

Person-Centered Care: Role of Advancements in Hearing Technology

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As healthcare is rapidly evolving, new findings may change the validity of the information presented in this course. Providers should always consult the latest research and guidelines from professional associations.

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Healthcare providers should apply cultural competence and sensitivity to ensure effective and respectful care based on their patients' diverse needs.

Providers should always evaluate the limitations of diagnostic and screening tools, considering their potential for false results as well as any ethical implications.

It is the responsibility of course participants to critically evaluate the evidence from multiple sources to guide professional practice.

Learning Outcomes

1

Describe the impacts of hearing health on overall health

2

Describe the role of hearing healthcare providers in using hearing technology to aid in overall health and wellness goals.

3

Identify how hearing healthcare providers can incorporate methods that assess aspects of a patient's health while also treating their hearing loss



Overview

Introduction to Comorbidities and Person-Centered Care

Psychosocial and Psychological

Balance and Falls

Cognition

Key Takeaways

Q&A

Comorbidities of Hearing Loss

¹Blackwell, DL, Lucas, JW, & Clark, TC. (2014)

²Besser et al. (2018)

The World Health Organization reports more than 1.5 billion people experience hearing loss worldwide

Approximately 15% of U.S. adults have self-reported difficulty hearing¹

Comorbidities with hearing loss²

Psychosocial Health	Arthritis
Mobility Restriction	Cancer
Cognitive Impairment	Stroke
Diabetes	Vision Impairment
Cardiovascular disease	

Examples of Comorbidities of Hearing Loss

Comorbidity	Relationship with Hearing Loss	Clinical Implication
Diabetes	High blood sugar: damage blood vessels and nerves in the cochlea ³ Low blood sugar: damage the ascending neural pathway from the inner ear to brain ³	Regular hearing screenings should be recommended for those with diabetes ⁴
Cardiovascular Disease	Underlying risk factors of cardiovascular disease (diabetes, smoking, hypertension, and high cholesterol) are associated with increased incidence of hearing loss ⁵	Regular hearing screenings for individuals with cardiovascular disease ⁵

³ Center for Disease Control (2024)

⁴ Baiduc & Helzner (2019)

⁵ Baiduc et al (2023)

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Mobility Restriction

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Vision Impairment

Cardiovascular disease

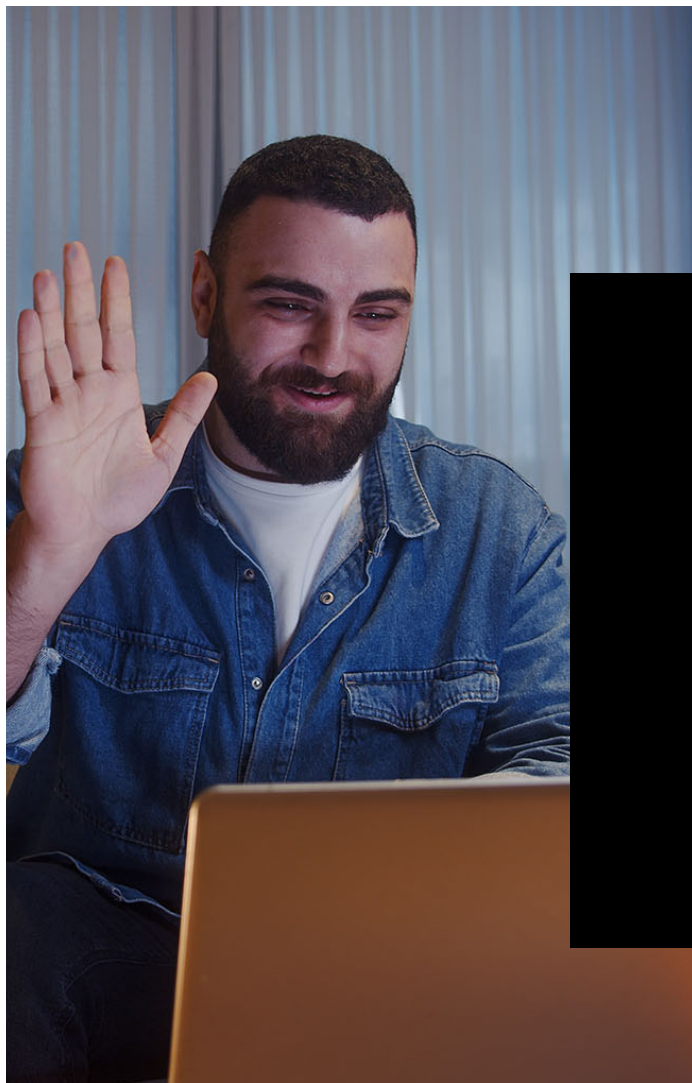
Person-Centered Care Definition

Person Centered Care from the Patient Perspective:
“**Patients make informed decisions** about their treatment and well-being. They have a team of...**providers who know them, listen to them, and are accountable for their care.**”⁶

Person Centered Care from the Provider Perspective
“... **Health care providers work collaboratively with patients and other health care providers** to do what is best for the patients’ health and well-being...by providing health care providers with the big picture information, they are better equipped to develop care plans that include empathy.”⁶

⁶Centers for Medicare and Medicaid Services (2023)



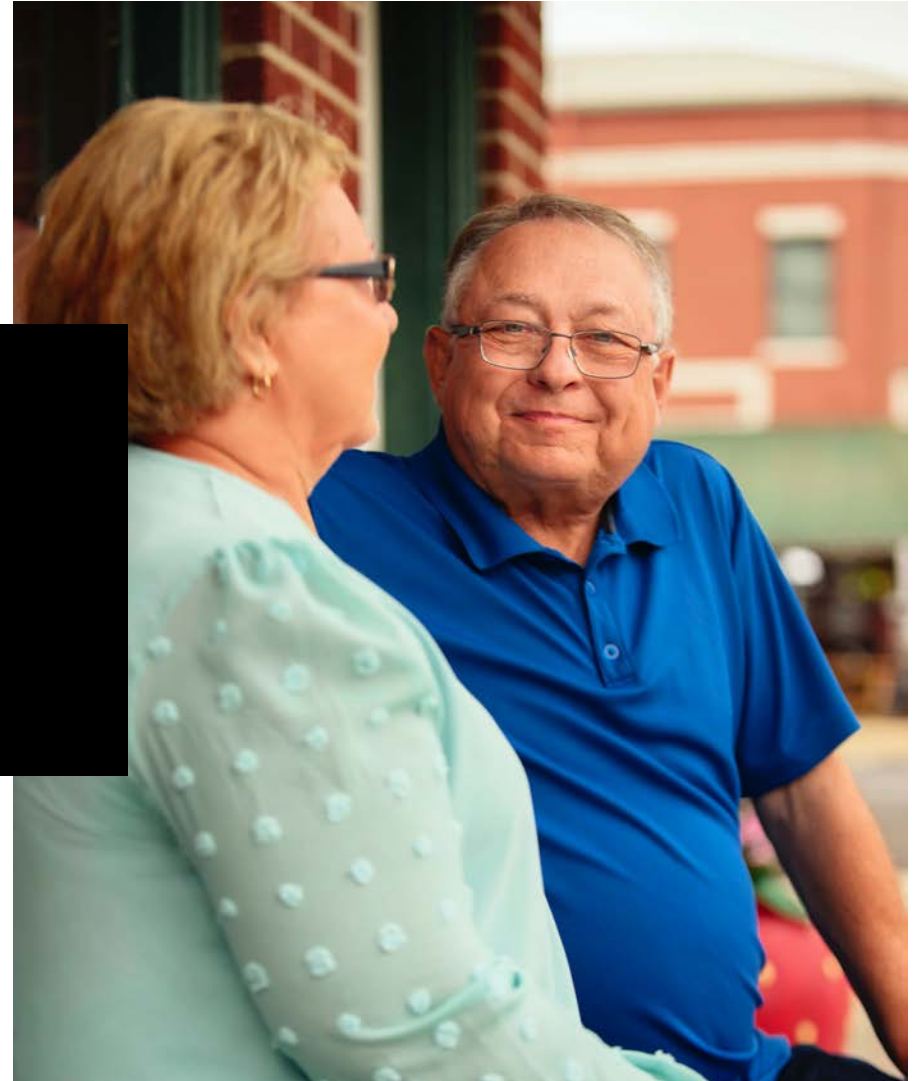


Person-Centered Care Scenario

“Tyler meets with his doctor about breathing problems and is diagnosed with asthma. In addition to prescribing Tyler a rescue inhaler to treat the symptoms, his doctor follows up with a telehealth visit to **identify contributing factors**, including smoking and his **current living conditions**, and develop a treatment plan. Together they come up with a comprehensive plan that considers Tyler’s related **health, behavioral, and social needs**. For example, the plan includes connecting Tyler with a **smoking cessation** program when he is ready to quit. The plan also leverages **community partners and public services** who can help him understand what in his apartment might contribute to his asthma and where he can get help to improve his living situation.”⁷

⁶ Centers for Medicare and Medicaid Services (2023)

Psychosocial and Psychological Factors

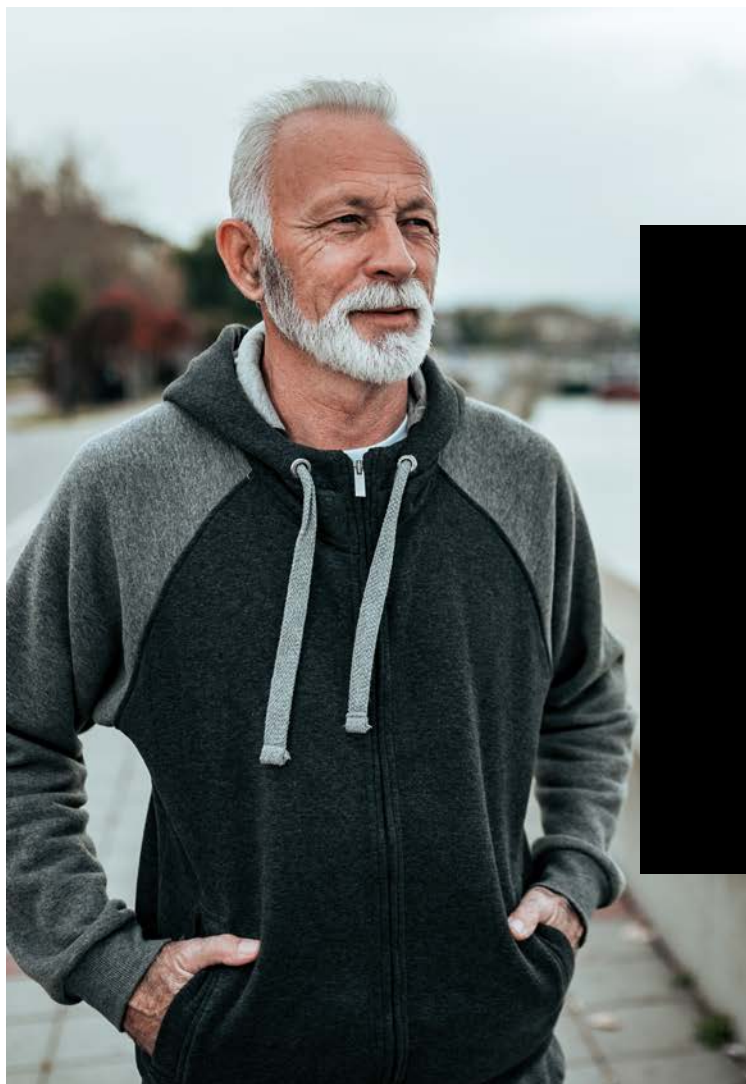


Hearing Loss and Comorbid Psychological Symptoms

A qualitative study on **comorbid psychological symptoms** for older adults with hearing loss was completed⁷

Theme	Description	Example
Cumulative impact of hearing loss and psychological symptoms	Two-way, additive relationship between hearing ability and psychological symptoms	Participant recognizes previous social anxiety has been in part due to hearing loss
Experience of loss throughout hearing loss and audiological rehabilitation	Subjective losses, the impact they have, and how participants cope	Frustration with the inability to have hearing restored to "normal" with hearing aids
Experience of gain throughout hearing loss and audiological rehabilitation	Participants' reported gains, their related impacts, and coping strategies	Intervention improved life, increased social interaction , and improved social bonds

⁷ Laird et al (2020)



Hearing Loss and Comorbid Psychological Symptoms

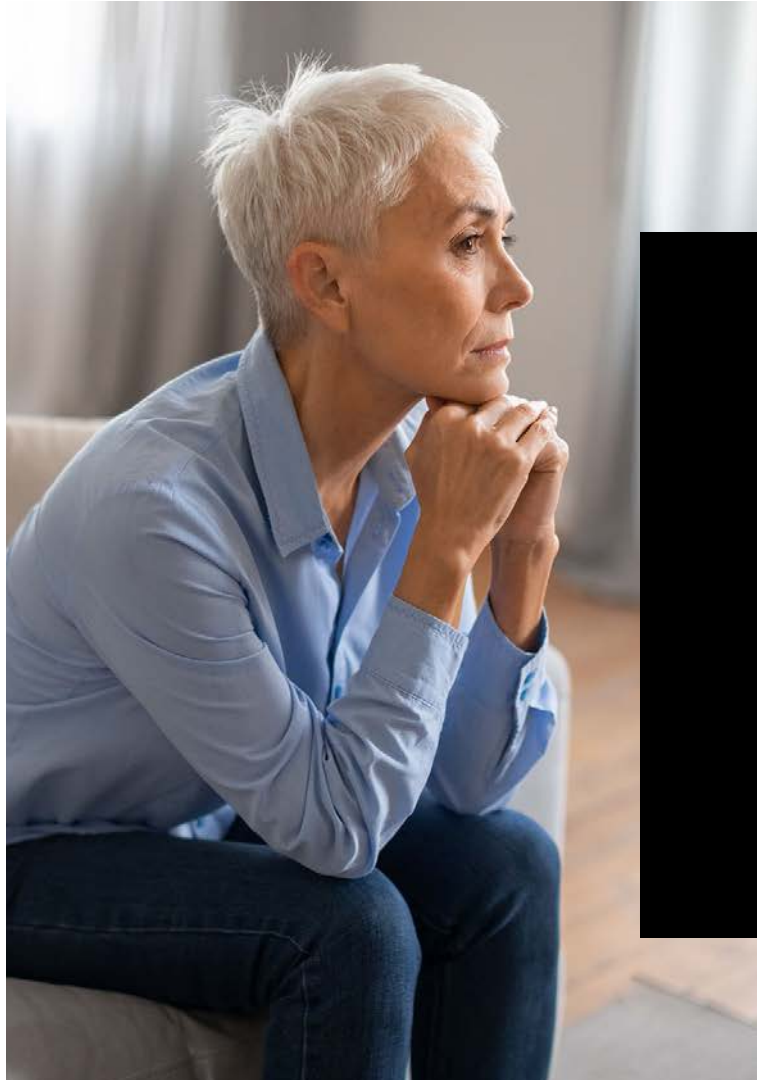
“The audiologist should, therefore, provide rehabilitation that addresses not only the hearing loss but also **the impact of the hearing loss on the emotional, physical, and social aspects of that person’s life.**”

⁷ Laird et al. (2020)

⁸ Erdman et al. (1994)

⁹ Grenness et al. (2014)

¹⁰ Hickson & Scarinci (2007)



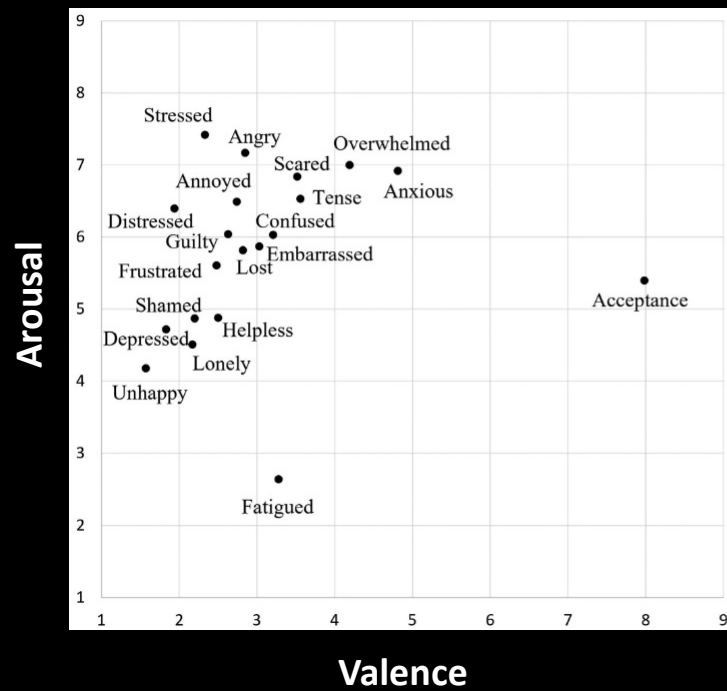
Hearing-Related Emotions

- 1 What hearing-related emotions are experienced by adults with hearing loss in life, and how do they occur?
- 2 What impact does hearing-aid use have on emotion in the hearing-aid wearer?
- 3 To what extent does the experience of hearing-related emotions vary between adults with hearing loss?

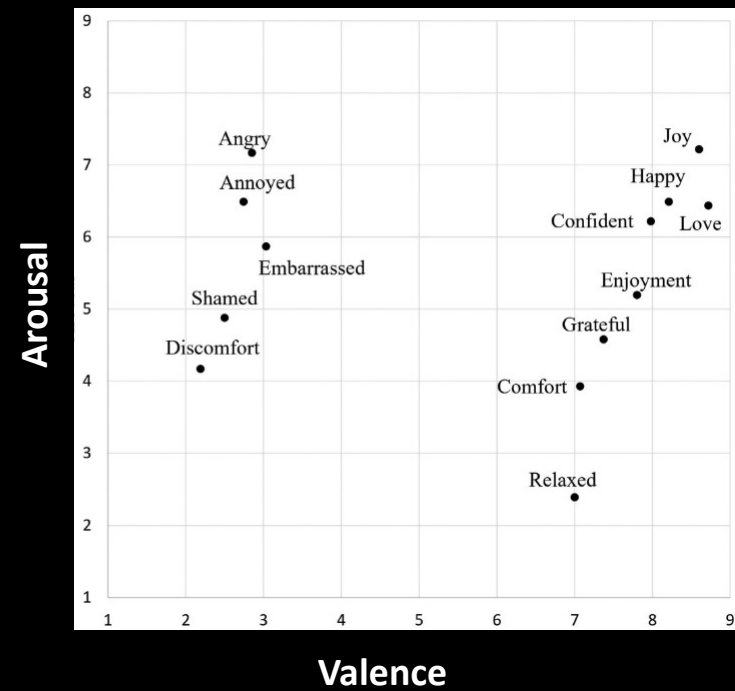
¹¹ Holman, Ali & Naylor (2022)

Hearing-Related Emotions

Daily-life Emotions Related to Hearing Loss



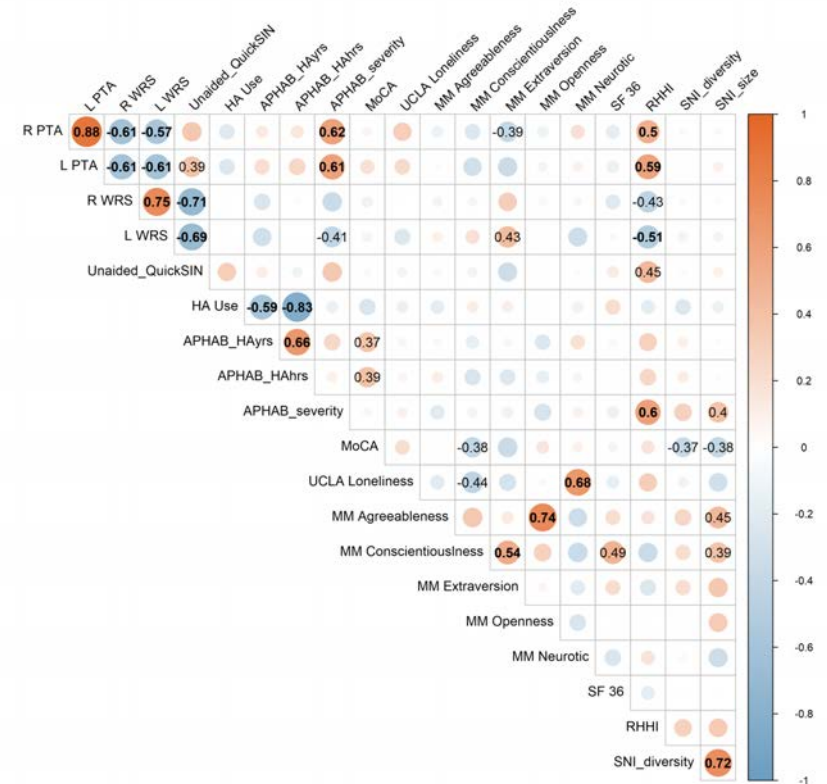
Daily-life Emotions Related to Hearing Aids



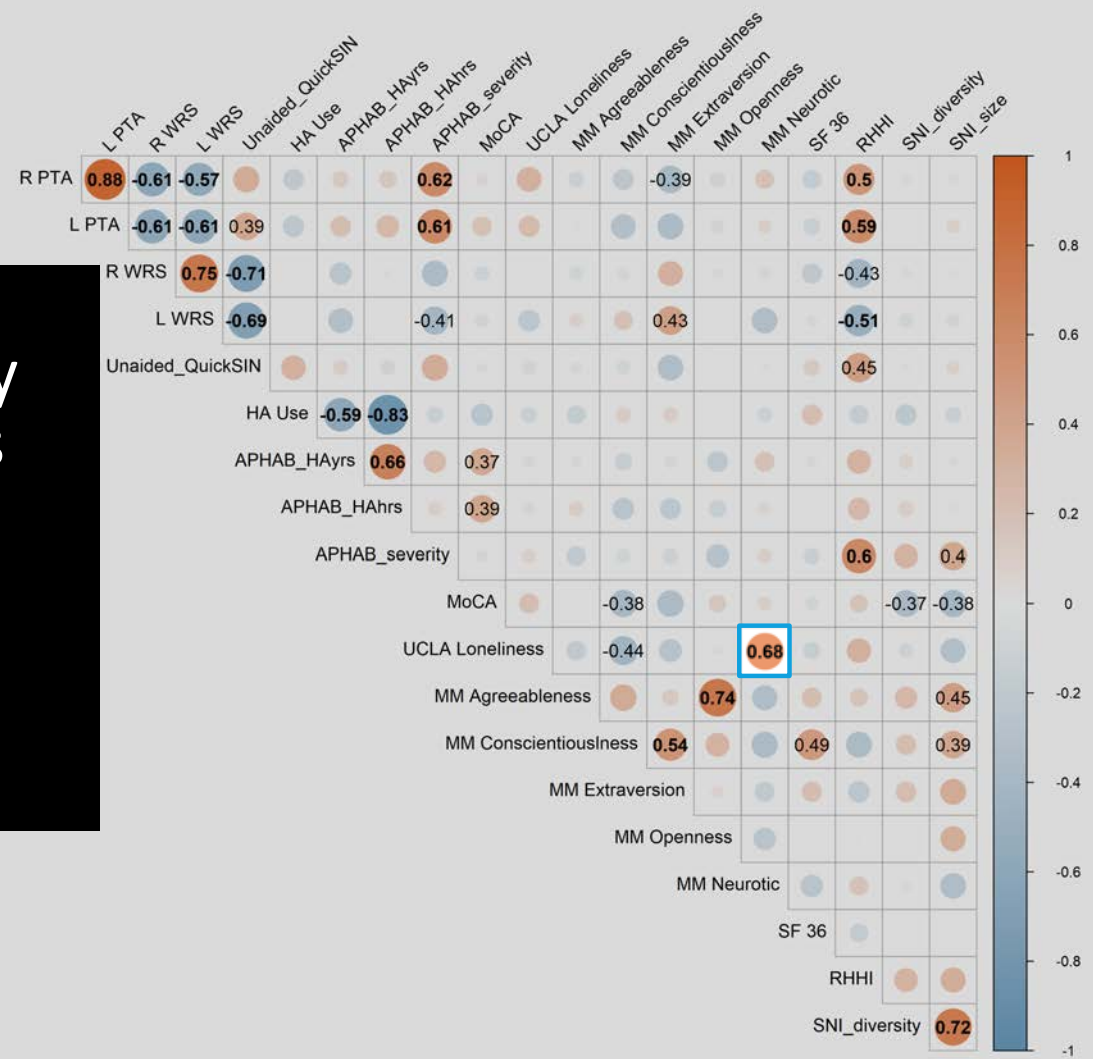
Themes of Hearing-Related Emotions

Identity and Self-Image	Autonomy and Control	Personality and Dominant Emotional States	Cost/Benefit Analysis
Loneliness, embarrassment may lead to smaller social circle	Coping strategies, if situation allows	Those who prefer things 'just right' had more negative emotions	Hearing aids allow more positive emotions, reduce negative emotions
Difficulties at work can cause frustration or anger	May choose activities with high degree of choice and control	Introverts reported fewer negative impacts	Some negative emotions created by hearing aids
Acceptance	Placement of blame matters		

¹¹ Holman, Ali & Naylor (2022)



The personality trait of **Neuroticism** was statistically correlated, with a moderate to high correlation, to the **UCLA Loneliness** survey



Social Network Size and Hearing Loss

A survey of a large database (1176 participants) in Japan, participants had a hearing test, were 60+ years old, and did not own hearing aids

No hearing impairment group = **766**

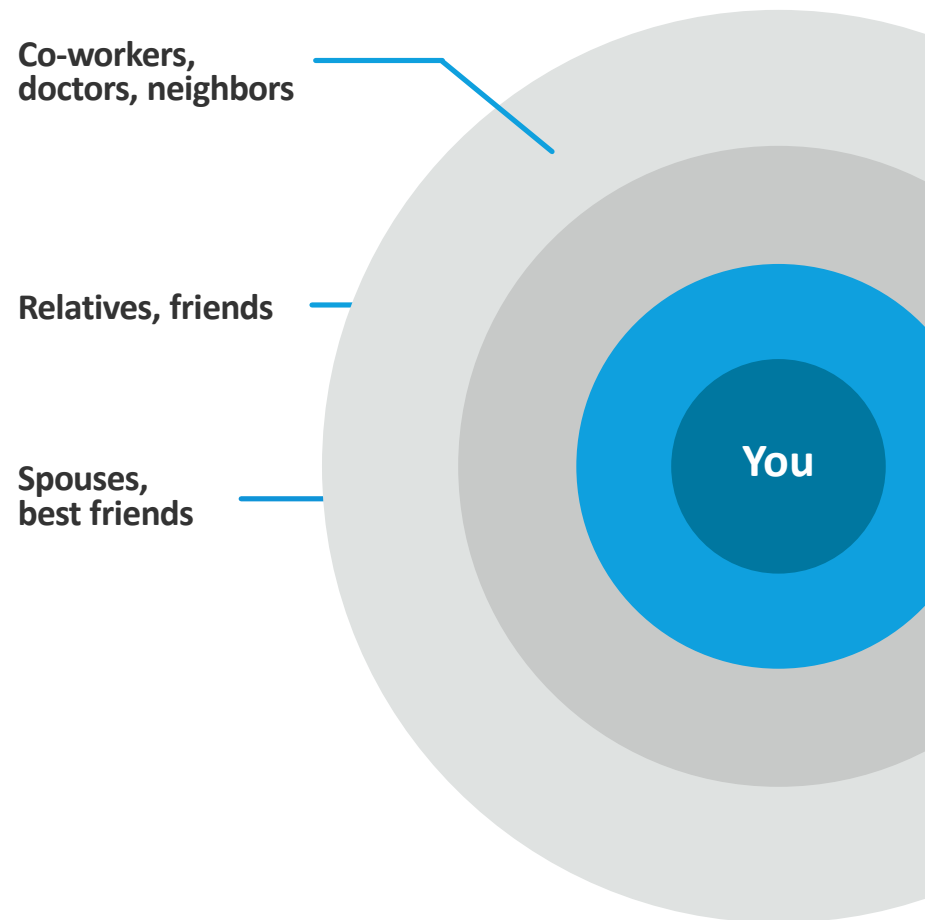
Hearing impairment group = **410**

A convoy model determined social network size

No difference in the number of non-kin included in the inner and middle circles, but the **number of non-kin included in the outer circle was significantly less for the HI group**

Total number of combined non-kin in all 3 circles was significantly less in the HI group

¹²Ogawa et al. (2019)



Social Network Size, Loneliness, and Hearing Loss

Design

A randomized controlled trial (ACHIEVE), 977 older adults with untreated hearing loss and without dementia

Outcome measures

UCLA Loneliness Scale, Social Network Index, audiogram, QuickSIN, and Hearing Handicap Inventory for the Elderly screening (HHIE-S)

For **every 10 dB** increase in PTA, the prevalence ratio of moderate or greater loneliness increases by **19%**

Better QuickSIN performance was associated with greater social network size, diversity, and score

Worse hearing-related QoL (HHIE-S) was associated with **29%** greater prevalence of loneliness, and smaller social network size

Do stigma, social network composition, social support, and loneliness matter?

Age was a significant predictor, each year accounts for 5% increased likelihood to purchase

Greater adoption with **greater disability**, and poorer thresholds

Having contacts who have hearing loss, or **not knowing someone with a negative experience with hearing aids** was associated with purchasing

No significance of **stigma**, or **loneliness**

Predictors of Hearing Aid Purchase

¹⁴ Singh, Goy, Wright-Whyte, Chasteen & Pichora-Fuller (2025)

How do Audiologists address psychosocial needs?

Theme	Description
Including Communication Partners	Including communication partners throughout the hearing rehabilitation process
Promoting Client Responsibility	Promote self-advocacy and self-management of hearing loss
Personalization of Rehabilitation Program	Individualized education to account for specific needs of the client
Facilitating Peer and other Professional Support	Encourage clients to connect with other individuals with hearing loss
Improving Social Engagement with Technology	Fit hearing technology and strategize how to use technology to improve engagement
Providing Emotional Support	Supporting the emotional needs of the client
Client Empowerment	Establishing rehabilitation goals based on client's needs

¹⁶ Bennett et al (2020): Identifying the approaches used by audiologists to address the psychosocial needs of their adult clients. International Journal of Audiology

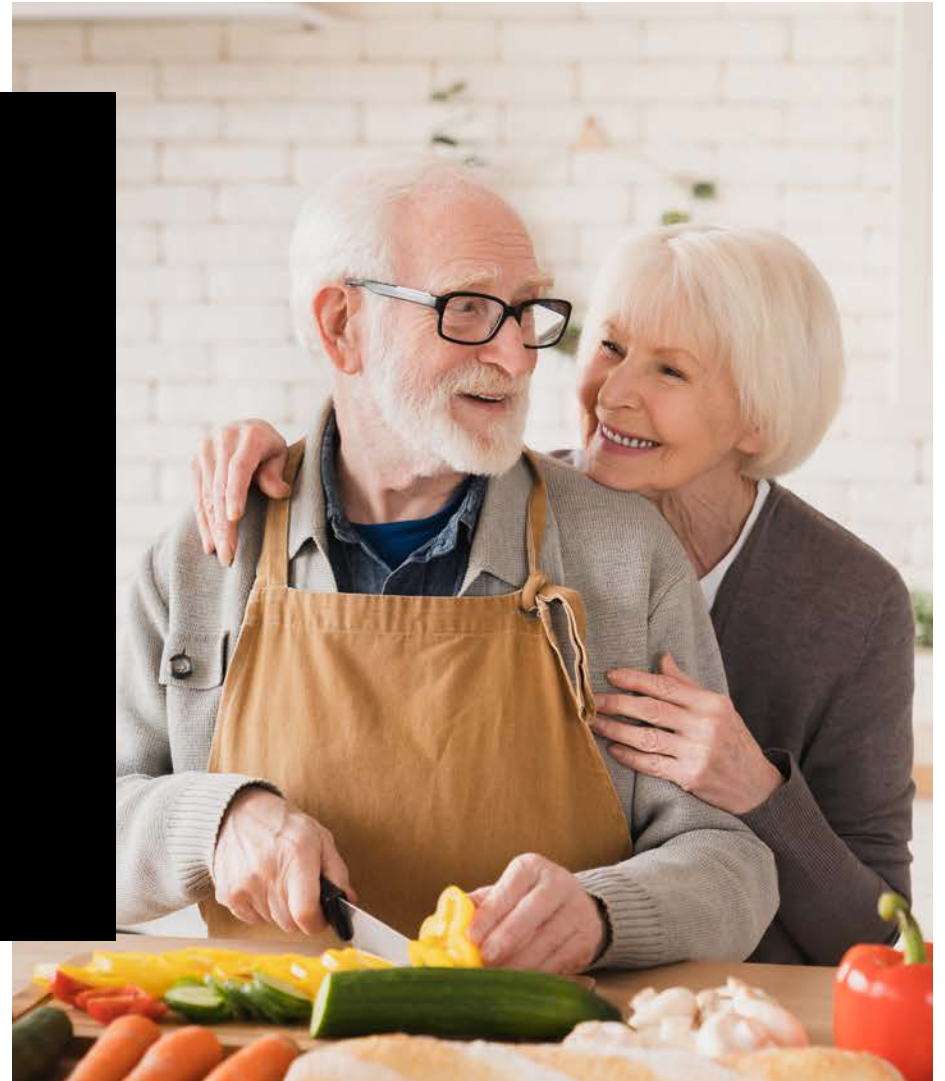
Perceived Benefit and Likelihood to Use Strategies

Perceived benefit and likelihood to use the approaches were rated positively by audiologists and patient groups

“Internal” approaches favored over “external” approaches

Providing emotional support was rated highly by both groups

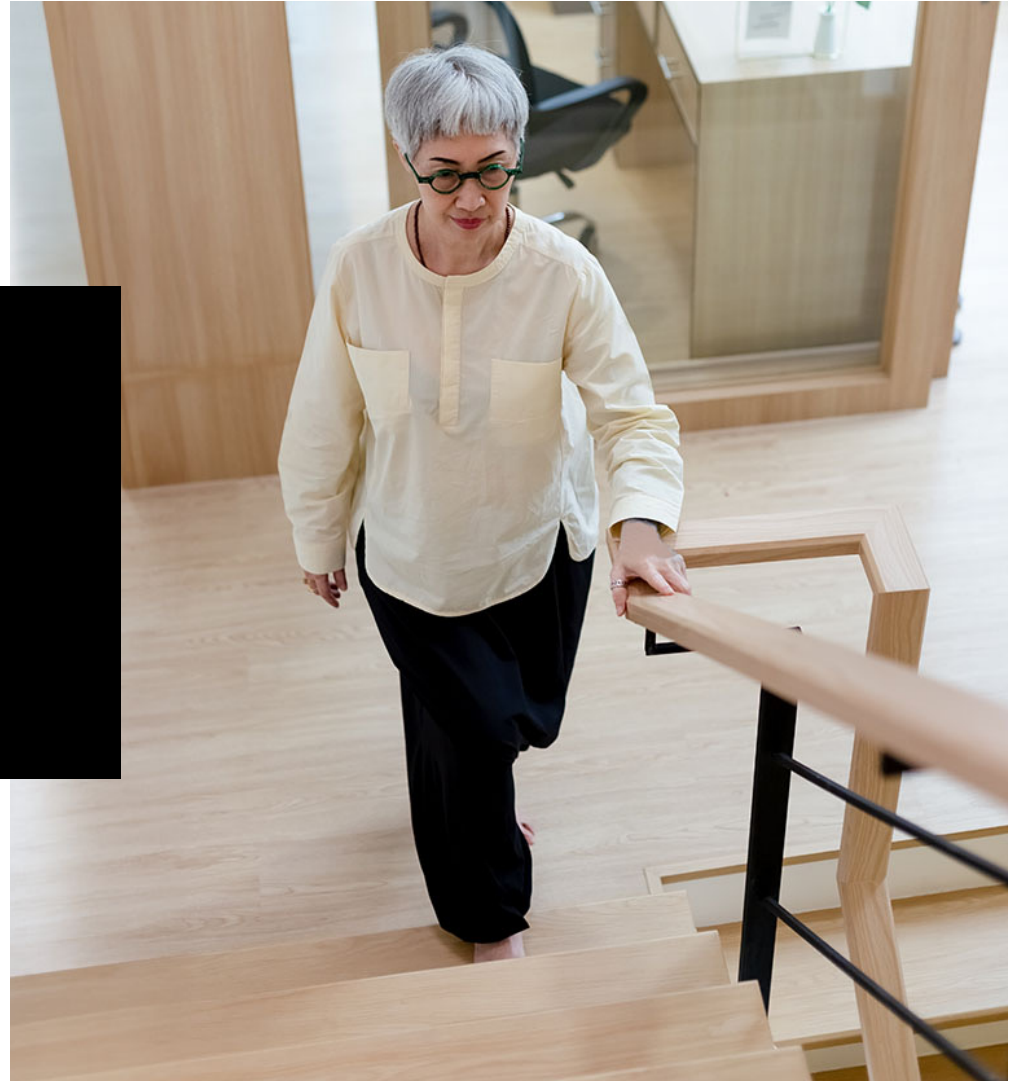
¹⁶ Bennet et al. (2021)



Hearing Healthcare Provider Scope of Practice and Guidance

Organization	Psychological and Psychosocial	Social Isolation and Loneliness	Mental Health
American Academy of Audiology (AAA) 2023	Collaborate with other health-care providers to provide audiologic services in psychosocial context Create management plans while considering psychosocial needs of patient	Provide counseling and education on effects of hearing loss on social-emotional health Create treatment plan and counsel individuals and families while considering social needs	No specific mention of mental health in the standards of practice and scope of practice documents
Academy of Doctors of Audiology (ADA) 2003	The audiologist provides “counseling regarding the effects of hearing loss on communication and psycho-social status in personal, social, and vocational arenas”		
American Speech-Language-Hearing Association (ASHA) 2023, 2018	Highlights personal adjustment counseling for psychological, social, and emotional acceptance of hearing loss	Engage in aural rehabilitation to promote social engagement	In scope to screen for mental health Points to aural rehabilitation (including sessions with communication partners) and informational counseling to reduce negative mental health consequences

Balance and Falls



Review of the Literature

Individuals with hearing loss have 3x increased risk of falling as compared to age-matched peers¹⁷

The severity of hearing loss has been found to correlate with increased fall risk

Every 10 dB increase in hearing loss increases odds by 1.4x of an individual reporting a fall in the preceding 12 months¹⁷

A study of physical function in adults with hearing loss found:

Any degree of hearing loss was associated with decreased physical function compared to normal hearing peers¹⁸

Over time, individuals with hearing loss had a faster physical decline when compared to normal hearing peers¹⁸

¹⁷ Lin & Ferrucci (2012)

¹⁸ Martinez-Amerzucua, Pwell, Kuo (2021)

Proposed Mechanism Underlying Relationship Between Hearing Loss and Balance/Falls

Proposed mechanism of Balance/Fall Difficulties Related to Hearing Loss:

Comorbid vestibular, neural, or cardiovascular pathology

Decreased awareness of the auditory and spatial environment

Inner ear issues (e.g. labyrinthitis)

Divided attentional resources for locomotion and maintenance of postural balance



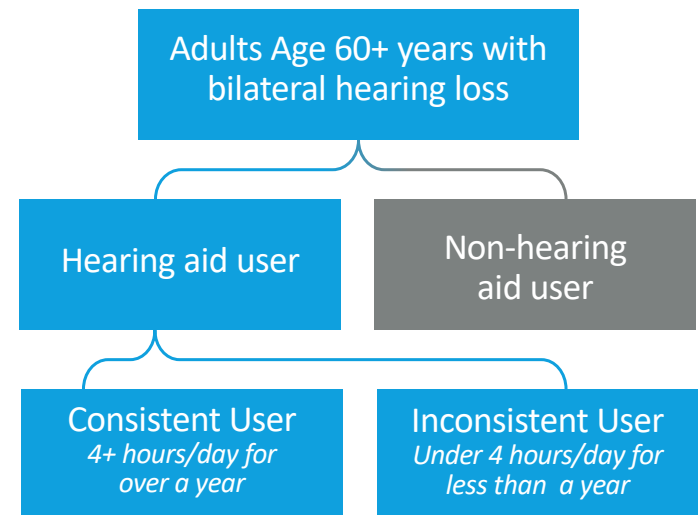
50%

**reduced odds of
experiencing a fall**
for hearing aid users
compared with non-users

Lower fall risk for
consistent users suggesting
a relationship with hearing
aid use and fall risk

Hearing Aid Use and Fall Risk

**Incidence of falls from 299 adults
with bilateral hearing loss**



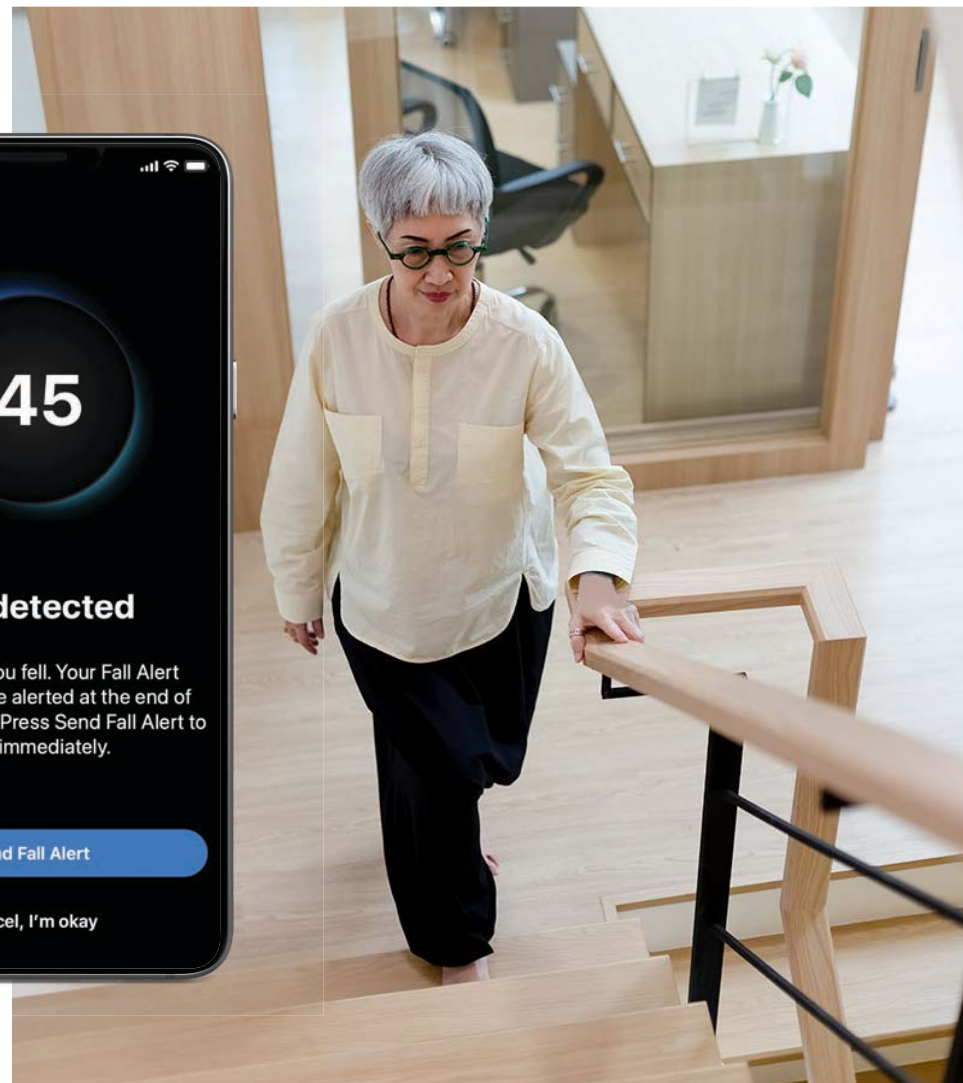
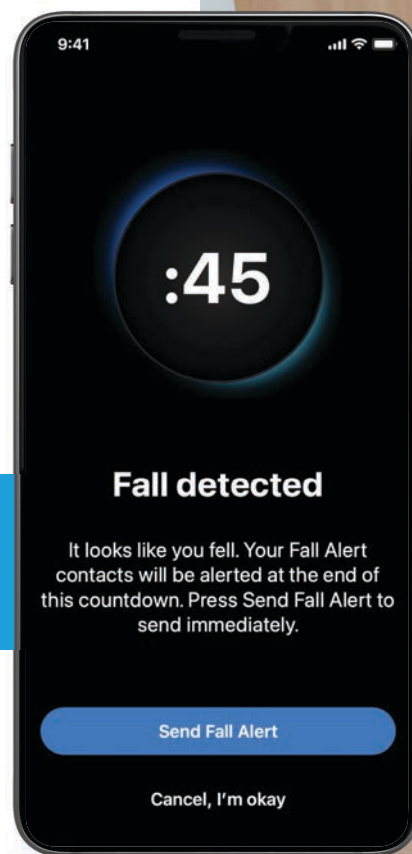
Hearing Healthcare Provider Scope of Practice and Guidance

Organization	Balance and Falls
American Academy of Audiology (AAA) 2023	Administer and interpret physical exams and laboratory exams of the vestibular system. This includes subjective report, observation, and standardized testing procedures. Provide treatment with certain vestibular conditions. Treatment includes canalith repositioning procedure. Play role on a balance management team, providing rehabilitation services. Participate in broader public health education of hearing and balance initiatives
Academy of Doctors of Audiology (ADA) 2003	Professional activities related to the diagnosis and treatment of persons with balance disorders. Teach physicians about the evaluation of balance disorders, including diagnosis and treatment. Screening of balance disorders. Prescribe habituation exercises, balance training exercises, general conditioning exercises, and adaptation techniques.
American Speech-Language-Hearing Association (ASHA) 2018	Responsible for administration of screening and diagnostic balance assessment and treatment of balance disorders. Collaborate with multidisciplinary team to reduce burden of balance disorder on patient.

Fall Alert

World's first and only hearing aid with fall detection and alerts

Detects falls and sends alert to selected contacts



Fall Risk and Balance Assessments

Fall history questions
Risk assessment
Postural blood pressure
Vision assessment
Home fall hazards assessment
Depression
Mentation
Reaction time
Review of medications
Timed Up & Go (TUG) Test



Stopping Elderly Accidents, Deaths, and Injuries (STEADI)

U.S. Centers for Disease Control and Prevention²²

STEADI is based on the American and British Geriatrics Societies' Clinical Practice Guideline for Prevention of Falls in Older Persons and designed with input from healthcare providers

STEADI offers tools and resources to help healthcare providers **Screen, Assess, and Intervene** to reduce fall risk

Screening Tool

Stay Independent Questionnaire

Check Your Risk for Falling

Circle "Yes" or "No" for each statement below			Why it matters
Yes (2)	No (0)	I have fallen in the past year.	People who have fallen once are likely to fall again.
Yes (2)	No (0)	I use or have been advised to use a cane or walker to get around safely.	People who have been advised to use a cane or walker may already be more likely to fall.
Yes (1)	No (0)	Sometimes I feel unsteady when I am walking.	Unsteadiness or needing support while walking are signs of poor balance.
Yes (1)	No (0)	I steady myself by holding onto furniture when walking at home.	This is also a sign of poor balance.
Yes (1)	No (0)	I am worried about falling.	People who are worried about falling are more likely to fall.
Yes (1)	No (0)	I need to push with my hands to stand up from a chair.	This is a sign of weak leg muscles, a major reason for falling.
Yes (1)	No (0)	I have some trouble stepping up onto a curb.	This is also a sign of weak leg muscles.
Yes (1)	No (0)	I often have to rush to the toilet.	Rushing to the bathroom, especially at night, increases your chance of falling.
Yes (1)	No (0)	I have lost some feeling in my feet.	Numbness in your feet can cause stumbles and lead to falls.
Yes (1)	No (0)	I take medicine that sometimes makes me feel light-headed or more tired than usual.	Side effects from medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I take medicine to help me sleep or improve my mood.	These medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I often feel sad or depressed.	Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.
Total		Add up the number of points for each "yes" answer. If you scored 4 points or more, you may be at risk for falling. Discuss this brochure with your doctor.	

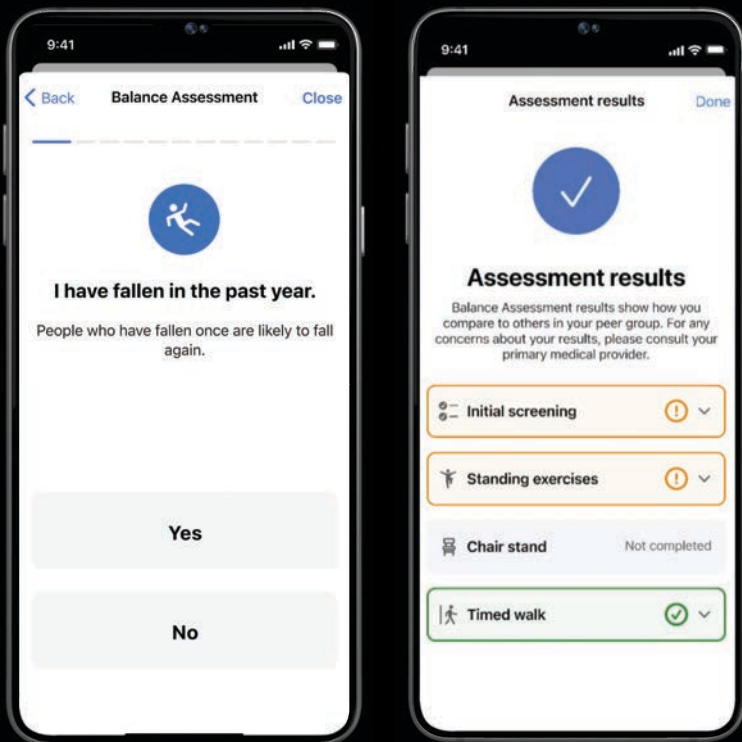
This checklist was developed by the Greater Los Angeles VA Geriatric Research Education Clinical Center and affiliates and is a validated fall risk self-assessment tool (Rubenstein et al. J Safety Res. 2011; 42(6):493-499). Adapted with permission of the authors.

Stay Independent
Learn more about fall prevention.

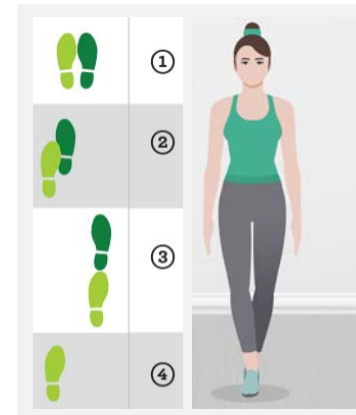


STEADI
Stopping Elderly Accidents,
Deaths & Injuries

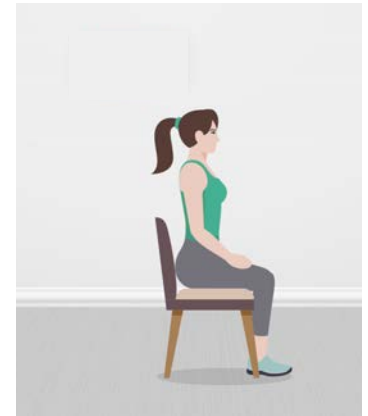
Balance Assessment



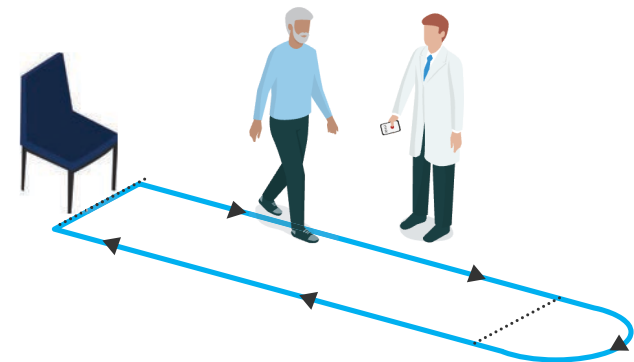
Static
Balance tests



Chair
Stand tests



Timed Up and Go Test



4-Stage Balance Test

Centers for Disease Control and Prevention, 2024

ASSESSMENT CONTINUED

The 4-Stage Balance Test

Patient _____

Date _____

Time _____ ☐ AM ☐ PM

Instructions to the patient:

- ▶ I'm going to show you four positions.
- ▶ Try to stand in each position for 10 seconds.
- ▶ You can hold your arms out, or move your body to help keep your balance, but don't move your feet.
- ▶ For each position I will say, "Ready, begin." Then, I will start timing. After 10 seconds, I will say, "Stop."

	① Stand with your feet side-by-side.	Time: _____seconds
	② Place the instep of one foot so it is touching the big toe of the other foot.	Time: _____seconds
	③ Tandem stand: Place one foot in front of the other, heel touching toe.	Time: _____seconds
	④ Stand on one foot.	Time: _____seconds

Notes:

CDC's STEADI tools and resources can help you screen, assess, and intervene to reduce your patient's fall risk.
For more information, visit www.cdc.gov/steadi



Centers for Disease
Control and Prevention
National Center for Injury
Prevention and Control

STEADI | Stopping Elderly Accidents,
Deaths & Injuries

2087

30-Second Chair Stand

Centers for Disease Control and Prevention, 2024

ASSESSMENT

30-Second Chair Stand

Purpose: To test leg strength and endurance

Equipment: A chair with a straight back without arm rests (seat 17" high), and a stopwatch.

① Instruct the patient:

1. Sit in the middle of the chair.
2. Place your hands on the opposite shoulder crossed, at the wrists.
3. Keep your feet flat on the floor.
4. Keep your back straight, and keep your arms against your chest.
5. On "Go," rise to a full standing position, then sit back down again.
6. Repeat this for 30 seconds.

② On the word "Go," begin timing.

If the patient must use his/her arms to stand, stop the test. Record "0" for the number and score.

③ Count the number of times the patient comes to a full standing position in 30 seconds.

If the patient is over halfway to a standing position when 30 seconds have elapsed, count it as a stand.

④ Record the number of times the patient stands in 30 seconds.

Number: _____ Score: _____

CDC's STEADI tools and resources can help you screen, assess, and intervene to reduce your patient's fall risk. For more information, visit www.cdc.gov/steadi

NOTE:
Stand next to the patient for safety.

Patient _____

Date _____

Time _____ ☐ AM ☐ PM

SCORING

Chair Stand Below Average Scores

AGE	MEN	WOMEN
60-64	< 14	< 12
65-69	< 12	< 11
70-74	< 12	< 10
75-79	< 11	< 10
80-84	< 10	< 9
85-89	< 8	< 8
90-94	< 7	< 4

A below average score indicates a risk for falls.

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

Stopping Elderly Accidents, Deaths & Injuries

2017

Timed Up & Go (TUG)

Centers for Disease Control and Prevention, 2024

ASSESSMENT

Timed Up & Go (TUG)

Purpose: To assess mobility

Equipment: A stopwatch

Directions: Patients wear their regular footwear and can use a walking aid, if needed. Begin by having the patient sit back in a standard arm chair and identify a line 3 meters, or 10 feet away, on the floor.

1 Instruct the patient:

When I say "Go," I want you to:

- Stand up from the chair.
- Walk to the line on the floor at your normal pace.
- Turn.
- Walk back to the chair at your normal pace.
- Sit down again.

2 On the word "Go," begin timing.

3 Stop timing after patient sits back down.

4 Record time.

Time in Seconds:

An older adult who takes ≥ 12 seconds to complete the TUG is at risk for falling.

CDC's STEADI tools and resources can help you screen, assess, and intervene to reduce your patient's fall risk. For more information, visit www.cdc.gov/steadi.

Patient

Date

Time

☐ AM ☐ PM

OBSERVATIONS

Observe the patient's postural stability, gait, stride length, and sway.

Check all that apply:

- ☐ Slow tentative pace
- ☐ Loss of balance
- ☐ Short strides
- ☐ Little or no arm swing
- ☐ Steadying self on walls
- ☐ Shuffling
- ☐ En bloc turning
- ☐ Not using assistive device properly

These changes may signify neurological problems that require further evaluation.

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

STEADI Stopping Elderly Accidents, Deaths & Injuries

2017

Field Validation of Starkey's Balance Assessment Feature

Development and Validation of Starkey's Balance Assessment Feature



Justin R. Burwinkel, Kristen K. Steenerson¹, Majd Srour¹, Christy Cloninger¹, and Chris Howes¹

Background

The relationship between hearing difficulties and increased fall risk is well-documented in the literature. One of the studies found that individuals who sought treatment in audiology clinics, specifically, were at a greater risk of falling than their age-matched peers (Crider & Honeaker, 2016). Lin & Ferrucci (2012) also reported a significant association between the severity of hearing impairment and reports of falls, even when adjusting for demographic, cardiovascular, and vestibular balance function.

Fall risk is understood to be multifactorial, and numerous behavioral, physiological, and pathological mechanisms could underlie the reported associations between hearing impairment and falls, including: comorbid vestibular, neural, or cardiovascular pathology; genetic influences; decreased awareness of the auditory environment; divided attentional resources for locomotion and maintenance of postural balance; and frailty, which could be exacerbated by social isolation, depression, physical inactivity, and cognitive impairment (see Agmon et al. for a review).

Despite the well-established links between both advanced age and hearing impairment with fall risk, routine fall risk assessments are inconsistently performed in hearing clinics and other healthcare settings where older adults are commonly seen (Westland et al., 2016; Patterson & Honeaker, 2016). Currently, the burden of fall risk screening is largely addressed by primary care providers or geriatricists during Medicare's Annual Wellness Visits (AWV).

However, these visits are underutilized within the healthcare system, with reportedly fewer than 1 in 5 older Americans receiving these no-cost services each year (Centers for Medicare & Medicaid Services, 2017). Given that hearing care professionals often see older patients who are at increased risk of falls, they are well-positioned to integrate fall risk screenings and assessments into their routine practices. These additional steps align with a more comprehensive approach to patient care and represent an opportunity to markedly improve patient outcomes, especially since fall risk assessments may not have been conducted with the patient elsewhere.

Moreover, a study surveying primary care providers (PCPs) revealed that while 96% of providers agree that all older adults should be assessed for fall risk, only 14% are familiar with the U.S. Centers for Disease Control and Prevention's (CDC) Stopping Elderly Accidents, Deaths & Injuries (STEADI) Toolkit, which provides a practical framework for effectively implementing the collaborative fall prevention guidelines published by the American Geriatrics Society (AGS) and the British Geriatrics Society (BGS) (Eckstrom et al., 2017). In light of this challenge, there is a critical need for accessible tools that can help address gaps in fall risk management, particularly in settings where regular, comprehensive evaluations are not consistently performed.

¹Starkey
¹Stanford University School of Medicine, Department of Otolaryngology-Head and Neck Surgery

Development and Validation of Starkey's Balance Assessment Feature

Objective

Evaluate the usability and effectiveness in supervised vs unsupervised environments

Participants

14 total, split into “Demo” (n=7) and “No Demo” (n=7) groups

Method

Clinician led vs app only instructions

Assessed balance, chair stand, TUG, and Stay Independent scores

Results

No significant difference in scores across groups or environments

Conclusion

Safe and reliable across settings, although initial guidance may improve user experience

²³ Burwinkel, Steeners, Srour, Cloninger & Howes (2024)

Cognition



Relationship Between Hearing Loss and Cognition

Proposed Mechanism	Summary
Sensory Deprivation	Sensory deprivation induces changes to brain structure and function through: • Cortical re-allocation • Atrophy of speech processing areas • Neural deafferentation Prolonged hearing loss causes physical changes in critical regions of the brain, impacting cognitive processing
Information Degradation	Hearing loss created increased demand on cognitive processing to compensate for the degraded auditory input Increased auditory processing draws on the cognitive buffer, reducing compensation of cognitive changes Leads to earlier presentation of dementia Restore auditory input, may see restoration of cognitive performance
Common Cause	Hearing loss and cognitive decline stem from the same underlying mechanism Possible tertiary causes: • Neural degeneration with aging • Systemic vascular degradation

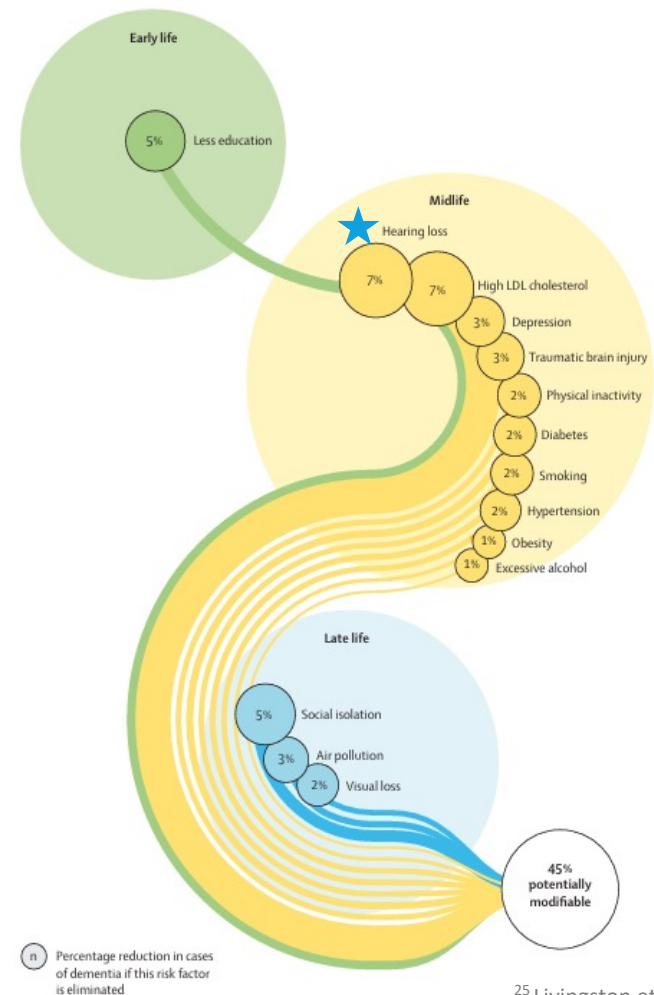
Review of the Literature

Lancet Commission on Dementia Prevention, Intervention, and Care: 2024 Report of the Lancet Standing Commission

45% reduction of dementia cases by addressing 14 potentially modifiable risk factors

7% of dementia cases are attributed to untreated hearing loss

“The evidence that treating hearing loss decreases the risk of dementia is now stronger than when [the] previous Commission report was published”



²⁵ Livingston et al (2024)

Hearing Aid Use and Cognition

ACHIEVE Study

Randomized control study to investigate if hearing intervention slows cognitive decline

High risk factor group

Low risk factor group

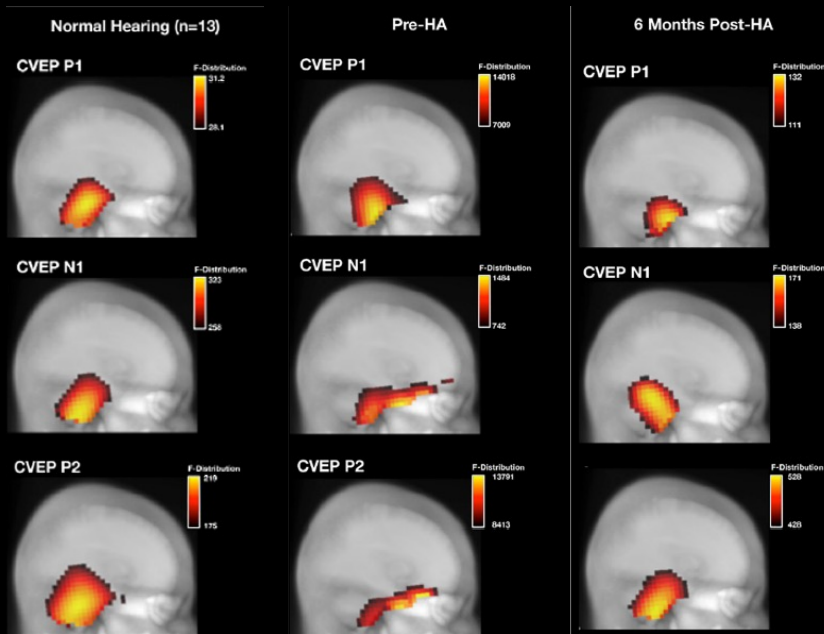
Results

Combined: no significant findings over 3 years compared to education intervention group

High-Risk Factor: hearing intervention reduced cognitive change by 48% over 3 years

Low-Risk Factor: hearing intervention had no effect on reducing cognitive decline over 3 years

Hearing Aid Use and Cognition



Measures of cognition and electrophysiology (cortical visual evoked potentials) were taken at baseline and at 6 months

Baseline:

Took baseline Montreal Cognitive Assessment (MoCA)

Evidence of cross-modal reorganization with the visual and auditory cortices

6 Month Follow-Up:

Cross-modal reorganization was reversed

MoCA scores improved for 71% of participants (10% stayed consistent). Both sessions were completed in aided conditions

Hearing Healthcare Provider Scope of Practice and Guidance

Organization	Cognition
American Academy of Audiology (AAA) 2023	Audiologist may perform cognitive screening Audiologists may screen for auditory loss, vestibular loss, and their associated comorbid conditions
Academy of Doctors of Audiology (ADA) 2003	Audiologists may perform other screening measures for the purpose of initial identification and referral of persons with other communication disorders
American Speech-Language-Hearing Association (ASHA) 2023	Screen for common comorbidities of hearing loss

MONTREAL COGNITIVE ASSESSMENT (MOCA)

NAME : _____ Date of birth : _____
 Education : _____ Sex : _____ DATE : _____

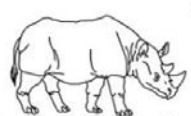
VISUOSPATIAL / EXECUTIVE

Copy cube  []

Draw CLOCK (Ten past eleven) (1 point) []

Points: []

NAMING

 []  []  []

Points: []

MEMORY

Read list of words, subject must repeat them. Do a trial. Do a recall after 5 minutes.

	FACE	VELVET	CHURCH	DAISY	RED	No. points
1st trial						
2nd trial						

Points: []

ATTENTION

Read list of digits (8 digit/ sec). Subject has to repeat them in the forward order [] 2 1 8 5 4
 Subject has to repeat them in the backward order [] 7 4 2

Points: []

Read list of letters. The subject must tap with his hand at each letter A. No points if > 21 errors
 [] FBACMNAAJKLBAFAKDEAAJAMOFAB

Points: []

Serial 7 subtraction starting at 100 [] 93 [] 86 [] 79 [] 72 [] 65
 6 pts correct subtraction: 3 pts, 2 correct 2 pts, 1 correct 1 pt, 0 correct 0 pt

Points: []

LANGUAGE

Repeat: I only know that John is the one to help today. []
 The cat always hid under the couch when dogs were in the room. []

Points: []

Fluency / Name maximum number of words in one minute that begin with the letter F [] _____ (N 21 words)

Points: []

ABSTRACTION

Similarity between e.g. banana - orange = fruit [] train - bicycle [] watch - ruler []

Points: []

DELAYED RECALL

Has to recall words WITH NO CUE [] FACE [] VELVET [] CHURCH [] DAISY [] RED []

Points for UNCLUED recall only []

Optional: Category cue [] Multiple choice cue []

Points: []

ORIENTATION

[] Date [] Month [] Year [] Day [] Place [] City []

Points: []

© Z. Nasreddine MD Version November 7, 2006 www.mocatest.org Normal > 28 / 30 TOTAL Add 1 point if < 12 yr edu

The Montreal Cognitive Assessment (MoCA)

Nasreddine Z, Phillips N, Bedirian V et al. (2005) The Montreal Cognitive Assessment, MoCA: A brief screening tool for mild cognitive impairment. J Am Geriatr Soc 53:695–699.

MoCA-H (For Hearing Impairment)

Dawes P, Reeves D, et al. Development and validation of the Montreal cognitive assessment for people with hearing impairment (MoCA-H). J Am Geriatr Soc. 2023 May; 71(5):1485-1494.

Mini-Mental State Exam (MMSE)

Folstein M, Folstein S, McHugh P. (1975) Mini-mental state. A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res 12:189–198.

Cognitive Screening in the Audiology Clinic

Survey of **1,104** audiologists

Of respondents, **88%** reported they do not administer cognitive screenings

Of those who do, approximately **90%** worked in private practice, physicians' offices, hospitals, or universities

²⁸ Black and Souza (2020)

Practice Type	Percentage Administering Cognitive Screening
College or University	29.6%
Nonprofit clinic	23.1%
Hearing aid manufacturer	17.4%
Audiology private practice	12.4%
Hospital/medical center	7.9%
Veterans Administration or military	7.5%
Physician's office	5.6%
Franchise or retail chain	4.2%
Primary or secondary school	0.0%

Screening Instrument	Percentage Using the Screening Instrument
Mini Mental State Exam (MMSE)	42.3%
Montreal Cognitive Assessment (MoCA)	38.2%
Clock Drawing Test	17.1%
Mini Cog Test	16.3%
Three Word Recall Test	13.8%
Six Item Cognitive Impairment Test (6CIT)	10.6%



Cognitive Screening in the Audiology Clinic

The most common reasons given for not screening:

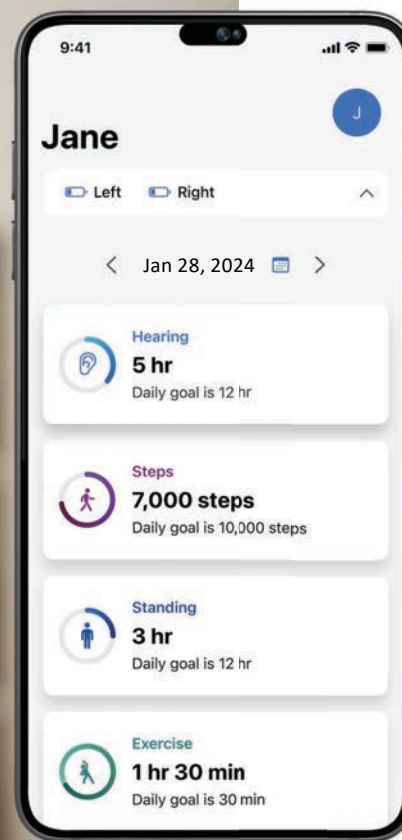
Not being comfortable administering screening questionnaires (19.8 percent),

Not having time (19 percent),

Screening was not in the audiologist's scope of practice (10 percent)

The training received by the next generation of audiologists, will help to minimize these obstacles

²⁸ Black and Souza (2020)



HEARShare

The world's first app that lets patients who wear hearing aids easily share certain health and wellness information with people they select

Summary



Key Takeaways

1

The Person-Centered Care approach aims to address not only the individual's hearing loss,

but the impact the hearing loss may have on the emotional, social, and physical aspects of the individual's life

2

Recent data suggests Person-Centered Care is trending

Patients and providers perceive value in incorporating psychosocial intervention strategies into audiology appointments – providing emotional support was rated highly by both groups

My Starkey's Balance Assessment tool provides an easy and effective way to screen for falls risk

In some settings, up to 29% of audiologists are completing cognitive screenings

Q&A



Thank you



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