rehabilitation
  – State of the Science Blast Tinnitus
  – Acoustic Trauma
  – Auditory Research Working Group
  – Auditory Fitness For Duty
  – Pharmaceutical Intervention Hearing Loss
  – Noise Induced Hearing Loss Program Rev
  – ATACCC/MHSRS
  – Trauma Symposium Collaboration
  – NATO HFM 229
  – Temporal Bone Surgical Dissection Course
  – Middle Ear Implant Training
  – AAO/ARO/CHHC
  – Oversight Working Groups - Standardization
ARWG – Auditory research Working Group
– Practice Based Research Network: 7 DoD Acoustic Research Labs, 6 MTFs, 5 VA sites

- Fitness for Duty, Total Comm and Protection, Job Task Analysis
- Pharm Intervention in Hearing loss, POI care, Air evacuation comm
- Clinical / translational investigations
Develop probability table for H2 or H3 with that score will fall in bottom 5th percentile

Audiogram Category (1 worst, 9 best)

<table>
<thead>
<tr>
<th>Score on Clinical Speech Test</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
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<td>0%</td>
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</table>

Table can be used to set cutoff in audiogram and speech score
HCE ACCOMPLISHMENTS SINCE 01/13
Extend / Augment Auditory-vestibular care
• Background
  – Combining DOD and VA’s secure web-based system will improve efficiency, accountability, and reduces DOD costs

• Key Accomplishments
  – 15 Aug 2013, Guidance on the Establishment of Department of Defense Standardization for Ordering and Procurement of Hearing Devices/Prostheses was signed into policy (Dr. Jonathan Woodson – Health Affairs)
  – To use the VA as an acquisition source, DOD must approve a waiver from restrictions of NDAA FY 2008
    • FY14 waiver signed/approved 16 Sep 2013 (annual requirement)
  – Training developed for audiologists (dates provided through service reps)
  – Ordering/Payment interfaces are through web-based system

• Next Steps
  – EARPRO Fund program at Service or DoD-level
• 20 – 23% hearing loss sufferers utilize conventional amplification
• Hearing aids benefit mild to moderate hearing loss range
• Cochlear implants rehabilitate severe to profound losses
• Bone anchored systems serve conductive and mixed hearing loss

• Gap: Hearing aids often do not maximize audibility for individuals with **moderately-severe hearing loss**.
Background

- Collaborative research requires IRB approval at each engaged facility
- Army, Navy, Air Force and VA have varying review processes and policies
- Process requires duplication of time and effort decreasing overall efficiency
- DODI 3216.02 (Nov 2011) recommends single IRB review for multi-site research
- Drafted MOA process for participating regional institutions, June 2010
- Estimated Completion of Centralized IRB process: Dec 2013

Progress since May 2011

- Centralized IRB meeting with Health Affairs and Medical Research and Materiel Command (MRMC) decision to proceed with MRMC C-IRB plan, August 2011
- Memorandum of Agreement (MOA) drafted to establish working relationship between HCE and MRMC, November 2011
- MOA fully executed September 2012
- Kickoff meeting between HCE and MRMC administrators - December 2012
- FOC reached December 2012
Featured Story

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Read More»

Past Features
CHHP Posters for Individual Hearing Counseling

Understanding Your Hearing Test Results

How Loud Is Too Loud?

Levels of Noise

Interpreting the Audiogram

Sound Facts
STANDARDIZED
Educa tion, training, competency
POLICY CONSIDERATIONS

• Update DoDI 6055.12, Hearing Conservation Program
  • Establish a Comprehensive Hearing Health Program

• Hearing acuity is a READINESS issue
  – Policy needed to conduct baseline audiograms when entering Services
  – Policy needed to conduct annual hearing health services for all Members

• Hearing loss is a POPULATION HEALTH issue
  - Policy needed to standardize surveillance across Services

• Create a rapid process to share data between VA and DOD
  – Clinical and Claims data between agencies is highly relevant to effect change, yet very difficult to obtain data for improving outcomes of HCE programs
BACKUP SLIDES
COMPREHENSIVE HEARING HEALTH PROGRAM

• **Background**
  - Prevent and reduce noise-induced hearing injuries in service members
    - Annual Hearing Health Education
    - Hearing Protection Fitting and Training
    - Periodic Hearing Surveillance

• **Key Accomplishments**
  - Launch HCE website as repository of information and resources
  - Auditory Fitness for Duty WG Progress
  - PEO Soldier partnership – customized care

• **Next Steps**
  - Update DoD policy to standardize hearing health practices in various services
    - Readiness - Population Health
  - Develop additional hearing health promotional materials
  - Develop “Qualified Products List” for hearing protection devices
  - Develop central funding/ordering between DoD/VA for hearing protection
OCCUPATIONAL HEARING LOSS (OHL) SURVEILLANCE

Project Description and Status

Project Description

In 2006, the National Academy of Sciences identified the lack of hearing loss surveillance as a key shortcoming of the NIOSH Hearing Loss Prevention Research Program. Surveillance is vital to hearing loss prevention. It makes possible the establishment of estimates for the prevalence and incidence of hearing loss within various industries. Surveillance also enables NIOSH to identify high risk groups, guide prevention and research efforts, and evaluate the success or failure of interventions. Without surveillance data, progress in hearing loss prevention efforts cannot be quantified, nor the need for improvement in these efforts.
Importance of Surveillance

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Interventions. Without surveillance data, progress in hearing loss prevention efforts cannot be quantified, nor the need for improvement in these efforts.
Since the Army expanded their Hearing Conservation Program screenings to include nearly all personnel (90%) in 2006, there has been a 50% reduction in “Significant Threshold Shift” cases.
Does Hearing Surveillance Work?

Proportionally, recently discharged Army personnel submit significantly fewer hearing loss VA claims (p=0.004) (note: VA claims data lags)

Source: VBA
12/8/2013
Does Hearing Surveillance Work?

...and significantly fewer tinnitus VA claims (p=0.008)

Initial Tinnitus Claims (Ratio of Separation Size)

Source: VBA

12/8/2013
AF Members’ Hearing Health

From 2008-2012...

193,844 Personnel Deployed

66,061 (34%) Personnel Deployed Enrolled in DOEHRS†

23,927 (36%) Deployed with H2/H3 Profile*

(?) Total Impaired Hearing Status

66% of AF personnel deploy with unknown hearing status

† DOEHRS audiogram within 365 days of deployment date
* Being verified by AF Functional

Source: AFPC/DOEHRS-HC

12/8/2013
JOB TASK ANALYSIS

Record shouted speech over distance in quiet / noise

**Acoustic Environment**
Record MRT lists shouted in realistic battlefield noise

**Normative Data**
Live listeners will be tested to evaluate normal performance

**Clinical Assessment**
Calibrated recordings will be played to H3 listeners

Joint Project with NSWC Dahlgren

Use protocol derived from Aegis training curriculum to measure correct command execution in complex Air Defense scenario with two participants and two confederates