



Update on Audiology

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A year of Accomplishments

- Staffing levels, encounters, and device issues at an all-time high.
- New and exciting roles for audiologists in TBI-related symptoms (hearing loss, dizziness, tinnitus, processing disorders, hyperacusis)
 - Highly successful TBI conference on January 13-15
- Revised hearing aid directive (Directive 2009-070)
- Bluetooth waiver
- Revisions of AUDIO C&P template



Challenges for Audiology...

- Balancing demands for C&P exams, hearing aid evaluations and aftercare, and consults.
- Managing waiting times and missed opportunities.
- Evolving foci for audiology: noise-induced hearing loss, tinnitus, aging, and co-morbidities.
 - Increasing prevalence of hearing loss and tinnitus
 - TBI-related symptoms (hearing loss, dizziness, tinnitus, processing disorders, hyperacusis)
- Rapidly changing treatment technologies and paradigms (inter-disciplinary care and coordination of care).
- Tele-health and rural health delivery.



Challenges from Global War on Terror: OEF/OIF

- Signature injuries: TBI and PTSD
- Different types and quantity of otologic and brain injuries secondary to noise exposure, trauma, and rapid medevac and acute care, e.g.
 - Focal injuries (gunshot wounds)
 - Acceleration/deceleration
 - Blast injuries
- Peripheral *and* central auditory dysfunction
- Massive problem with tinnitus and hyperacusis
- Vestibular and balance disorders
- Significant co-existing disorders potentially confounding audiologic assessment, e.g.,
 - TBI/Cognitive deficits
 - Post-traumatic stress disorder (PTSD)
 - Language impairment

With attribution to Dr. Jay Hall for summary of conditions



Interesting New Initiatives

- **NIH**
 - Task Force Co-chair for research effort on accessible and affordable hearing health care
- **VA**
 - Telehealth and hearing rehabilitation
 - Sponsored major TBI conference on Effective Practice of Audiology and Speech-Language Pathology for Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) Veterans
 - Sensory issues (vision and hearing) in TBI (December 2009)



Hearing Loss and Tinnitus

Total Service-connected Veterans

Disability	Total Veterans Compensated (including 0% SC)
Hearing Loss	754,556
Tinnitus	619,826
Total	1,374,382

Source: VBA, October 2008



Top 10 Disabilities

Top 10 Individual Disabilities

Rank	Disability Name	Total on Rolls
1	Impairment of Auditory Activity (Hearing Loss)	754,556
2	Tinnitus	619,826
3	Post-Traumatic Stress Disorder	151,297
4	Hypertensive Vascular Disease (Essential Arterial Hypertension)	135,808
5	Scars, Other	113,900
6	Lumbosacral Or Cervical Strain	105,401
7	Diabetes Mellitus	89,402
8	Eczema	84,379
10	Other Impairment Of Knee	79,401



Hearing Loss and Tinnitus in OEF/OIF

Total Service-connected OEF/OIF Veterans

Disability	Service Connected OEF/OIF Veterans (including 0% SC)
Hearing Loss	78,076
Tinnitus	94,141
Total	172,217



Top 10 Disabilities in OEF/OIF

Top 10 Individual Disabilities (OEF/OIF)

Rank	Disability Name	Total on Rolls
1	Tinnitus	94,141
2	Impairment of Auditory Activity (Hearing Loss)	78,076
3	Lumbosacral Or Cervical Strain	37,937
4	Post-Traumatic Stress Disorder	28,116
5	Limitation Of Flexion Of Leg	22,916
6	Limited Motion Of The Ankle	22,046
7	Degenerative Arthritis Of The Spine	19,507
8	Migraine	18,919
10	Tenosynovitis	17,936



Disability by Period of Service

<u>PERIOD</u>	<u>HEARING</u>	<u>TINNITUS</u>
WWII	#1 (89,300)	#2 (57,799)
KOREA	#1 (55,257)	#2 (41,202)
VIETNAM	#1 (285,368)	#2 (208,881)
GULF	#2 (200,115)	#1 (220,491)
PEACE	#1 (127,436)	#2 (91,451)
GWOT	#2 (78,076)	#1 (94,141)

Source: VBA, October 2008

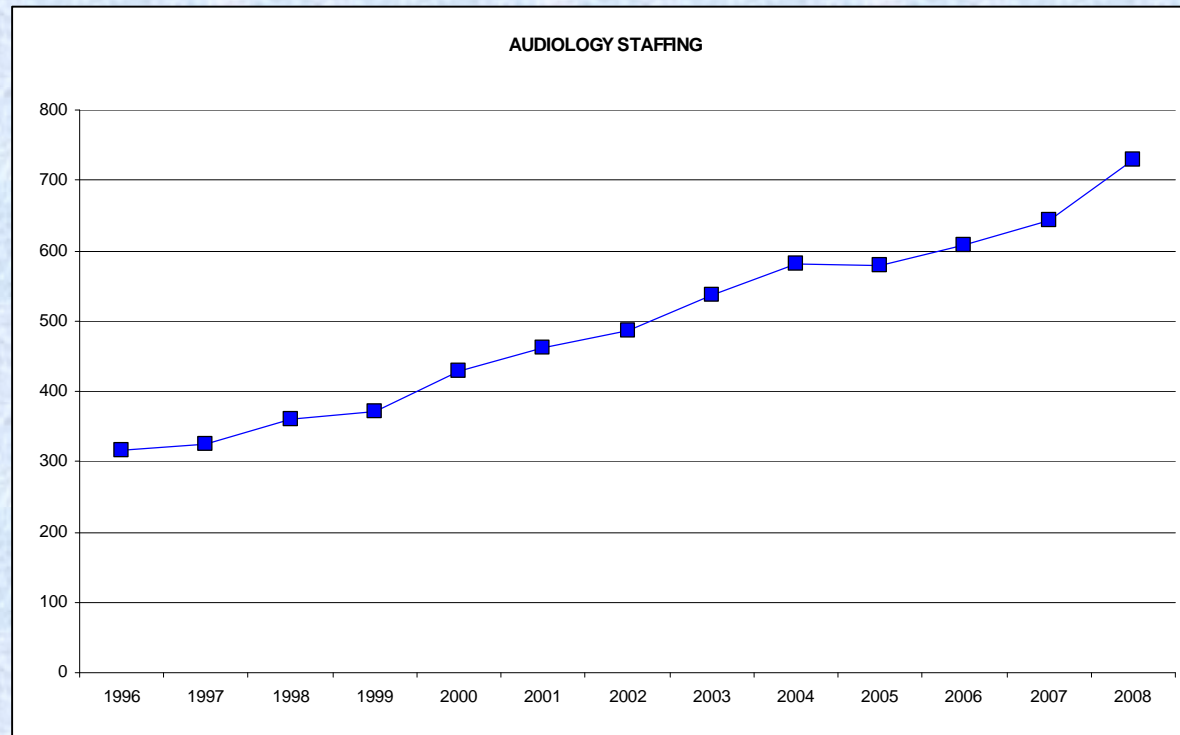


Audiology Staffing and Workload (FY2008)

- 729 audiologists (increased 130% since 1996)
- 15 research audiologists
- 195 health technicians (assistants)
- Audiology encounters—1,100,262
 - 1,088,979 outpatients
 - 535,324 unique outpatient veterans
 - 11,283 inpatients treated
- Audiology services in 230 VHA sites of care

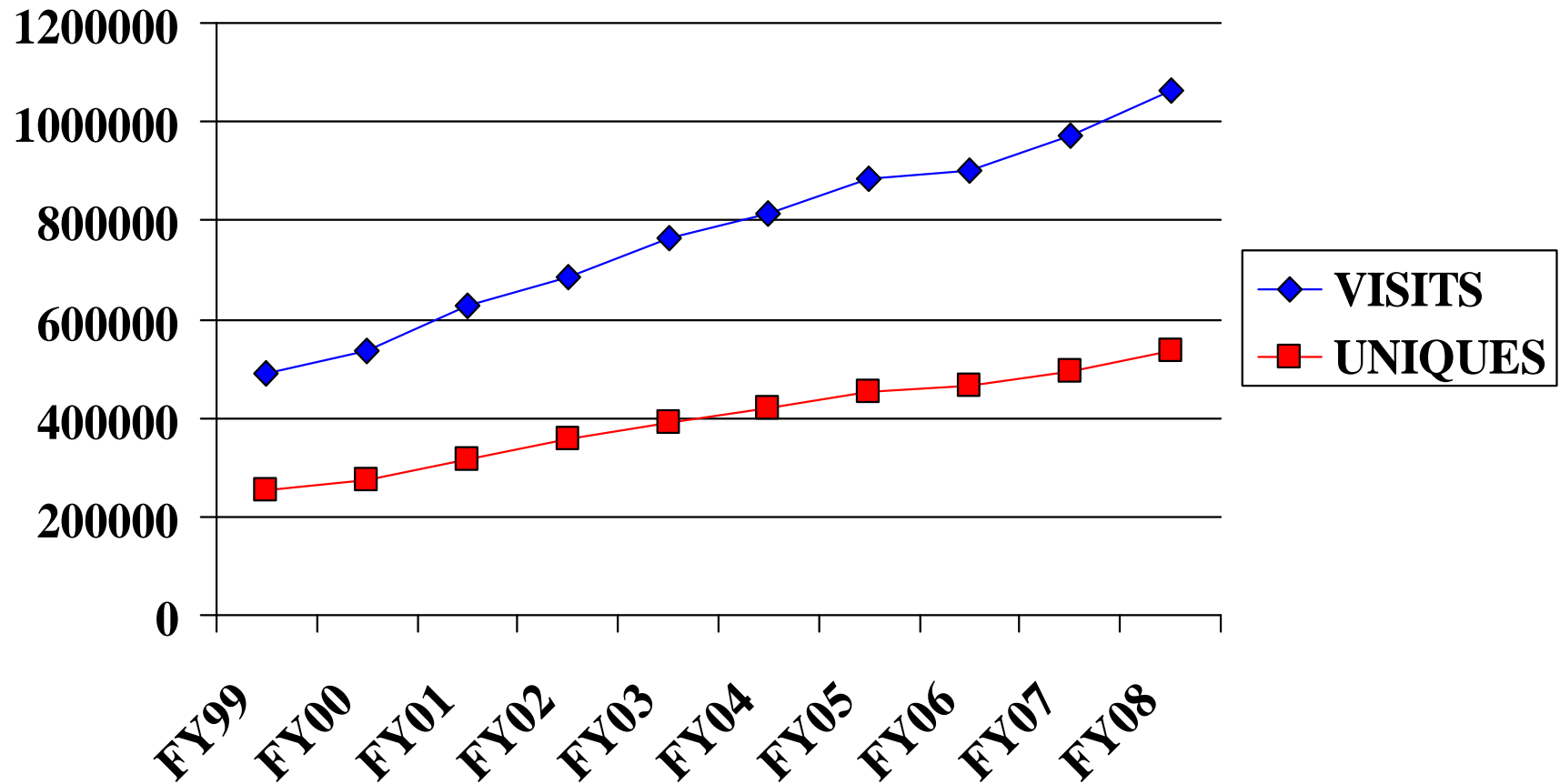


Growth in Audiology Staffing (1996-2008)





Audiology Outpatient Visit Growth





VA National Contracts

- *Best technology anywhere.*
- Digital Hearing Aid Contract:
 - ITE (45%) and BTE (49%) hearing aids
 - *Perspective:* ITE was 81.5% of VA market in contract base year (2004)
 - Driven mostly by open ear digital mini-BTE
- Other national contracts:
 - Cochlear Implants
 - Assistive listening devices
 - FM wireless systems
 - Special niche devices (e.g. CROS, BICROS, eyeglass hearing aids)
- DoD Centers use VA national contracts
- Contract-mandated training
- VA is in the last option year of the current contract. New digital hearing aid₁₄ contracts in November 2009.



FY2008 Hearing Aid Statistics

- **381,461** hearing aids (+9% over FY2007)
- Net sales: \$135.6 million (+11% over FY2007)
- Batteries: 33 million, \$4.5 million
- Repairs: 283,493, \$13.6 million
- Average hearing aid cost: \$355.62
- 1 of every 7 hearing aids sold in the U.S. is issued by VA

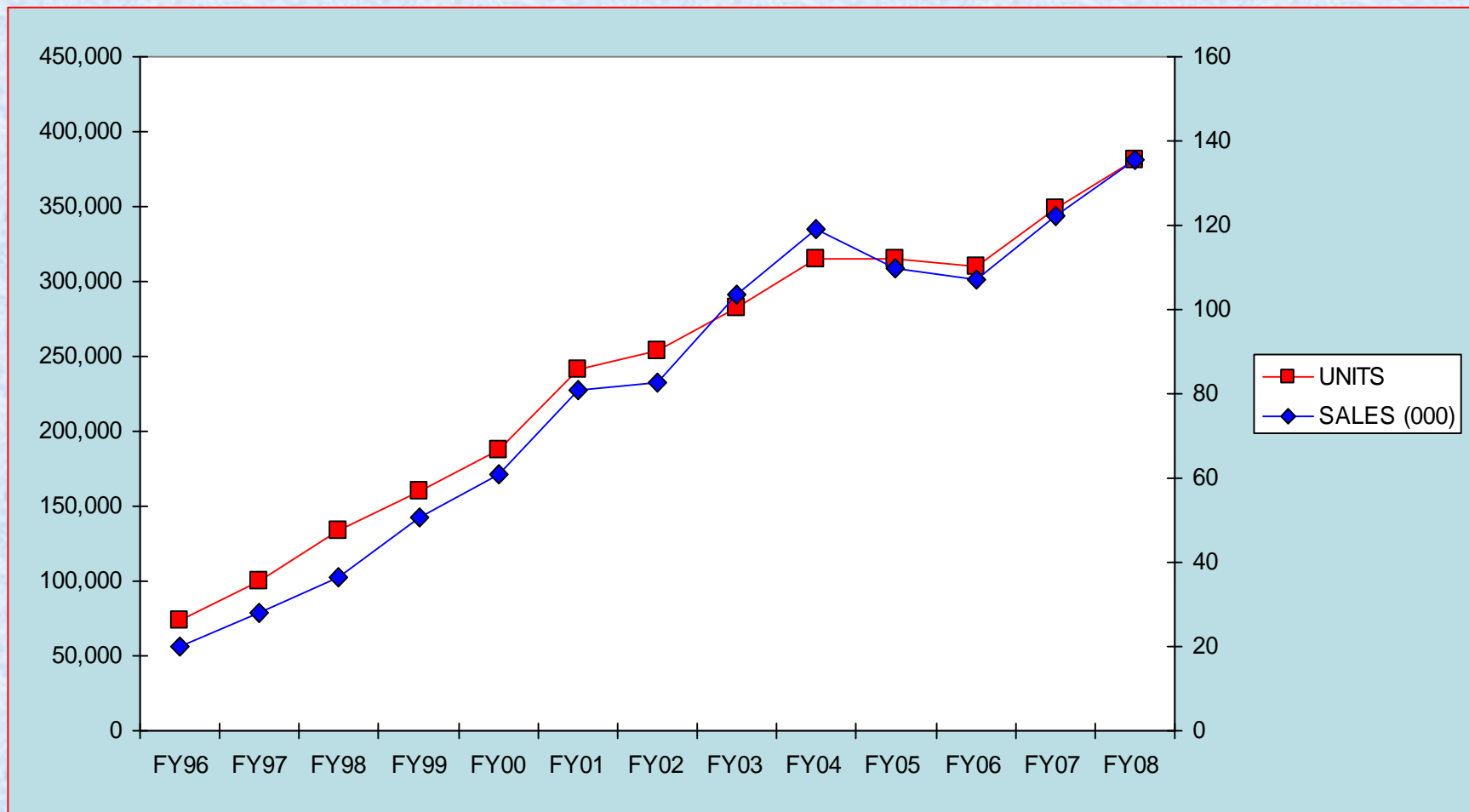
Source: DALC



VA Hearing Aid Trends

(FY96-FY08)

Source: VA Denver Acquisition & Logistics Center





Cochlear Implants (FY2008)

- Cochlear implants:
 - 170 implants and 87 speech processors ordered
 - Net sales: \$4.5 million
- 19 CI Centers and 4 CI programming centers
- Increasing number of implant centers and programming sites
- Other surgical implants: BAHA®

Source: Denver Acquisition and Logistics Center



VHA Disability Exams

AUDIO is the second most common exam performed by VHA after general medical.

All Veterans:

<u>Specialty</u>	<u>C&P Encounters*</u>
General Medical	316,087
Auditory	106,801
All Specialties	689,931

OEF/OIF:

<u>Specialty</u>	<u>C&P Encounters*</u>
General Medical	52,582
Auditory	20,827
All Specialties	142,082

*Reported to 203450 stop code pair

DSS Clinic Stop Code Report (FY2008)



Hybrid Title 38

- Special Boarding is nearly complete. As of August 2008, only 10 A&SP employees had not been boarded (mostly research) and only 4 had not been sent to PSB.
- All Boards are processing recurrent board actions (appointments, advancements, and promotions).
- Improvements to Boarding Process:
 - Digital boarding form (digital signatures)
 - Some Boards are sharing scanned documents by encrypted email.
 - Sharepoint (electronic document uploading and sharing)
 - New HT38 transmittal form for HR Offices
- Self-nominations solicited from field. Approval by unions. New board members will be announced soon.



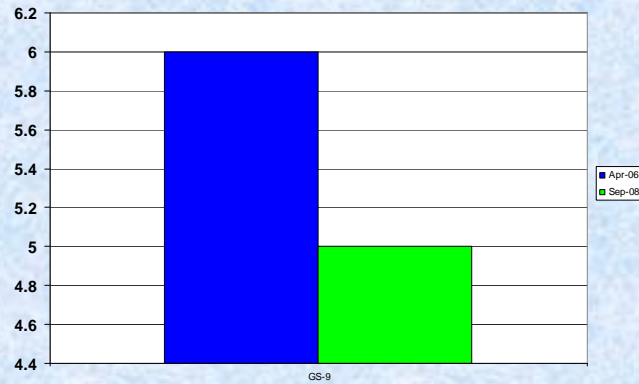
Hybrid Title 38

- Intent of HT38:
 - Recognize audiologists for their professional achievements through advancement (SAA).
 - Provide opportunities for promotion based on non-supervisory professional duties and responsibilities (team leader, advanced practice, and special clinical program responsibilities) that previously did not exist.
 - Recognize the doctoral degree as the entry-level degree.
- HT38 has achieved a significant shift in grade distributions, especially at GS-13 and GS-14 grade levels.
 - Between April 2006 and September 2008, GS-13 grades increased from 43 to 116 (170%) and GS-14 grades increased from 3 to 14 (367%).

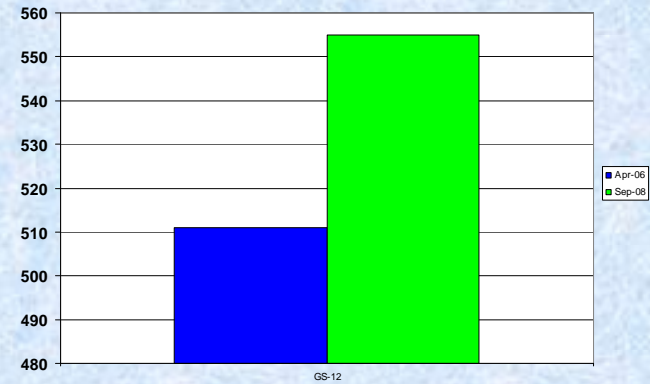


Grade Distributions (April 2006-September 2008)

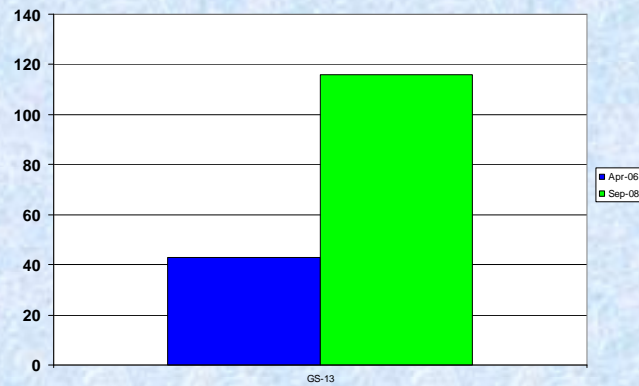
GS-9 GRADE DISTRIBUTION



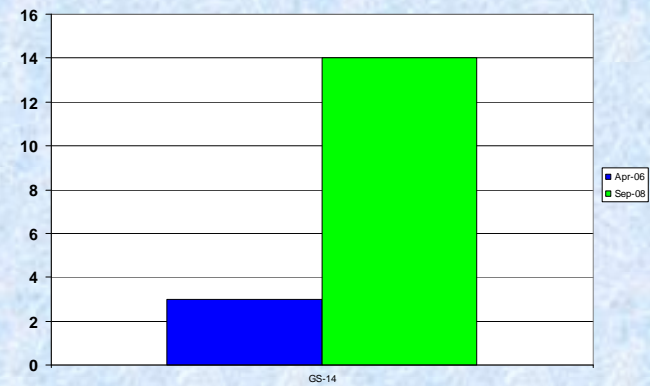
GS-12 GRADE DISTRIBUTION



GS-13 GRADE DISTRIBUTION



GS-14 GRADE DISTRIBUTION



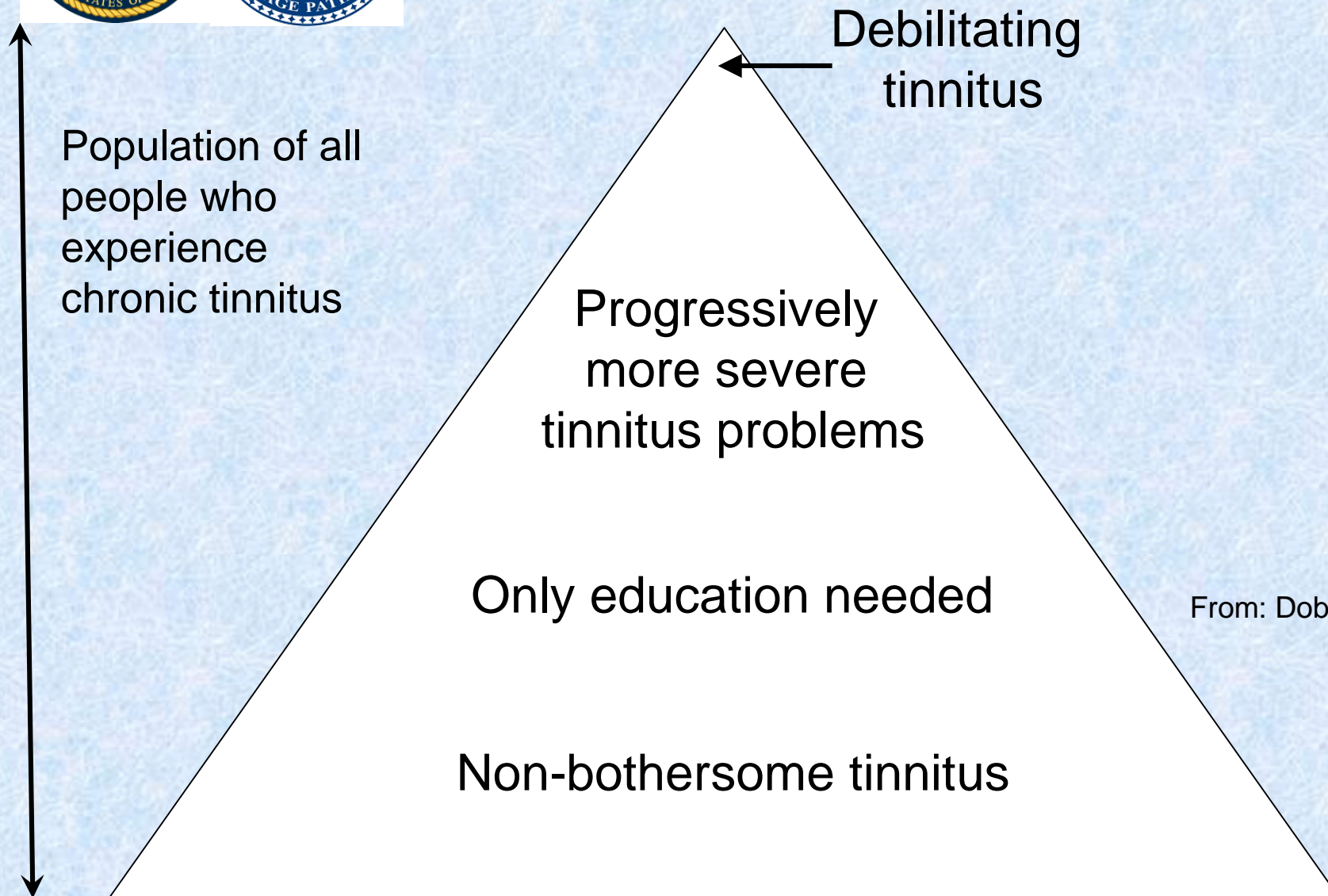


Tinnitus

- Second most common service-connected disability overall and is the first or second most common disability in every period of conflict since WWII.
- Most common SC disability in OEF/OIF veterans.
- Significant association with brain injury, noise exposure, hearing loss, ear disease, and medication use.



The Tinnitus Pyramid





VHA Tinnitus Initiatives

- **Progressive Approach to Tinnitus Management (PATM)**
- Develop by National Center of Rehabilitative Auditory
- Research
- PATM consists of a **five-level** progressive approach...
 - Triage and referral,
 - Auditory evaluation
 - Structured interviews
 - Counseling and group education
 - Tinnitus evaluation
 - Individualized management.
- **Intervention for tinnitus—**
 - Ranges from minimal intervention (very basic patient education and reassurance) to more comprehensive services such as...
 - Educational counseling
 - Amplification (hearing aids)
 - Relaxation techniques
 - Cognitive-behavioral therapy
 - Drug therapy, sound-based therapy
 - Combined techniques.
- The effectiveness of different interventions varies from individual to individual, and none have been shown to be effective in all patients. Because tinnitus can be caused by many conditions, the approach to tinnitus management is inter-disciplinary.
- Based on scientific principles and best practices.





PATM

5 Individualized Management



4 Tinnitus Evaluation



3 Group Education



2 Audiologic Evaluation



1 Triage

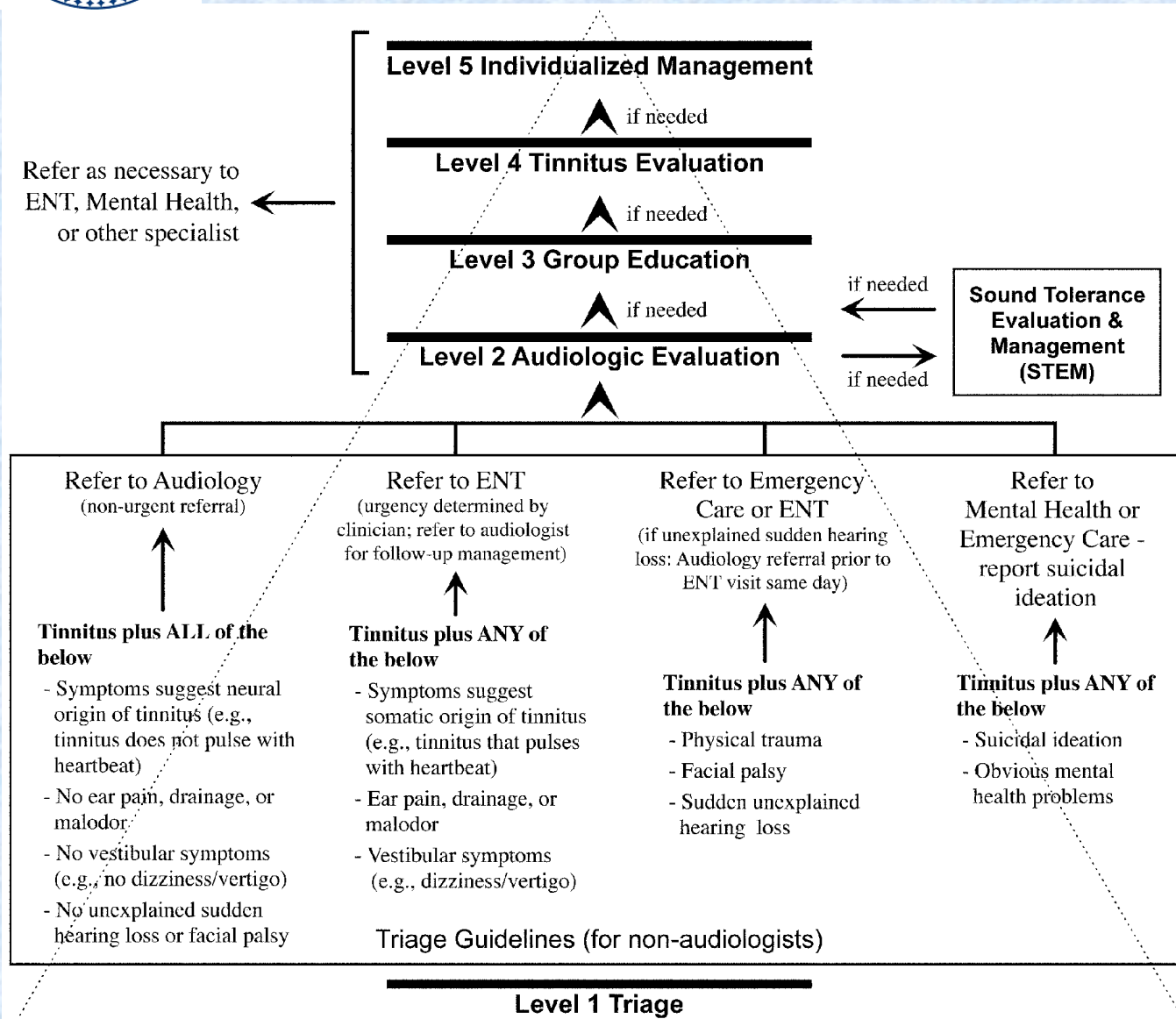
Progressively
more severe
tinnitus problems

Only education needed

Non-bothersome tinnitus



PATM





Graduate Education and Training

- VA has major commitment to associated health education.
- Stipend support for trainees
- FY09 Audiology Traineeships awards:
 - 51 Doctoral Externships (12 months)
 - 55 Doctoral Clinical Rotations (350 hours)
- About the same awarded for FY10.
- Competitive site selection using automated standards of excellence
- Training to full scope of practice
- Emphasis on inter-professional education



Highly Automated Information Technology

- VA health record: recognized as the best example of an integrated, comprehensive health record.
 - Remote access to DoD records.
- Equipment interfaces send audiometric data into the VA electronic health record.
- Automated hearing aid and auditory device ordering and tracking system (ROES).
 - Automated outcome measures (IOI-HA)-beta testing
 - Cox et al (2003, JAAA: Vol. 14, No. 8, November 8, 2003
 - 280 outcomes collected from five VA beta sites
 - Analysis outcomes by age, degree of loss, hearing aid make/model or form factor by facility, network, or national
 - Ear impression scanning project
- Collaboration with HIMSA to develop interface to NOAH[®]
- Hearing loss database (815,000 audiograms stored)



Access to Care (FY2008)

- Audiology is tracked on national performance measures and is accountable for meeting national performance goals. Goal: All Veterans seen in 30 days.
 - Waiting times: 90.1% of new patients and 99.2% of established patients are seen within 30 days.
 - Average waits: 19.0 days (new patients) and 4.3 days (established patients)
 - OEF/OIF Veterans: 94.4% of new OEF/OIF Veterans and 99.0% of established OEF/OIF Veterans seen in 30 days
 - Average waits—17.5 days for new OEF/OIF Veterans and 5.7 days for established OEF/OIF Veterans
- Missed opportunities--improving clinic utilization by reducing no shows and cancellations. (Goal: 7%)
 - Missed opportunities: 6.95%



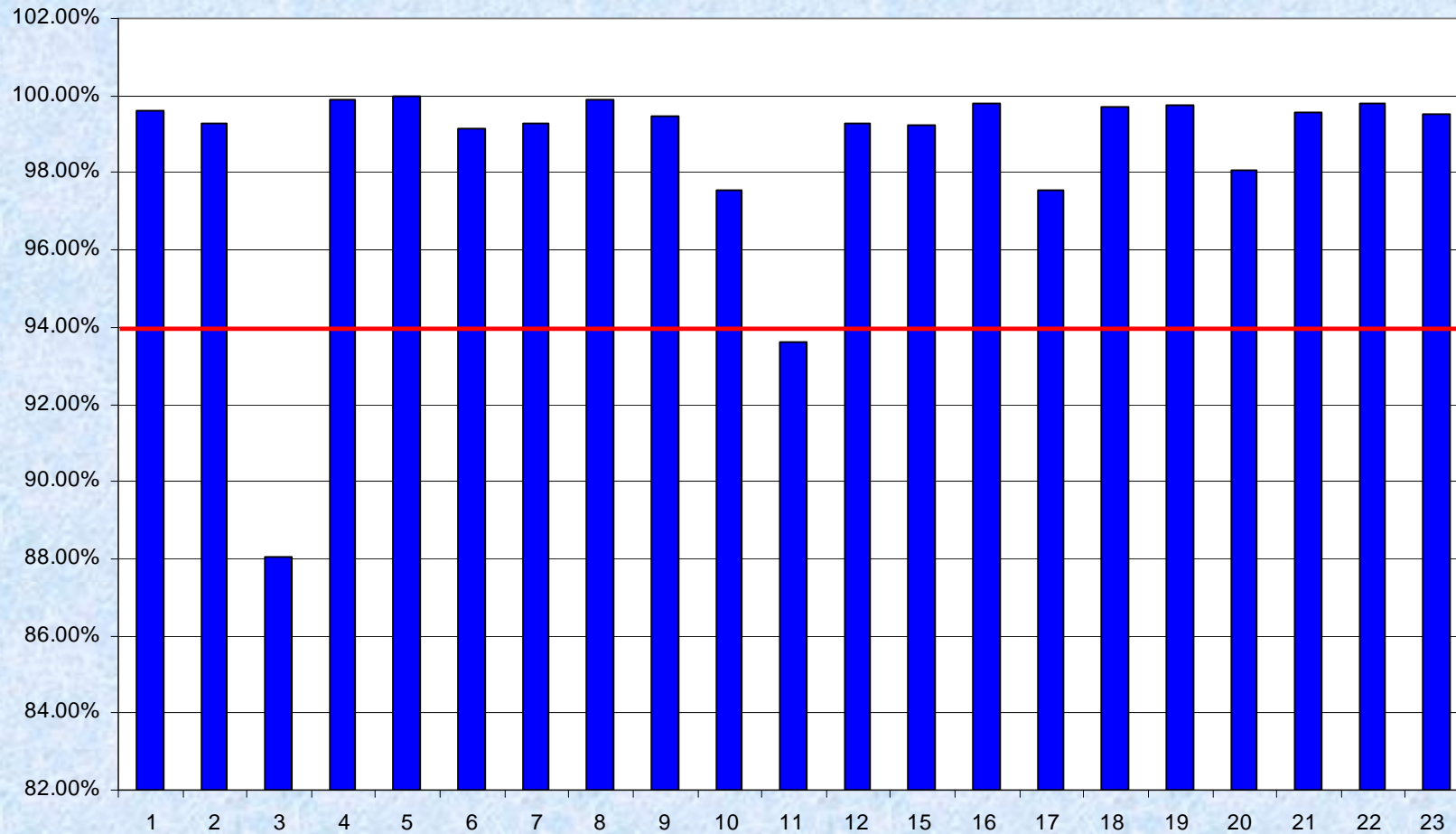
FYTD2009

- **New Patients (desired date) 98.3%**
- **New Patients (creation date) 93.3%**
- VSSC is now showing wait times for NEW patients using both the CREATE DATE and the DESIRED DATE.
- Wait times for new patients were always displayed using the number of days between the Creation Date and encounter date. The Network Office is considering using the DESIRED date for New patients.
- Using Creation Date, 63 sites and 9 networks did not meet the goal. Using Desired date, only 14 sites and 2 networks did not meet the goal (easier to meet the goal).
- Desired Date takes into account the desire provider or patient or to be for a particular time in the future.
- Missed Opportunities: 7.55%
- Goals:
 - Waiting Times: 94%
 - Missed Opportunities: 7%



Waiting Times (FYTD2009)

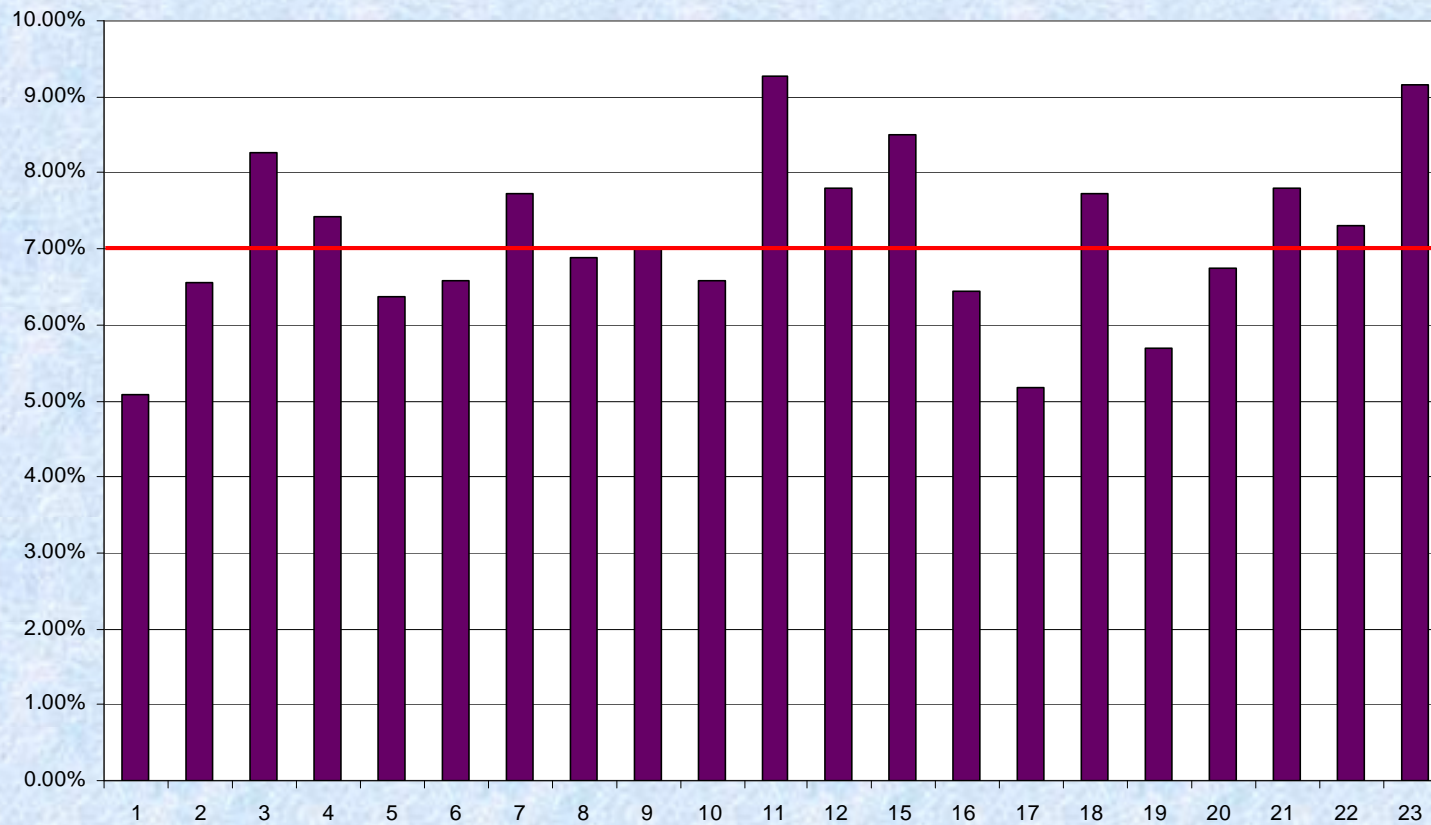
PERCENT APPTS <31 DAYS (NEW PTS, DESIRED DATE)





Missed Opportunities (FYTD2009)

MISSED OPPORTUNITIES





Hearing Loss Center of Excellence

- Prevention, diagnosis, mitigation, treatment, and rehabilitation of hearing loss and auditory system injury, including a member with auditory dysfunction related to traumatic brain injury.
 - Required by NDAA 2009 (PL 110-417, Section 721)
 - DoD will collaborate with VA, institutions of higher education, and other appropriate public and private entities (including international entities).
 - Establish a registry of information for the tracking of the diagnosis, surgical intervention or other operative procedures, other treatment, and follow-up for hearing loss and auditory system injury.
 - Registry shall be known as the **Hearing Loss and Auditory System Injury Registry**.
 - Electronic exchange capability with VA data systems.



Hearing Aid Directive

- Veterans meeting the eligibility requirements to receive health care are eligible for diagnostic audiology services. Eligibility rules are the same for both inpatient and outpatient medical services. Veterans must not be denied access to audiology services covered by the Medical Benefits Package (38 CFR §17.38) because they do not meet the eligibility criteria for hearing aids.
- Audiologists must utilize the Remote Order Entry System (ROES) to review and request eligibility for hearing aids; by requesting the hearing aid in ROES, the audiologist stipulates that medical need exists based on the evaluation.
- Veterans in Priority Groups 1-5 are eligible for hearing aids.
- Non-service connected (NSC) veterans (Priority Groups 6, 7, and 8) must receive a hearing aid evaluation (HAE) prior to determining eligibility for hearing aids to establish medical justification for provision of these devices.
 - Must be enrolled or exempt from enrollment and receiving a **vested level of care** from a VA medical facility; and
 - Must have hearing loss that interferes with or restricts communication to the extent that it affects their active participation in the provision of health care services as determined by the audiologist.
- To mitigate the impact of hearing impairment on quality of life and participation, the following degree of impairment is considered disabling and establishes the basis for consideration of hearing aid candidacy, subject to evaluation by an audiologist: hearing thresholds 40 decibels (dB) HL or greater at 500, 1000, 2000, 3000, or 4000 hertz (Hz); or hearing thresholds 26 dB HL or greater at three of these frequencies; or speech recognition less than 94 percent (38 CFR §3.385). This degree of impairment is disabling is considered justification for hearing aids.
- When determining candidacy for amplification, audiologists must consider the effect of impairment (i.e., activity and participation) using well-established, patient-centered clinical practices. It is the effect of impairment, specifically participation restrictions (e.g., access to health care), that is the justification for eligibility based on medical need.



Thanks for Listening

With malice toward none, with charity for all, with firmness in the right as God gives us to see the right, let us strive on to finish the work we are in, to bind up the nation's wounds, to care for him who shall have borne the battle and for his widow and his orphan, to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations.

*Abraham Lincoln, Second Inaugural Address,
March 4, 1865*

