HEARING LOSS IN OLDER ADULTS: A PUBLIC HEALTH IMPERATIVE

THOUGHTS BY
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DISCLOSURES

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OBJECTIVES

• Burden of hearing loss on public and individual health

• Identifying those with hearing loss

• How do we treat hearing loss and what are the benefits?
HEARING LOSS IN OLDER ADULTS: A PUBLIC HEALTH IMPERATIVE

• Hearing loss affects ~38 million Americans

• ~Half of those >60 year old have hearing loss
  • Most common sensory deficit among older adults

• Will increase to 73.5 million Americans by 2060

• Do you know someone with hearing loss?
THE MANY HEALTH CONSEQUENCES OF HEARING LOSS

• Hearing loss associated with:
  • Social isolation, loneliness, depression
  • Falls
  • Cognitive decline and dementia

• Hearing loss burden
  • Individuals
  • Healthcare utilization and spending
HEARING LOSS AND FALLS

Systematic Review

Hearing Loss and Falls: A Systematic Review and Meta-analysis

Nicole Tin-Lok Jiam, BA; Carol Li, MD; Yuri Agrawal, MD, MPH

• Older adults with HL 2.4x more likely to fall
Hospitalizations

- Increased hospitalization
- Length of stay
- Increased readmission
- Increased mortality
TINNITUS

• Highly associated with HL

• Those at risk:
  • Older adults, military

• No treatment coverage by Medicare, private insurance
Central Auditory Dysfunction as a Harbinger of Alzheimer Dementia

George A. Gates, MD; Melissa L. Anderson, MS; Susan M. McCurry, PhD; M. Patrick Feeny, PhD; Eric B. Larson, MD, MPH

Hearing Loss and Cognition in the Baltimore Longitudinal Study of Aging

Frank R. Lin, Hopkins University
Luigi Ferrucci, E. Jeffrey Metter, Yang An, Alan B. Zonderman, and Susan M. Resnick
National Institute on Aging, Baltimore, Maryland

Relationship of Hearing Loss and Dementia: A Prospective, Population-Based Study

*Richard Klaus Gurgel, *Preston Daniel Ward, †Sarah Schwartz, †‡$Maria C. Norton, ||Norman L. Foster, and †‡JoAnn T. Tschanz
Hearing Loss as a Risk Factor for Dementia: A Systematic Review

Rhett S. Thomson, BA; Priscilla Aduuong, MD; Alexander T. Miller, BS; Richard K. Gurgel, MD

- Odds ratio for an older adult with hearing loss developing dementia compared to normal hearing control: 1.24-1.8
- up to OR 4 for severe-profound SNHL
9% of modifiable risk of Alzheimer's disease attributed to hearing loss

G. Livingston et al., Lancet, 19 July 2017
SCREENING

• How do we best identify those with hearing loss?
AMERICAN ACADEMY OF OTOLARYNGOLOGY–HEAD AND NECK SURGERY FOUNDATION

Age-Related Hearing Loss Measurement Set
CMS SUBMISSION

• Submitted Centers for Medicare & Medicaid Services for the 2018 Qualified Clinical Data Registry
• 3 approved, with the screening measure not approved as a stand-alone measure.
• After a year of testing in the Reg-ent registry with data pulled from electronic health records, modifications were necessary to capture the necessary data.
• Subsequent consultation with the CMS Center for Clinical Standards and Quality resulted in modifications that would meet CMS measure requirements for the 2019 Qualified Clinical Data Registry.
TREATING HEARING LOSS

IIC (invisible-in-the-canal)
CIC (completely-in-the-canal)
ITC (in-the-canal)
ITE (in-the-ear)
RIC (receiver-in-the-canal)
BTE (behind-the-ear)
Super Power
Among presidential advisors, Mr. Reagan’s use of a hearing aid revived speculation on whether his age would be an issue if he seeks re-election next year.
Hearing Loss & Hearing Aid Use Prevalence Among Older Adults in the U.S. 1999-2006

Prevalence

Age (in years)

Chien W et al, Arch Int Med, 2012
COST EFFECTIVENESS

Cost-Benefit Analysis of Hearing Care Services: What Is It Worth to Medicare?
Amber Willink, PhD, *† Nicholas S. Reed, AuD, *‡ and Frank R. Lin, MD, PhD *‡

- Average annual spending for those who used hearing aid: $8,196
- Average annual spending for those without hearing aid: $10,709 (difference of $2,513)
- Difference mainly in higher skilled nursing and home health
COCHLEAR IMPLANTS IN OLDER ADULTS

• Only 5-10% of adult cochlear implant candidates in the US have received cochlear implants
• Average delay from time of profound ARHL to CI is 10 years
• Fastest growing segment of CI users = older adults
U.S. Adult Hearing Loss (2018)

Total hearing loss
45 million

Potential implant candidates
~1.2 million severe to profound

~100,000 CI Recipients

~8.4% penetration

1. In 2018, the World Health Organization (WHO) estimated the prevalence of disabling hearing loss to be 45 million adults and nearly 1 million children in the United States (WHO, 2018).
3. Market penetration estimate based on Cochlear sourced data.
COCHLEAR IMPLANTS IN OLDER ADULTS

• Move past “safe and effective.” No longer research

• How do we improve access?
CONCLUSIONS
CONCLUSIONS

• Hearing loss creates a tremendous healthcare burden
  • Falls, hospitalization, tinnitus, loneliness, cognitive decline and dementia

• We can do more to screen for hearing loss

• Treating hearing loss mitigates many of the downstream sides effects of hearing loss and is cost-effective
Questions