



# *The Current Status of VA Audiology*

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**Disclaimer:** The opinions expressed herein are solely those of the author and do not necessarily reflect the views or official policies of the United States Government or the Department of Veterans Affairs.

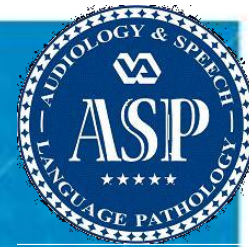


**VA** Defining  
**HEALTH** EXCELLENCE  
**CARE** in the 21st Century



# Purpose

- Provide brief overview of Telehealth services in the VA.
- Describe current practices and plans for future Audiology Telehealth initiatives.
- Outline key steps, implementation issues, and preliminary outcome data related to Audiology Telehealth services.
- Stimulate dialogue about the potential for evolving service delivery models to improve access to quality hearing health care.



# 21<sup>st</sup> Century VA Health Care

- **People-Centric**
  - Honor and serve Veterans and their families.
  - Embrace VA core values of compassion, integrity, respect, and commitment.
  - Engage, inspire, and empower employees.
- **Results- Driven**
  - Ensure improved access for all Veterans.
  - Provide high-quality care and exceptional client relationship management.
  - Leverage technology and adapt business processes for optimal patient outcomes.
  - Demonstrate leadership, accountability, and effective results.
- **Forward Looking**
  - Communicate widely and effectively and conduct systematic outreach and collaboration.
  - Anticipate Veterans needs and be pro-active in meeting them.
  - Develop a VA culture that is forward-looking, innovative, and Veteran-focused.



# Better Access, Better Care

## Before Hospital System



**Only Hospitals**

## After Health System



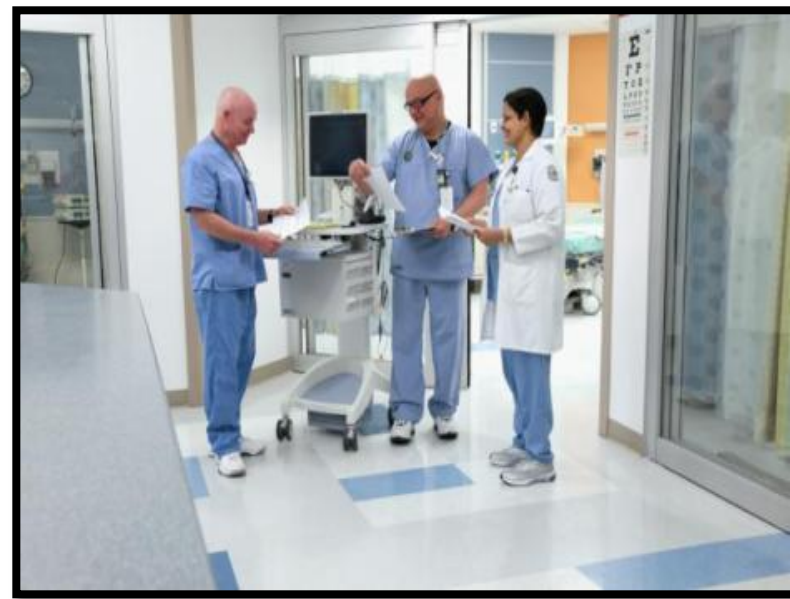
**Hospitals  
Outpatient Clinics  
Mobile Clinics**

**Vet Centers  
Mobile Vet Centers  
My HealthVet  
Virtual Care**

# Team Care

## *The New Health Care Work Place*

- **Work is done in teams.**
- **Team members regard each other as peers.**
- **Teams are empowered.**
- **Teams have data about cost, quality, satisfaction, and access.**
- **Teams use a continuous improvement process.**
- **Teams have time to do their important work.**
- **Teams work collaboratively.**





# VHA Strategic Plan (2013-2018)

- **Goal 1: Provide Veterans personalized, proactive, patient-driven health care.**
  - *Actively involve individuals in their health care planning.*
- **Goal 2: Achieve measurable improvements in health outcomes.**
  - *Identify performance expectations and incentives that drive positive results.*
- **Goal 3: Align resources to deliver sustained care of value to Veterans.**
  - *Allocate resources in ways that support maximum value.*



# Audiology Staffing Within VA

## Audiology Service Staff Data as of June, 2013

- 1,009 clinical audiologists (+47% since 2008)
- 25 research audiologists (+100% since 2008)
- 344 health technicians (assistants) (+73% since 2008)
- 314 sites of care



# Workload Data (FY2012)

## Audiology Service Profile

- 1,577,536 encounters (+7.5% over FY11)
- 802,151 unique Veterans (+6% over FY11)
- 3,429,122 procedures performed (+7.5% over FY11)
- 810,428 encounters (FY13 through Q2) compared with 762,425 for the same period in FY12 (+6%)

Source: VHA Support Service Center





# Graduate Education and Training

- VA has major commitment to associated health education, with stipend support provided for student trainees through Office of Academic Affiliations
- For AY2013-2014, VA awarded:
  - 76 Doctoral Externships and 80 Doctoral Clinical Rotations
    - Externships are one-year advanced training experiences for 4<sup>th</sup> year students
    - Rotations are 350-hour training for 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> year students
  - 41 Clinical Fellowship Years and 39 Master's Rotations
    - CFYs are one year-long advanced training experiences
    - Rotations require 350-hour training experiences
- VETERANS HEALTH ADMINISTRATION



# Graduate Education and Training

- Competitive training site selection is based on standards of excellence:
  - Training to full scope of practice
  - Emphasis on inter-professional education
- Emphasis on evidence-based practice:
  - Defining quality and outcomes of care



# Hearing Aids

- Digital Hearing Aid Contract (November, 2009):
  - VA exercised the third option year under the contract in November.
  - Contracting team is working on the next hearing aid contract, due November 2014.
- Other national contracts:
  - Cochlear Implants
  - Assistive listening devices
  - Wireless devices and adaptors
  - Ear molds (in development)
- DoD Centers use VA national contracts (2% of procurement)



# FY2012 Hearing Aid Statistics

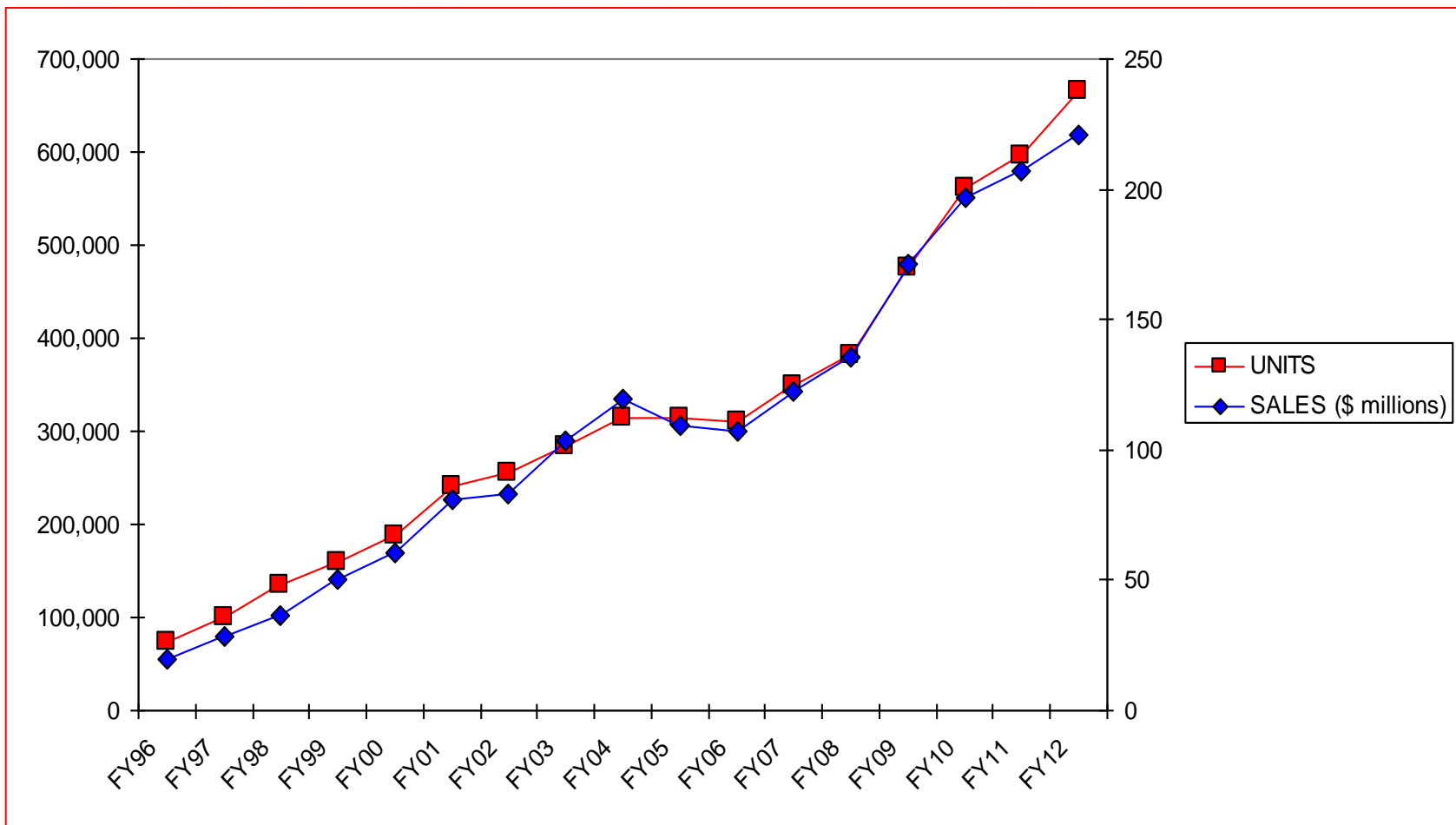
- **596,443 hearing aids (+6% over FY2010)\***
- Net procurement: \$207 million
- Batteries: 59.3 million, \$6.3 million
- Repairs: 358,350, \$14.5 million

\*Reporting period: 9/25/10 to 9/24/11

Source: Commodity Sales Report, VA Denver Acquisition and Logistics Center



# Hearing Aid Trends (1996-2012)





# Hearing Aid Outcomes (IOI-HA)

- Scoring: 1=poorest outcome, 5=best outcome

Q1 Use

Q2 Benefit

Q3 Residual activity limitation

Q4 Satisfaction

Q5 Residual participation restriction

Q6 Impact on others

Q7 Quality of life

Q8 Self-perceived hearing difficulty



# Hearing Aid Outcomes (IOI-HA)

## IOI-HA Averages by FY

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
<b>FY12 (N=22,357)</b> 2.36	4.45	4.10	3.83	4.41	3.81	3.89	4.08
<b>FY11 (N=30,111)</b> 2.34	4.43	4.07	3.81	4.41	3.76	3.85	4.06
<b>FY10 (N=4,762)</b> 2.38	4.40	4.07	3.80	4.41	3.71	3.86	4.04
<b>Norm*</b>	4.50	3.52	3.19	3.84	3.38	3.38	3.68
<b>Norm**</b>	3.73	3.39	3.40	3.20	3.57	3.79	3.19

**\*Moderately-severe to severe perceived hearing difficulty group data**

**\*\* Mild to moderate perceived hearing difficulty group data**



# Auditory Disabilities

<u>Condition</u>	<u>Number of Veterans (FY11 data)</u>
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Tinnitus	840,865
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Hearing Loss	701,760
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- 1,679,146 Veterans have disabilities in Auditory Body System (12.8% of all disabilities)
- In FY11, 18% of all new awards:
  - 87,261 Veterans began receiving compensation benefits for tinnitus
  - 60,229 Veterans began receiving benefits for hearing loss
- Over 159,000 audiology C&P exams performed in FY2012
  - 13% of all C&P exams
  - Second most requested exam
- **FY13 (through May):** 109,765 exams compared with 105,230 exams for the same period in FY12 (+4%)





# Defense Hearing Center of Excellence

## *Audire Est Vivo - To Hear is to Live*



DEPARTMENT OF DEFENSE  
**HEARING CENTER  
OF EXCELLENCE**

HCE: The 'unified voice' for the DoD, VA and other federal agencies regarding the prevention, diagnosis, mitigation, treatment, rehabilitation, and research of hearing loss and auditory system injuries.

- Air Force has lead responsibility for development.
- Joint Hearing and Auditory System Injury Registry (JHASIR)
- DOEHS provides access for VA audiologists
- Improved DoD procurement of hearing aids using VA contract
- VA Audiology Program Office is collaborating closely with DOD on development of HCE.

<http://hearing.health.mil/Home.aspx>



# Tinnitus Education and Research

- First 11 of 19 tinnitus modules added to **VA Talent Management System (TMS)**. Modules are approved for CE credits by the American Academy of Audiology. Developed as a **collaborative effort by:**
  - National Center for Rehabilitative Auditory Research, Portland, OR
  - James A. Haley Veterans Hospital (Tampa, FL);
  - VA Connecticut Healthcare System (West Haven, CT),
  - The Employee Education System (EES),
  - VA Rehabilitation, Research and Development Service (Washington, D.C.).
- **National Center for Rehabilitative Auditory Research (NCRAR)** engaged in several tinnitus studies:
  - Multi-site study of PTM
  - Study to adapt PTM to veteran with TBI using home-based program (Telephone Tinnitus Education)
  - Placebo-controlled Study of trans-cranial magnetic stimulation
  - DoD-funded longitudinal study of prevalence, etiology, and effects of tinnitus and hearing loss among recently discharged veterans.
  - Development of new Tinnitus Functional Index (TFI)



# Examples of Virtual Care

- **Secure Messaging.** Veterans and their healthcare teams are able to exchange non-urgent confidential information in a secure electronic medium. Secure Messaging (SM) application operates through the My HealthVet (MHV) personal health record.
- **E-Consult.** Provider requests a specialist to address a clinical problem or to answer a clinical question for a specific patient. Utilizing information provided in the consult request and/or review of the patient's electronic medical record, the consultant provides a documented response that addresses the request without a face-to-face visit.
- **Specialty Care Access Networks-Extension for Community Healthcare Outcomes (SCAN-ECHO)**

Specialty team receives the consult from PCP. During scheduled specialty SCAN-ECHO clinic, the PCP presents the Veteran's case using de-identified information. The specialist, as well as other members of the SCAN-ECHO team, deliver a treatment plan and advice to the PCP.

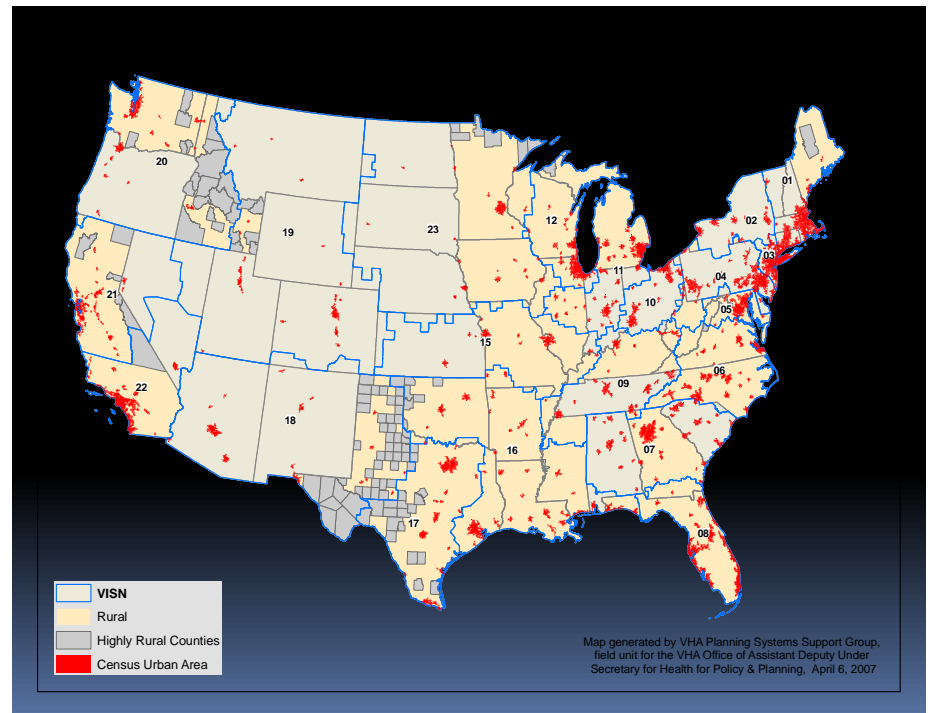


# Telehealth Initiatives

Approximately 60% of enrolled Veterans reside in urban areas, while approximately 37% reside in rural areas. Fewer than 2% reside in highly rural areas.

Travel distance and geographic barriers limit access to specialized clinical services.

Shortage of trained health care professionals and specialized facilities in rural areas mean that many health services are unavailable to the majority of the rural population.





# Travel Times

- **Primary Care:** 70% of urban or rural Veterans should have to travel no more than 30 minutes if they are urban or rural residents, or more than 1 hour if they are highly rural;
- **Acute Care:** 65% should travel no more than 1 hour if they are urban, 90 minutes if rural, and 2 hours, if highly rural;
- **Tertiary Care:** 65% should travel no more than 2 hours if they are urban or rural residents, or beyond VISN boundaries, if they are highly rural.

## Percentage of enrollees with travel times for tertiary care:

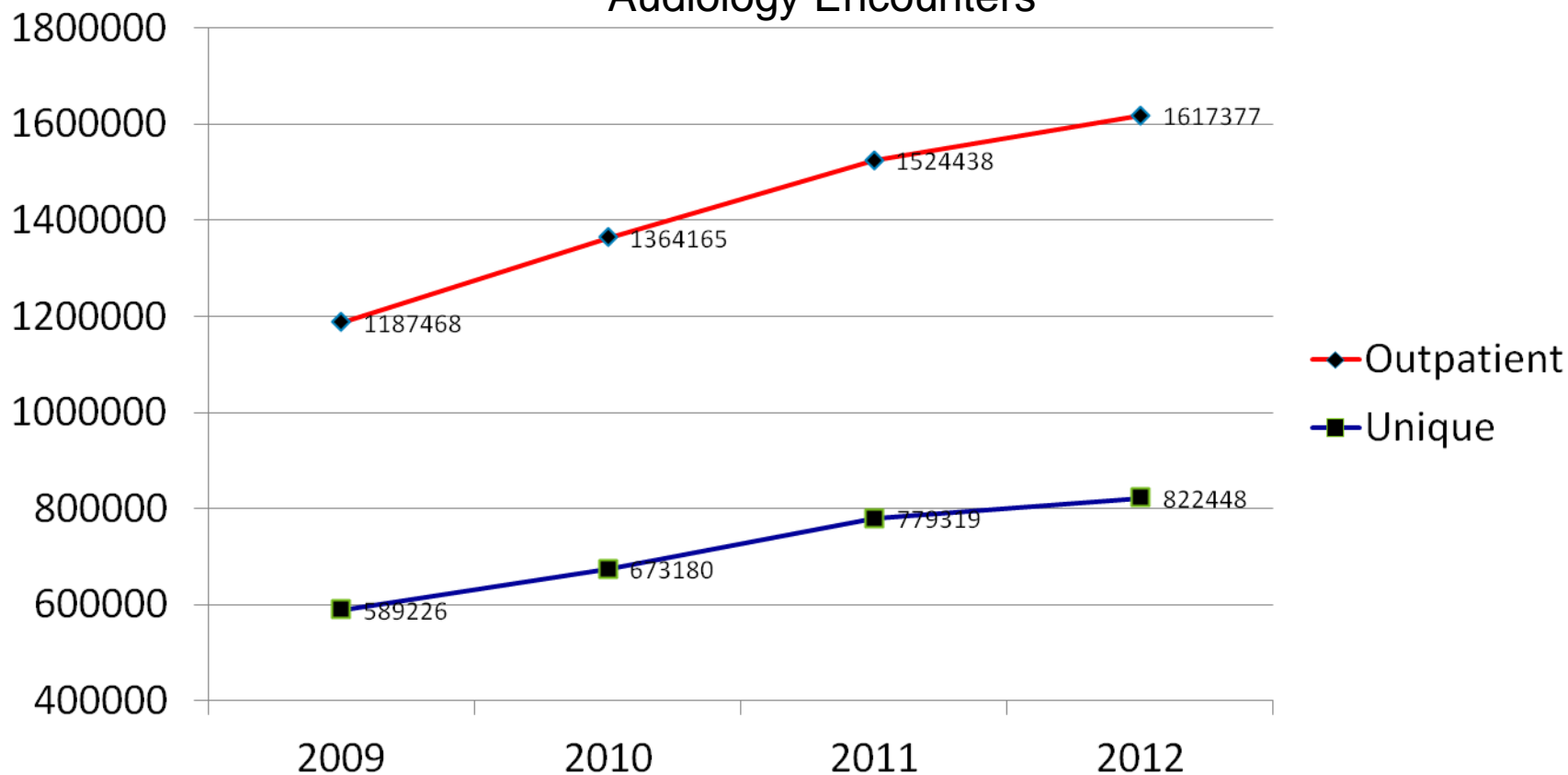
<u>Travel Time</u>	<u>Urban</u>	<u>Rural</u>	<u>Highly Rural</u>
1-15 minutes	16%	0%	0%
16-30 minutes	22%	2%	0%
31-60 minutes	22%	13%	2%
61-90 minutes	12%	19%	2%
91-120 minutes	9%	20%	2%
121-240 minutes	13%	38%	26%
>240 minutes	5%	9%	69%

West et. al. (2010). Defining “Rural” for Veterans’ Health Care Planning. Journal of Rural Health 26: 301–309



# Workload Trends (FY09-12)

## Audiology Encounters

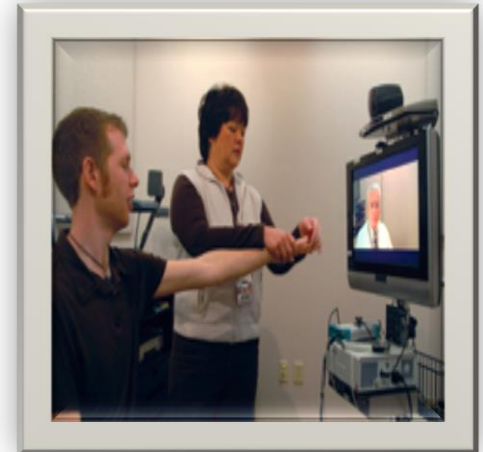




# Clinical Video Telehealth

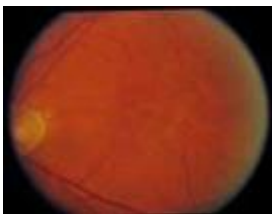
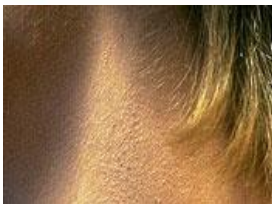


- Traditionally, Veterans seeking health care traveled to the VA hospital or medical center.
- VA has also established hundreds of community-based outpatient clinics to bring VA care closer to home for Veterans.
- Community-based clinics may not have all of the specialty services and staff found at the medical center.





# Store and Forward Telehealth



- Acquire and store clinical information (e.g. data, image, sound, video) that is forwarded to (or retrieved by) another site for clinical evaluation.
- **Teledermatology:** Digital picture sent to a dermatologist. A report with recommendations for treatment sent back to the Primary Care physician. VA is using teledermatology to improve access to skin care for veteran patients who live in remote and other areas to save having to travel to a dermatology clinic.
- **Teleretinal Imaging:** Retinal imaging is available without dilation. Eye care specialist reviews the image and sends back to the Primary Care physician. Not suitable for people who already have complications of diabetes.
- **Teleradiology:** Radiology images sent over telecommunications lines to be read by a radiologist at another site. VA, like many other organizations, is now routinely using teleradiology in many hospitals in the routine delivery of care.





# Home Telehealth

- Management of diabetes, chronic heart failure, chronic obstructive pulmonary disease (COPD), depression or PTSD.
- Conditions make it difficult for Veterans to remain living independently.
- Symptoms and vital signs (pulse, weight, temperature etc) can be checked frequently through home telehealth.

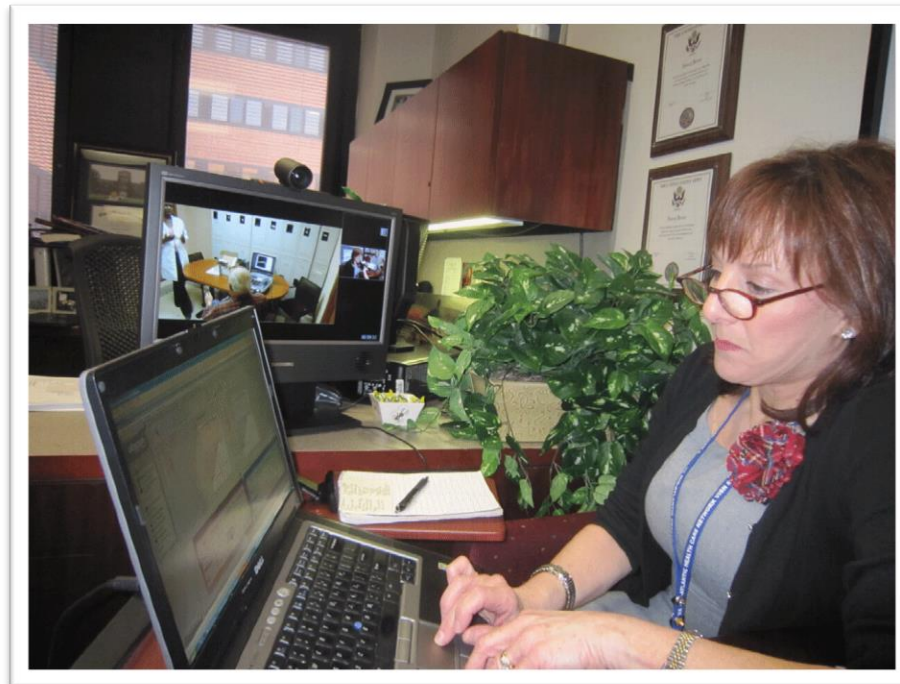




# TeleAudiology

## Veterans Now Get Hearing Aids Closer to Home

March 19, 2012 by Rose Hoban, North Carolina Health News



Using 'teleaudiology' technology, Nancy Jones adjusts the hearing aids of veteran Charles Alligood. Jones is in Durham and Alligood in Greenville, NC.

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# TeleAudiology

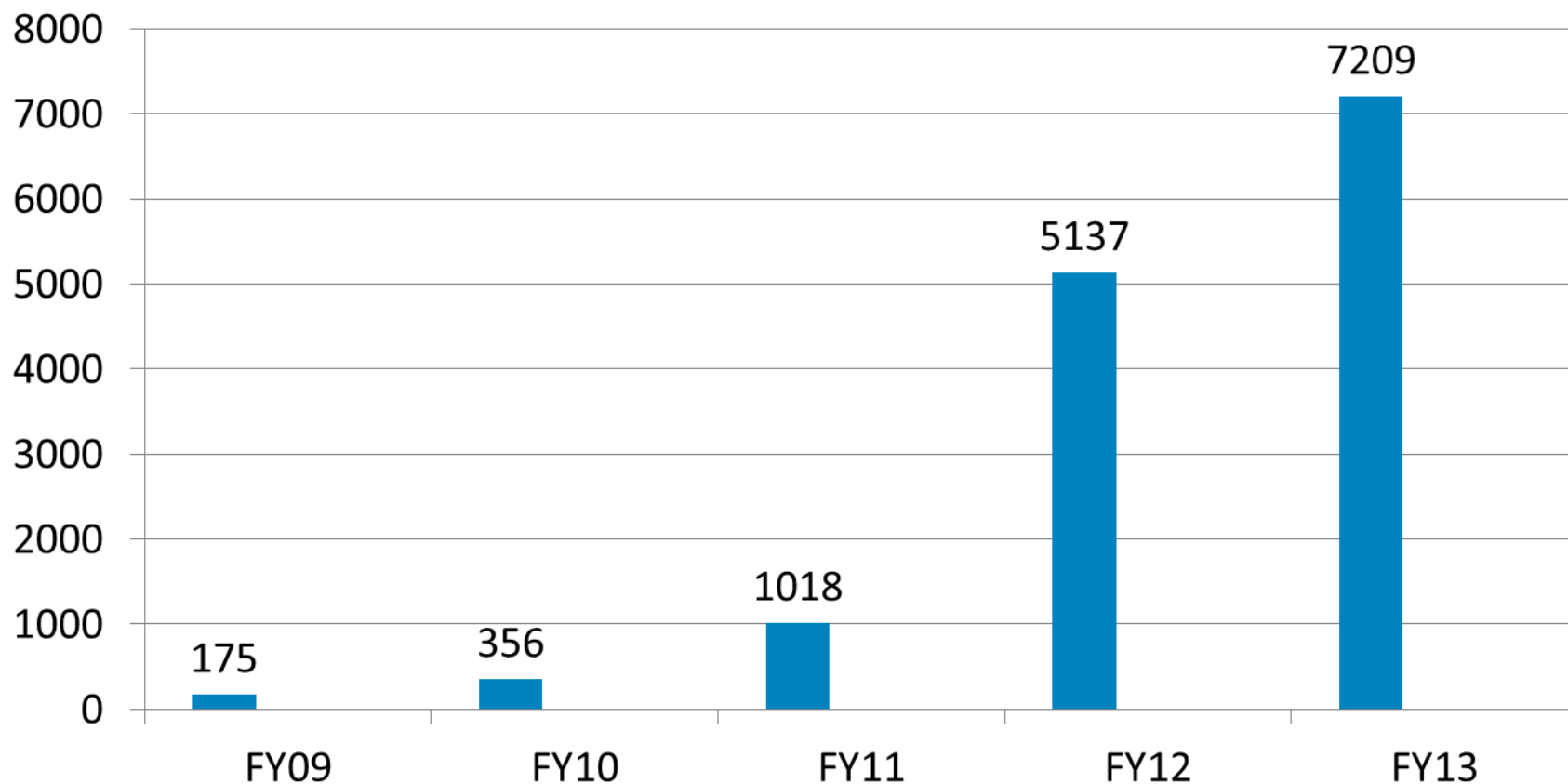


## Tele-Audiology Clinical Specialty Supplement





# Growth in Audiology Telehealth





# Potential Telehealth Applications in Audiology



- Remote assessment of hearing
- Remote troubleshooting/programming of hearing aids and cochlear implants
- Home-based aftercare
- Facilitated home -based auditory rehabilitation
- Remote assessment of balance disorders
- Store and forward applications: master clinicians, imaging, test interpretation





# Audiology Telehealth Pilot Program

- Joint effort with Telehealth Services, Office of Rehabilitation Services, and the Audiology and Speech Pathology National Program Office; Pilot planning began in FY 09.
- Community Based Outpatient Clinic (CBOC) hearing aid tele-programming using remote control software with hearing aid fitting software at 10 pilot sites (rural locations).
- All sites provided with telehealth equipment, specialized audiology equipment, technician staff, and software.
- Pilot sites evaluated feasibility of remote programming, and moved the project from proof of concept to a viable clinical tool for national implementation.



# Telehealth Outcomes (IOI-HA)

**VA has collected 1,170 telehealth outcomes**

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
All Veterans	4.45	4.09	3.83	4.41	3.79	3.88	4.07	2.35
Telehealth	4.52	4.18	3.97	4.53	3.98	4.01	4.12	2.37

**Telehealth outcomes are as good as or better than traditional face-to-face encounters**

Scoring: 1=poorest outcome, 5=best outcome



# National Teleaudiology Pilot Lessons Learned



- Need for centralized vision-currently provided by Telehealth Services
- Careful planning required: well-established teams and networks should include:
  - Clinical Champions/leaders
  - Biomedical Engineering staff
  - Information Technology (IT) staff
  - Telehealth Staff
  - Support staff (e.g. Health Technicians, CAC, MAS/PAS)
  - Industry





# National Teleaudiology Pilot Lessons Learned



- Clinical, technical, and business practices require standardization (Telehealth Services Conditions of Participation)
- Site flexibility is important to all options for adaptation
- Increased dissemination of information, support/outreach, and start-up materials are needed



# Next Phases of the Pilot Project

- Phase II-Remote Audiometry
- Phase III-Evaluate Home-based Teleaudiology
- Phase IV-Home-based Telerehabilitation



# VA Innovation Initiatives

- VAI2 is a flagship program designed to tap the talent and expertise of individuals both inside and outside government to contribute new ideas that produce visionary solutions to advance VA's ability to meet the challenges of becoming a 21st-century organization
- Audiology innovation projects underway:
  - **Automated Audiometry—Audiology, Inc.** This project will evaluate automated audiometry via clinical video, store and forward, and home telehealth (VA Tennessee Valley HCS)
  - **Remote Audiometry—RemotEAR, by Otovation.** This project will evaluate remote audiology using a novel clinical video telehealth hub (Greater Los Angeles VA HCS)
  - **Remote Programming of Cochlear Implants—Cochlear Americas.** This project will evaluate a patient-centered approach in programming cochlear implant devices using the novel semi-automated remote programming software (VA Puget Sound HCS)
  - **Smartphone Application for Home Programming of Hearing Aids—Phonak.** This project will evaluate the feasibility of programming hearing aids using novel mobile distant hearing aid fitting software on the veteran's smart phone (Cleveland VA Medical Center)



# TeleAudiology Achievements

- **EES (CDN) Course: TeleAudiology; Patient Encounter**
  - Provides guidance specific to delivering audiology care to Veterans via Telehealth technology
  - Focus on the use of the technology and performance of the audiology examination, particularly with regard to the role of the telepresenter or Telehealth Clinical Technician
  - Web-based tutorial (in progress)
- **Telehealth Patient Satisfaction Survey (OMB approved)**
  - Breakout for teleaudiology services
- **TeleAudiology Clinical Specialist Supplement completed**
  - Offers practical guidance for remote programming of hearing aids (e.g. SLA, competencies, clinic setup, emergency planning)
  - <http://vaww.telehealth.va.gov/clinic/trh/aud/index.asp>
- **Publications:**
  - *Telepractice in the Department of Veterans Affairs*. Hearing Review. October 2012
  - *Getting Started in Audiology Telepractice*. ASHA SIG 18: Perspectives in Telepractice, Feb, 2013



# 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*