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The economic case for auditory rehabilitation

How do we approach this?

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 Department of Communication Science and Disorders
 School of Medicine, Department of Otolaryngology
 Director, Audiology, UPMC




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Introductions

- Director, Audiology for a large integrated health system. 25 locations (in addition, 33 senior living communities), 57 audiologists (pediatric and adult)
- Clinician
- AuD program Director
- Director, University of Pittsburgh Auditory Processing Research Lab (5 PhD students)
- Editor of Seminars in Hearing
- October 1, 2018, President-Elect, AAA

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Working definition of Auditory Rehabilitation for today...

- ARA Mission: to promote excellence in hearing care through the provision of rehabilitative and habilitative services
- Dedicated to fostering and stimulating education, research, and interest in audiologic habilitation and rehabilitation components of hearing care
- Organization serves as a public policy advocate for audiologic rehabilitative and habilitative services

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Patient-First Approach

ARA promotes a patient-first approach which fosters:

- Better patient outcomes
- Reduced hearing aid return rate
- Better rapport with patients
- Increased referrals to ARA from satisfied patients
- Greater patient satisfaction to manage hearing difficulties
- Improved patient quality of life
- Patient self-empowerment

ARA: when we help improve communication


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What did you do this week?

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What did you do this week?

- Did you reduce hospitalization and general health care use?

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What did you do this week?

- Did you lower mortality in community-dwelling older adults?

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What did you do this week?

- Did you reduce the odds of your patient falling?

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What did you do this week?

- Did you reduce the chance of your patient suffering from depression or social isolation?

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What did you do this week?

- Did you decrease the burden of disease on your patient and the health system?

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What did you do this week?

- Did you decrease hospital readmissions?

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What did you do this week?

- Did you reduce caregiver burden?

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What did you do this week?

- Did you increase adherence to treatment recommendations?

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What did you do this week?

- Did you reduce accidental injury and adverse medical events?

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What did you do this week?

- Did you insure accurate oral questionnaire based assessments given to patients?

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What did you do this week?

- Did you reduce total medical expenditures?

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What did you do this week?

- Did you decelerate brain atrophy?

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What did you do this week?

- Did you increase satisfaction with overall quality, accessibility, and receipt of information related to health care?

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What did you do this week?

- Did you reduce the amount or rate of cognitive decline?

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What did you do this week?

- Did you insure that a child will fully access educational and employment opportunities?

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Identifying hearing loss is important and under-treatment may be costly for the patient, the family, and the health care system

Short term associated risks	Long term associated risks
<ul style="list-style-type: none"> • Increased odds of falling • Poor adherence to treatment recommendations • Increased accidental injury and further medical difficulties • Increased preventable adverse medical events • Increased readmission to the hospital • Dissatisfaction with overall quality, accessibility, and receipt of information related to their healthcare • Independently associated with lower ratings patient-physician communication and overall healthcare 	<ul style="list-style-type: none"> • More vulnerable to and tended to suffer more from the ill effects of depression • Prevalence of depression increased as untreated hearing loss became worse • Associated with an increased odds of social isolation in women aged 60 to 69 • Linked to higher rates of mortality in community dwelling older adults • Increased rates of hospitalization • Increased rates of general health care use • Poorer overall health and burden of disease

Untreated hearing loss results in \$3.30 billion in excess medical expenditures.

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What did you do this week?

- Did you reduce caregiver burden?

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What did you do this week?

- Did you insure that a child will fully access educational and employment opportunities?

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Disclaimer

- Focus on older adults today
- Pediatrics
 - Speech and Language Outcomes
 - Yoshinaga-Itano et al (Pediatrics, 102(5) 1161-1171, 1998)
 - Outcomes of Children with Hearing Loss Study (factors that moderate the relationship between hearing loss and longitudinal outcomes)
 - Education and Income Loss (tax base loss)
 - State of PA



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Untreated HL

MedicalQuality

Impact of Hearing Loss on Patient-Provider Communication Among Hospitalized Patients: A Systematic Review

Alithwarya Shukla, BA¹, Carrie L. Neuman, MD, MPH², Carrie Price, MSL³, Michael Harper, BM¹, Frank R. Lin, MD, PhD¹, and Nicholas S. Rand, AuD¹

JAMA Otolaryngology-Head & Neck Surgery | Review

The Economic Impact of Adult Hearing Loss: A Systematic Review

Matthew C. Haskell, MD, Adam W. Goran, PhD, Fausto C. Santoro, BA, Danielle M. Foley, MS, Caroline M. S. Swaidan, PhD, Frank R. Lin, MD, PhD

Hearing Loss and Cognition Among Older Adults in the United States

Frank R. Lin^{1,2}

Impact of patient communication problems on the risk of preventable adverse events in acute care settings

Association of Hearing Loss and Health Care Expenditures in Older Adults

Danielle M. Foley, MS¹, Kevin D. Frick, PhD², and Frank R. Lin, MD, PhD¹

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NYU Researchers Find

Sep 21, 2018

As many hospitals work to find ways to reduce costs and improve care, a study finds that patients' hearing loss significantly increases their risk for hospital re-admission.

Posted in Health and

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JAMA Otolaryngology-Head & Neck Surgery, 2016 Sep 6; doi:10.1001/jamaoto.2016.1656. [Epub ahead of print]

Association of Cognition and Age-Related Hearing Impairment in the English Longitudinal Study of Ageing.

Ray J¹, Poole G², Fall G³

"...although hearing loss and cognition are linked, untreated hearing loss drives the association"

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The economic case...

- Who are we trying to convince?
- So what have we done...

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Audibility

A Multi-Center, Double Blind Clinical Trial Comparing Benefit from Three Commonly Used Hearing Aid Circuits*

Larson, Vernon D.; Williams, David W.; Henderson, William G.; Luetjke, Lynn E.; Beck, Lucille B.; Noffsinger, Douglas; Bratt, Gene W.; Doble, Robert A.; Fausti, Stephen A.; Haskell, George B.; Rappaport, Bruce Z.; Shanks, Janet E.; Wilson, Richard H.

Ear and Hearing: August 2002 - Volume 23 - Issue 4 - p 260-276

Speech Recognition Performance of Patients with Sensorineural Hearing Loss Under Unaided and Aided Conditions Using Linear and Compression Hearing Aids

Shanks, Janet E.; Wilson, Richard H.; Larson, Vern; Williams, David

Ear and Hearing: August 2002 - Volume 23 - Issue 4 - p 260-290

J Am Acad Audiol 18:390-403 (2007)

The Contributions of Audibility and Cognitive Factors to the Benefit Provided by Amplified Speech to Older Adults

Larry E. Humes*

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Quality of Life

Trends In Amplification

VOLUME 9, NUMBER 3, 2005

Health-Related Quality of Life and Hearing Aids: A Tutorial
Harvey B. Abrams, PhD, Theresa H. Chisolm, PhD, and Rachel McArdle, PhD

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- **The Larger Question is...**

Does treating hearing loss improve health outcomes

Therefore saving money – for the individual, for the health care system, for the healthcare insurer

(Different from does the person hear better...)


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Thinking out of the booth: Interventional Audiology


- Go to where the patient is
- Improve communication when hearing loss is not the primary concern
- Meet the health care provider where they are

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Hearing loss: under-recognized



~40%
Of people who have hearing loss recognize it






~50%
Of health providers recognize hearing loss

Data from Morner et al

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Negative Consequences


Increased hospitalization

\$3.30 Billion in excess total medical expenditures

1/3 requiring readmission to the hospital

CMS now bases 25% of hospital payments on patient satisfaction
receipt of information related to their health care

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60
Over the age of 65 have hearing loss

18
People with hearing loss wearing hearing aids

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Example Programs

- Inpatient
- HearCARE
- EAR Program
- Interdisciplinary Clinics

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“We don’t get paid for these services.”

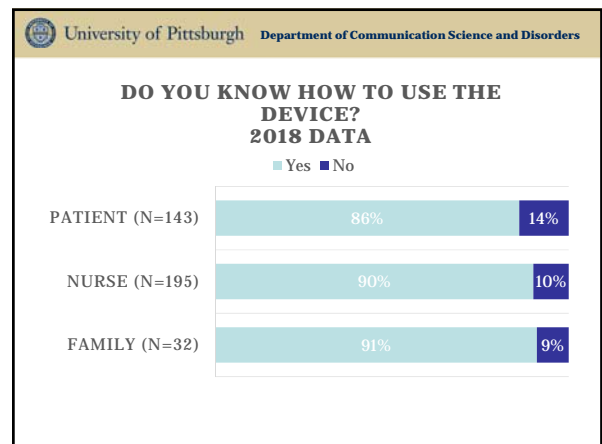
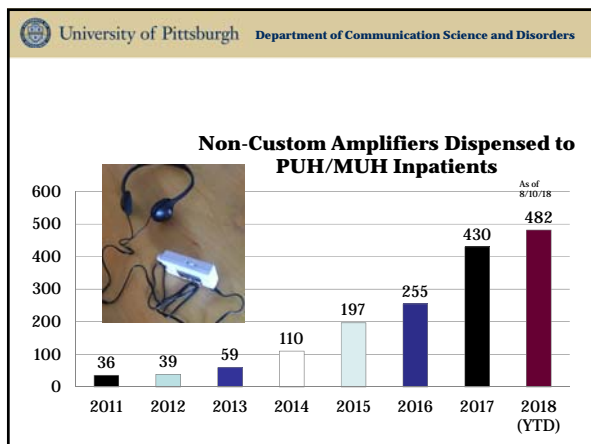
- Means “we are not reimbursed by insurance providers for these services”
- Presumably, if you bill a person or system, you will get paid.

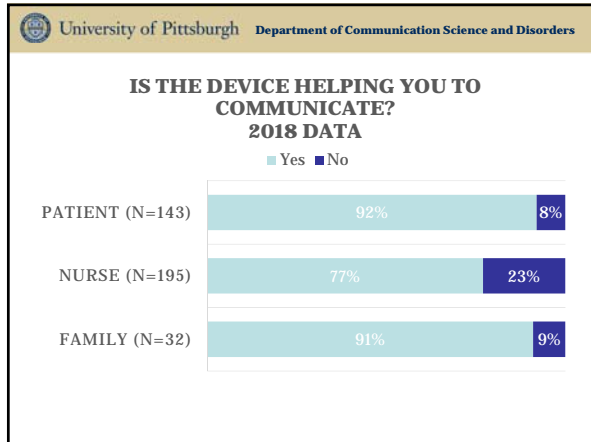


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Inpatient – Joint Commission on Accreditation of Health Care Organizations (JCAHO)

- Full participation in decision making
- Patient and family centered care
- Provision of Care, Treatment, and Services
 - PC.02.01.21 The hospital effectively communicates with patients when providing care, treatment, and services.
- Rationale: this standard emphasizes the importance of effective communication between patients and their providers of care, treatment, and services. Effective patient-provider communication is necessary for patient safety.





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- Does an audiologist need to deliver these services?
 - Does an audiologist need to oversee these services?

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Letting health care providers know about our services...

- [Systemwide Extra – to run August 22](#)

Title: Can You Hear Me Now?

- [Clinical Screensaver](#)

Do you know if your patient has hearing loss? It might not be easy to spot. Search for the video "Disabilities Debunked 102: Hearing Loss" on Infonet to learn more.

Thanks to Sarah Katz with Internal Communications who guided us through this process.

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HearCARE

- Hearing and Communication Accessibility for Resident Engagement

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Skilled Nursing

- Minimum Data Set (MDS)
- MDS 2.0
 - Implementing standardized assessment and for facilitating care management
 - Fails to include items that rely on direct resident interview, disenfranchises residents from the process
- MDS 3.0 includes communication with resident

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Assisted Living

- Regulated at the state level
- 2800.224 Initial assessment and preliminary support plan
 - Written preliminary support plan must document the dietary, medical, dental, vision, hearing, mental health or other behavioral care services that will be made available to the individual, or referrals for the individual to outside services

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Communication Facilitator



Move from impairment to the limitation

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UPMC LIFE CHANGING MEDICINE Canterbury Place Hear-CARE Hearing and Communication Assistance for Resident Engagement

Hear-CARE is a new model of delivering audiology services and communication assistance to residents in UPMC skilled nursing, assisted living, personal care, and independent living facilities.

Available services include:
 Hearing evaluations
 Development of communication plans
 Assistance with TV, phone, and group listening situations
 Selection & fitting of cost-effective hearing aids & hearing assistive devices
 Maintenance & repair of hearing aids & hearing assistive devices
 Cerumen (earwax) removal

This is a free service regardless of where devices were purchased!

Dr. Cassidy will be available in this facility on the 3rd & 4th Wednesday of each month to help with your hearing needs.

Dr. Cassidy can be contacted at 724-940-5751 if you have any questions.

Amanda Cassidy, AuD
 Licensed Audiologist

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Older Americans Act (OAA, 1965), Title III

- Lack of community social services for older adults
- Title III of the OAA
 - Encourage and assist state and local governments in the development of comprehensive and coordinated in-home and community based long-term services
 - Title IIID : disease prevention and health promotion

<https://www.ncoa.org/wp-content/uploads/Title-III-D-Highest-Tier-Evidence-FINAL.pdf>

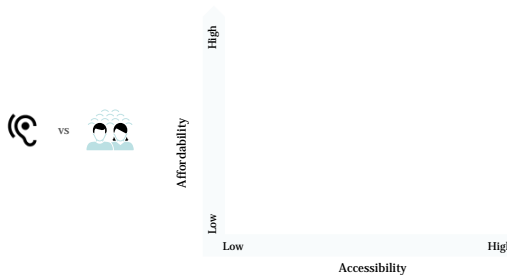
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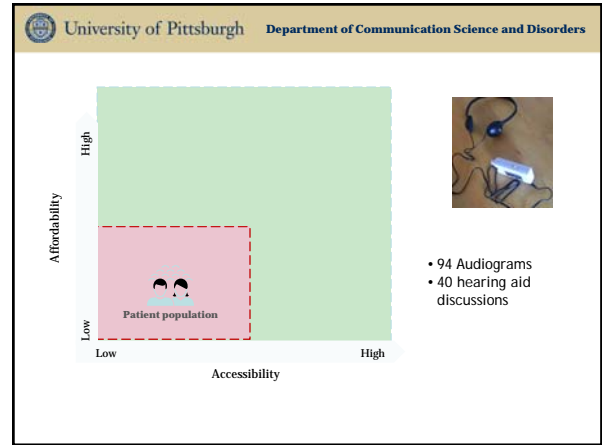
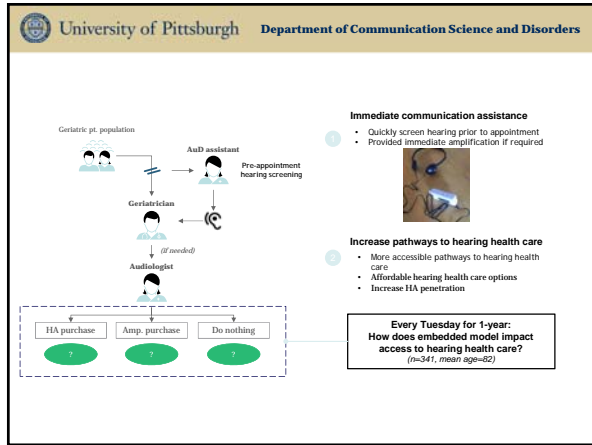
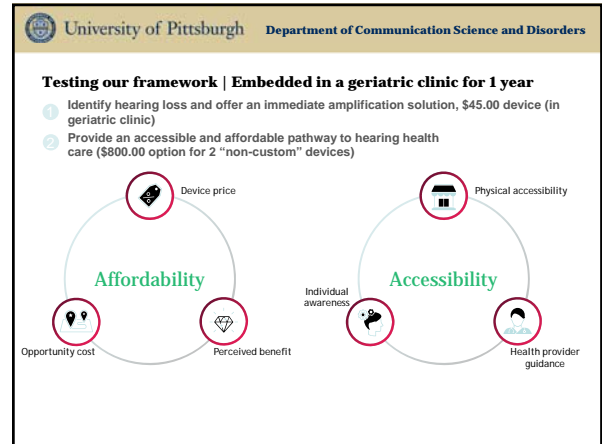
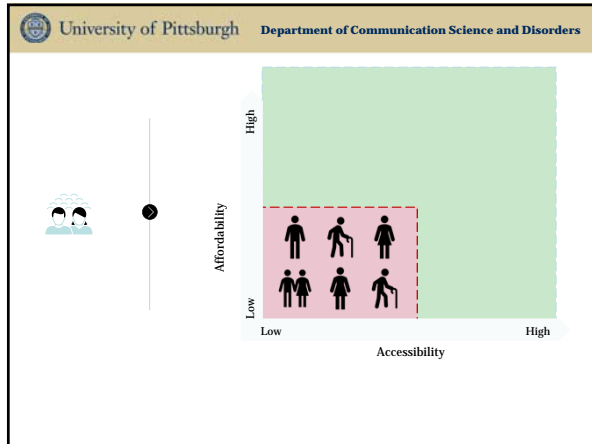
- Evidence-based designation for Health Promotion/Disease Prevention Programs from the National Council on Aging (NCOA)

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EAR: Embedded Audiology Resources

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The primary goal of our Head & Neck Cancer Survivorship Clinic is to identify and treat unmet needs among our survivors.

Audiology → Speech-Language Pathology → Dentistry → PT → Nursing → H&N Surgeon → MAS

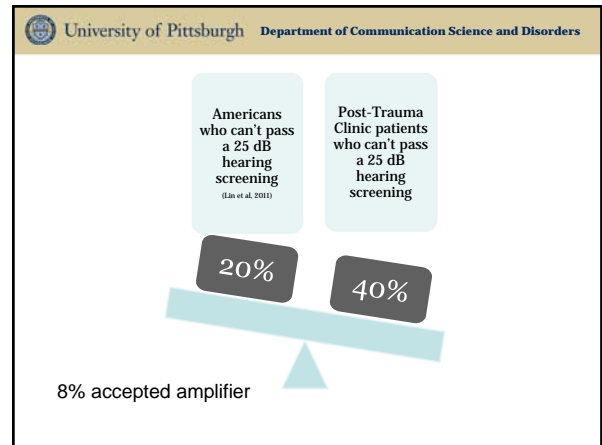
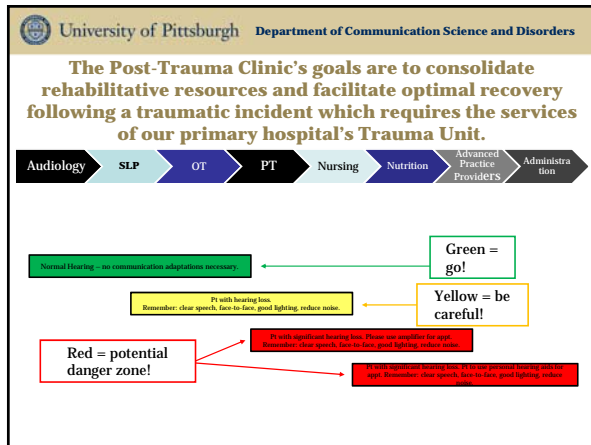
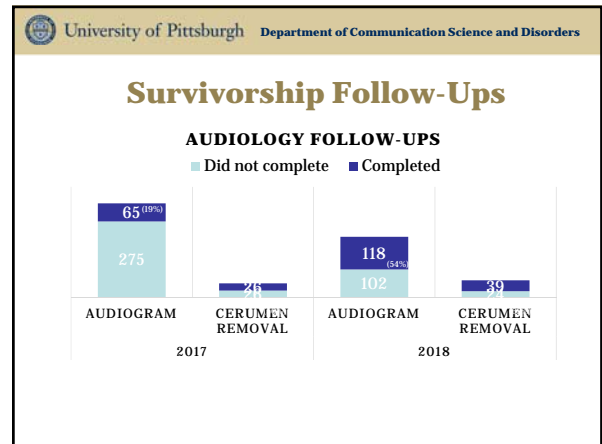
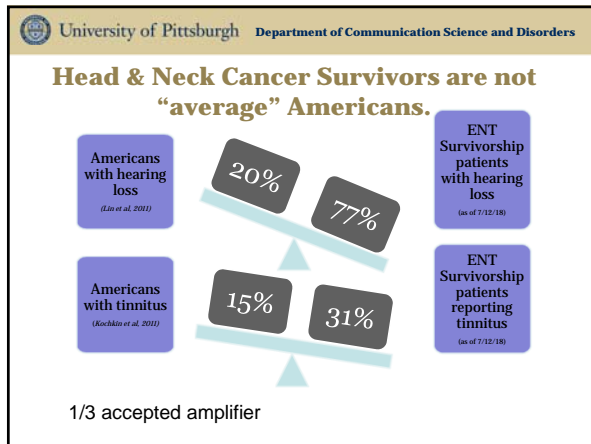
- Note that audiology is listed first
- Untreated hearing loss can negatively impact healthcare interactions and outcomes.

Audiology Protocol for all Survivorship Patients

Otoscope examination → Screening → Intervention → Recommendations

Other audiology services available:

- Cleaning & checking hearing aids
- Comprehensive hearing tests
- Wax removal (referred to otologist)
- Discussion of hearing protection



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Silos of Intervention

- 2014 Census Bureau's American Community Survey
 - 36% of older adults reported some type of participation limitation with many reporting more than one impairment
 - CDC estimates that 59.8% of individuals 65 and older have complex activity limitation related to multiple impairments

