Allied Health Media AudiologyOnline

If you are viewing this course as a recorded course after the live webinar, you can use the scroll bar at the bottom of the player window to pause and navigate the course.

Allied Health Media AudiologyOnline

This handout is for reference only. It may not include content identical to the PowerPoint.
Any links included in the handout are current at the time of the live webinar, but are subject to change and may not be current at a later date.

Allied Health Media AudiologyOnline

- Technical Assistance: 800-753-2160
- CEU Total Access members can earn credit for this course
  - Must complete outcome measure with passing score (within 7 days for live webinar; within 30 days of registration for recorded/text/podcast formats)
- Questions? Call 800-753-2160 or use Contact link on AudiologyOnline.com

MarkeTrak 9 Points the Way in a Time of Change

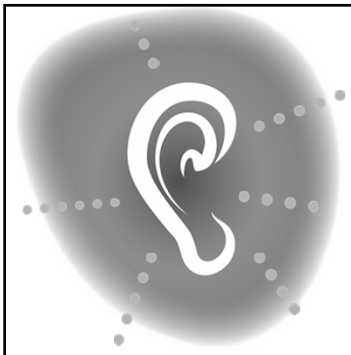
Carole M. Rogin, M.A.
Harvey B. Abrams, Ph.D.

Hearing Industries Association

Learner Objectives:

As a result of this Continuing Education Activity, participants will be able to:

1. **Describe the methodology differences between MT9 and previous MarkeTrak surveys;**
2. **Describe the potential changes in government policies toward amplification products and their implications for a practice;**
3. **Describe the findings of MT9 and their implications for a practice**



MarkeTrak 9:

Exciting New Beginning

Carole M. Rogin, President
Hearing Industries Association
www.hearing.org
www.betterhearing.org

HIA Members

HIA Programs

Government Relations
Statistics
Market Development

Market Development

Better Hearing Institute, www.betterhearing.org
Exploring the Consumer's Journey
- On-line Survey of Satisfied Users (2007)
- Focus Groups and Personal Interviews (2012)

MarkeTrak (1984–Present)
- Longitudinal study to track issues related to hearing loss
- Attitudes and perceptions
- Barriers to hearing aid use

Public Affairs Objective

Raise the importance of hearing in hierarchy of health issues

Be careful what you wish for…

NIDCD Working Group on Accessible and Affordable Hearing Health Care for Adults with Mild to Moderate Hearing Loss

August 2009

Access – Confusing to consumer, ill-defined professional roles, competing financial interests and multiple points of entry

Affordability – Definition "undetermined," 76% of non-adopters mention cost, price range is unknown

Assumption – Need to improve both

Institute of Medicine (IOM)/National Academies of Science, Engineering and Medicine

Mission – Help those in government and the private sector make informed decisions by providing evidence…

- Hearing Loss and Healthy Aging Workshop January 2014
Report on the effects of age-related hearing loss on healthy aging
- Consensus Study
4 Meetings in 2015 – April, June, September (2)
1 as we speak…
- Report and Recommendations due Spring 2016

President's Council of Advisors on Science and Technology (PCAST)

Charge – Leading scientists who advise POTUS…

"Aging America & Hearing Loss: Imperative of Improved Hearing Technologies"

- Individual Interviews
- 2 Meetings in 2015 – September, October
- PCAST Letter Report issued to President last month

PCAST Recommendation #1

- Encourage the Food and Drug Administration (FDA) to create another class of hearing aids and hearing tests to that can be sold over the counter and online for persons with mild-to-moderate hearing loss typically seen in aging. The FDA should exempt this class of hearing aids from the typical quality regulatory oversight of the agency, and instead adopt standards that are more closely aligned with the consumer electronics industry

PCAST Recommendation #2

- Ask the FDA to withdraw its draft guidance of personal sound amplification products (PSAPs). These devices should be for discretionary use by the consumer and can be used to augment or improve hearing

PCAST Recommendation #3

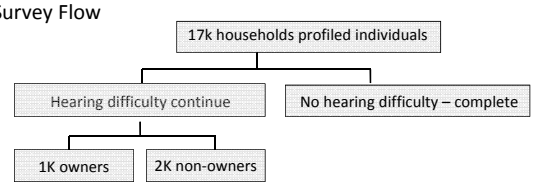
- Similar to optometrists, audiologists and dispensers should be required to provide a copy of hearing tests results to the consumer to allow them to shop for the best value in devices. These results should be provided at no additional cost to the consumer and must not be conditional upon the purchase of products

PCAST Recommendation #4

- The Federal Trade Commission (FTC) should define a process that would authorize hearing aid vendors (e.g., online) the right and ability to obtain a copy of the hearing test results at no additional cost to the consumer

MarkeTrak 9 (MT9) 2014

- On-line
- Best Practices (e.g. blinded study objective)
- Coordination with EuroTrak
- Survey Flow



MT9

Question 1

- What percentage of the American population report a hearing difficulty?

a. 5%
b. 10%
c. 15%
d. 20%

Question 2

- What percentage of the American population own at least 1 hearing aid?

a. 1%
b. 2%
c. 3%
d. 4%

Hearing Difficulty & Hearing Aid Adoption

Rates for hearing difficulty and hearing aid ownership are in familiar ranges at **10.6%** and **3.2%** equating to a hearing aid adoption rate of **30.2%**.

As expected, both hearing difficulty and hearing aid ownership:

- Increase with age
- Are higher for men than women (moderately)
- Are bilateral/binaural for the vast majority

Answer 1

- What percentage of the American population report a hearing difficulty?

a. 5%
b. 10%
c. 15%
d. 20%

Answer 2

- What percentage of the American population own at least 1 hearing aid?

a. 1%
b. 2%
c. 3%
d. 4%

Hearing Difficulty & Hearing Aid Adoption

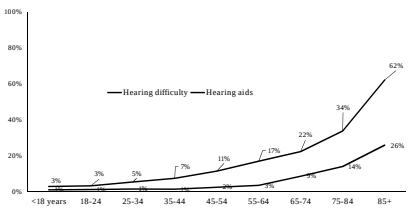
- At 30.2%, US hearing aid adoption rate is higher
  - Largest increase among the **youngest people**
  - **Average age** of owners is slightly lower
  - More **first-time** buyers

Hearing Difficulty & Hearing Aid Adoption

- Owners report more severe hearing losses
- Increase in owners who report mild/moderate loss from 60% to 72%
- Adoption rates increase with severity, except for those with profound losses
- Average age of first purchase decreased from 69 to 63 years

Self-Reported Level of Loss Among those with hearing difficulty	Total (n=3,079)	HA Owners (n=980)	HA Non-Owners (n=2,099)	Adoption Rates by Level
Mild	29%	12%	37%	12%
Moderate	54%	60%	52%	33%
Severe	14%	25%	9%	53%
Profound	3%	3%	3%	44%

Hearing Difficulty & Hearing Aid Adoption



Question 3

- The satisfaction rate for hearing aids is :

a. 60%
b. 70%
c. 80%
d. 90%

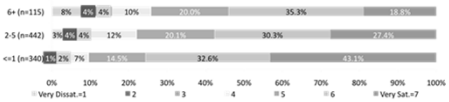
Hearing Aid Satisfaction

Those who got their current hearing aids more recently have a higher level of satisfaction. The top-3-box "score" (on a 7-point satisfaction scale) is:

- 90% for those who got in the last year
- 78% for those who got 2-5 years ago
- 74% for those who got 6 or more years ago

Satisfaction scores for all owners, regardless of the age of the hearing aid, is 81%, up from 74% in MT VIII.

Level of Satisfaction by Age of Hearing Aid



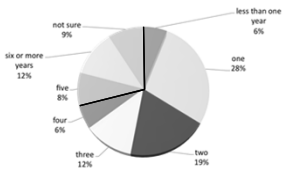
Answer 3

- The satisfaction rate for hearing aids is:

a. 60%
b. 70%
c. 80%
d. 90%

Hearing Aid Satisfaction

The age of the hearing aids varies widely among current owners, but over half have relatively new hearing aids.



Hearing Aid Satisfaction

Satisfaction with current hearing aids has increased from **74% to 81%**

- Higher with newer aids – satisfaction at **85%** for aids four years old or newer
- Hearing aids "in the drawer" decreased from **12% to 3%**
- **Repeat buyers** rate current aids as substantially better

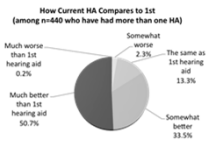
Hearing Aid Satisfaction

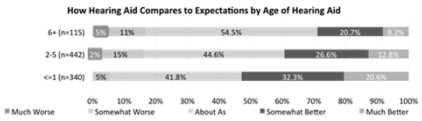
Among all hearing aid owners, 88% feel their current hearing aid is meeting or exceeding their expectations

The newer, the better likely due to:

- Improvements in the hearing aids
- Managed expectations

Half of repeat purchasers feel their current hearing aid is much better





Question 4

- What is the percentage of hearing aids reported to be "in the drawer"?

a. 3%
b. 6%
c. 9%
d. 12%

Hearing Aid Satisfaction

- 74% of adults are binaural users
- 57% report they are first-time users
- 87% use their hearing aids at least weekly

Hearing Aid Details Among those with hearing aids	All Ages with HA (n=2,165)	Adults 20+ with HA (n=2,084)	Among those with hearing aids:	All Ages with HA (n=2,165)	Adults 20+ with HA (n=2,084)
Number of current hearing aids:			**Frequency of use:**		
Binaural (pair)	72%	74%	Daily	72%	71%
One (single aid)	28%	26%	Weekly	15%	15%
			Monthly	3%	3%
First-time vs. repeat owners:			Less than monthly	2%	2%
First time owners	57%	57%	Varies/situational	6%	6%
Repeat owners	43%	43%	Never	3%	3%
			Have not worn yet	.4%	.2%

Answer 4

- What is the percentage of hearing aids reported to be "in the drawer"?

a. 3%
b. 6%
c. 9%
d. 12%

Question 5

- What is the satisfaction rate for hearing care professionals among hearing aid owners?

a. 60%
b. 70%
c. 80%
d. 90%

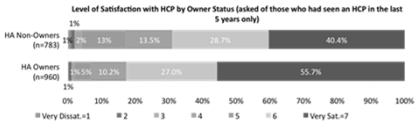
Hearing Care Professional Satisfaction

Hearing aid owners are more likely to be satisfied with their hearing care professional than non-owners. **A less than satisfactory experience may have been a reason why some non-owners did not try hearing aids.**

Nonetheless, the vast majority of both groups are more satisfied than not. The top-3-box satisfaction score (on a 7-point scale) is:

- **93% for owners**
- 83% for non-owners

For those who saw their HCP in the last 4 years, the rates are 95% and 87% respectively.



Answer 5

- What is the satisfaction rate for hearing care professionals among hearing aid owners?

a. 60%
b. 70%
c. 80%
d. 90%

Hearing Care Professional Satisfaction

Satisfaction with hearing care professionals has increased

- Owners – 93%, Non-owners – 82%
- Non-owner satisfaction may contribute to lack of motivation to purchase hearing aids

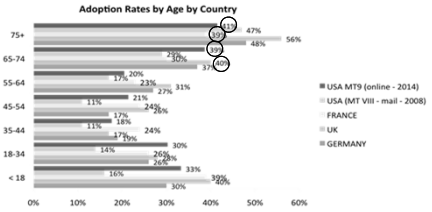
Question 6

- The hearing aid adoption rate is much higher in countries with national health care programs that cover hearing aids

a. True
b. False

Adoption Rates by Age and Nation

- The adoption rate for MT9 is highest within the oldest segments. The next highest rates are within the youngest segments, which are higher than in 2008
- The distribution is very similar to and consistent with the shape of the curves from EuroTrak.



Answer 6

- The hearing aid adoption rate is much higher in countries with national health care programs that cover hearing aids

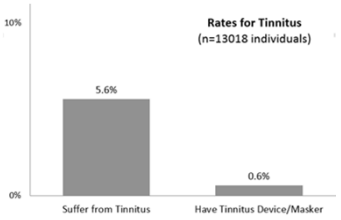
a. True
b. False

Question 7

In my practice:

a. We refer tinnitus patients out to specialty clinics
b. We provide initial evaluation, counseling and amplification only
c. We provide evaluation, amplification and limited sound therapy options
d. We provide a full scope tinnitus program with a variety of treatment options

MT9 Tinnitus



Tinnitus

Tinnitus:

- Most indicate it is a bilateral condition (similar to hearing loss)
- There is a fairly even split between those who say it is constant versus those who say it is intermittent

Tinnitus Details Among those with tinnitus	All Ages with Tinnitus (n=2,712)	Adults 20+ with Tinnitus (n=2,627)
Type:		
Bilateral condition (both ears)	73%	74%
Unilateral condition (one ear)	27%	26%
Level:		
Constant (always there)	52%	52%
Intermittent	48%	48%

Question 8

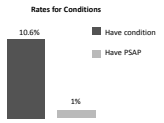
- What percentage of those with hearing difficulties report owning a PSAP?

a. 5%
b. 10%
c. 15%
d. 20%

Personal Sound Amplification Product (PSAP)

Defined as "a device that amplifies sound that was not fit by a hearing care professional"

- About 1% of the population reported having a personal sound amplifier, based upon this definition
- This equates to about 9.4% of those with hearing difficulty



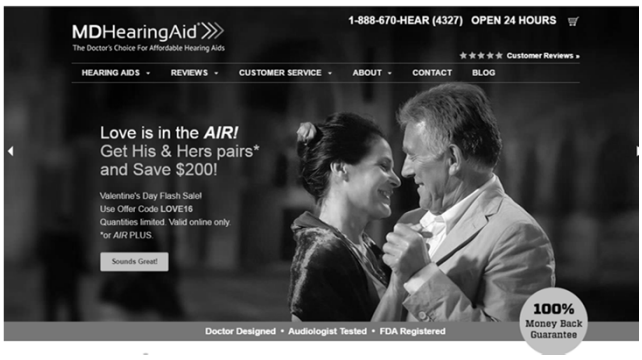
Answer 8

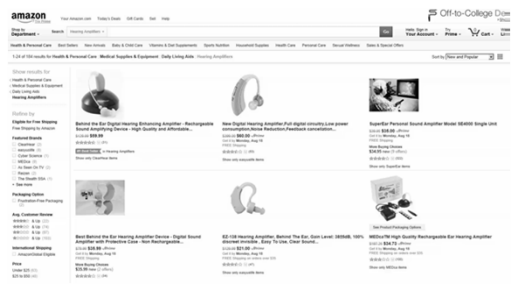
- What percentage of those with hearing difficulties report owning a PSAP?

a. 5%
b. 10%
c. 15%
d. 20%

MT9 PSAPs

- "…consumers think of many different categories of devices when they see this phrase or the term 'personal sound amplifier'
- For example, when asked to state a brand, some people who knew their brand listed brands for devices in the amplification space that are not traditional PSAPs and some that are not even body-worn
- This is eye opening and sheds light on the difficulty defining PSAPs and the confusion that exists in the marketplace minds of consumers."





There's an app for that…

App store: "Hearing Aid"

Question 9

- What percentage of adults report having had a hearing screening at their last physical exam?

a. 5%
b. 15%
c. 25%
d. 35%

Physician Screening

- **23% of adults report screening in latest physical** – up from 15%
- Another 11% report hearing was at least mentioned
- Previous studies indicate physician recommendation is key to action

Hearing loss assessments at physical in last year Among all individuals (with and without hearing difficulty)	All Ages (n=47,593)	Adults 20+ (n=36,477)
Screened at physical	26%	23%
Discussed hearing level at physical (but not "screened")	11%	11%
Had physical, but no screen or discussion	39%	40%
Did not have physical	24%	27%

Answer 9

- What percentage of adults report having a hearing screening at their last physical exam?

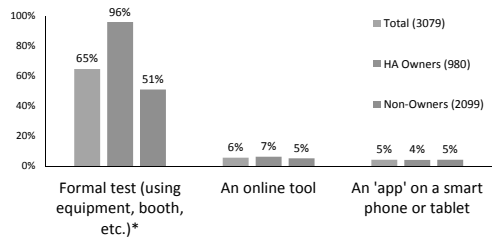
a. 5%
b. 15%
c. 25%
d. 35%

Question 10

- What's your feeling about online hearing screening?

a. I'm OK with online testing, what can go wrong?
b. Are you kidding? NO! It will devalue my worth
c. No, It cannot be calibrated
d. No, the public may be mislead and delay diagnosis of a serious problem
e. I'm OK with online testing as long as I can bill for it

Types of Tests



MT9 High-Level Conclusions

- Hearing loss rates are stable…
  and there are 78 million people moving into range
- Hearing aid purchase percentages are up…
  - Technology
  - Satisfaction
  - Physician screening
  - Word-of-mouth
- Physician screening rates are up…
  and people want guidance from their doctors
- Consumer satisfaction is up…with both hearing care professionals and hearing aids

Along the Patient Journey with MT9

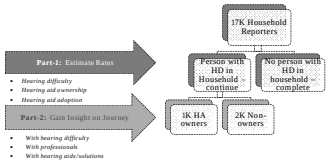
Institute of Medicine Committee on Accessible and Affordable Hearing Health Care for Adults, June 30th 2015

Let's meet John

- 68 year old married retiree
- Increasing problems understanding his wife and friends
- Has to turn up the TV
- Wondering what he should do next

John's Journey

MT9

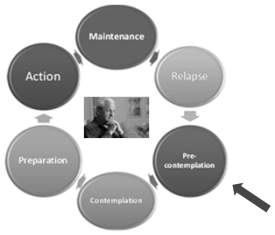


Transtheoretical (Stages of Change) Model

Prochaska & DiClemente (1983)

http://adamsledd.com/applications-of-education-in-recovery/

Pre-contemplation



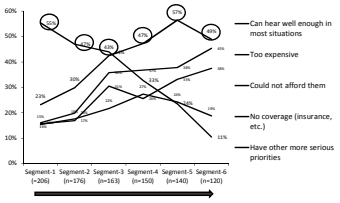
Contemplation

Health Belief Model

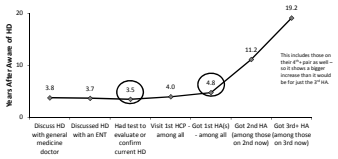
Glanz, Rimer, & Lewis (2002).

http://www.slideshare.net/mkunze/theories-at-a-glance

What are John's barriers?



John's timeline



Preparation – Readiness for Change

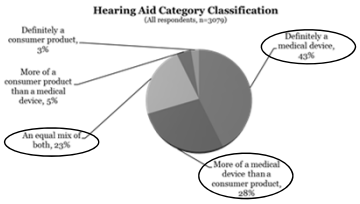
Preparation

Where looked for information (among those who searched)	Total (n=1038)	HA Owners (n=477)	Non-Owners (n=561)
The Internet/Online information	66%	58%	72%
Brochures left at other establishments (e.g., optometry office, doctor's office, senior living lobbies, etc.)	27%	32%	24%
Print ads/information mailed to your home	20%	22%	19%
Magazines (articles, stories, ads, etc.)	19%	23%	16%
Newspapers	16%	17%	15%
The library (books, journals, their online sources, etc.)	14%	14%	14%
Informational sessions or events sponsored by practices or professionals or manufacturers (hearing care, etc.)	13%	14%	12%
Some other source	8%	11%	5%

Preparation

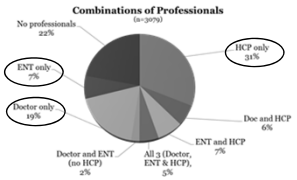
Type of Information Looking for at that Time (among those who searched)	Total (n=1038)	HA Owners (n=477)	Non-Owners (n=561)
General information about hearing loss (e.g., causes, symptoms, conditions, levels, etc.)	55%	57%	55%
Information on hearing aids (e.g., types, styles, features, prices, etc.)	48%	63%	36%
Information on coverage (e.g., HMO, Medicare, Medicaid, Union, Insurance, VA, etc.)	27%	29%	25%
Information on alternative solutions/devices	26%	22%	30%
Information comparing/evaluating solutions or brands (e.g., Consumer Reports, etc.)	24%	32%	17%
Information on a specific hearing care professional, clinic or office	21%	25%	18%
Information on medical solutions (e.g., medication, surgery, implant, etc.)	21%	16%	25%
Testimonials or reviews from people who tried/purchased hearing aids	21%	21%	21%
Information on a particular brand of hearing aid	19%	25%	15%
Some other type of information (Please be specific)	1%	1%	1%

How do consumers think about hearing aids?

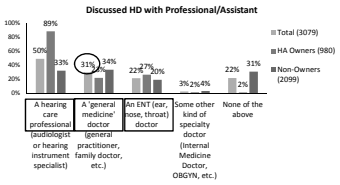


Action

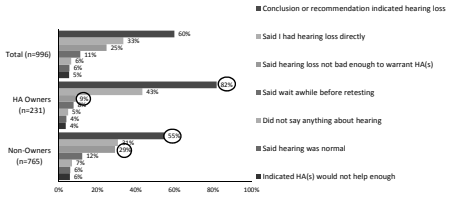
Who will John visit?



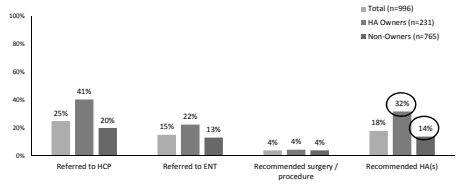
Who will John visit?



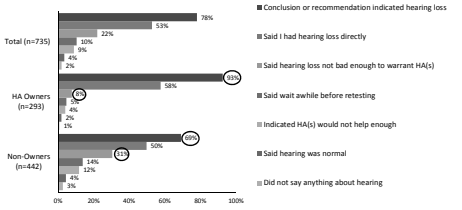
Influence of PCPs



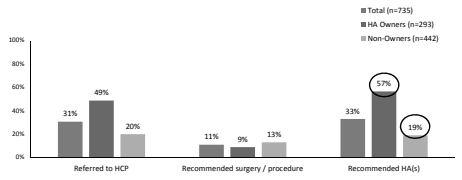
PCP Recommendations



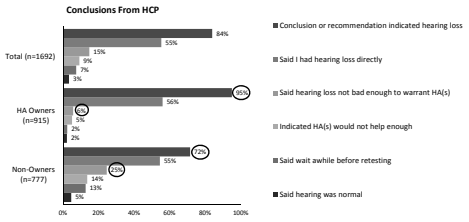
Influence of ENTs



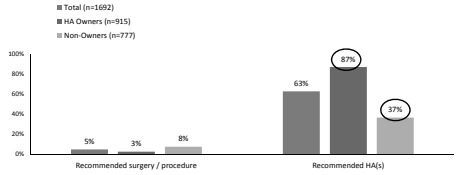
ENT Recommendations



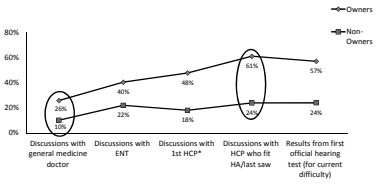
Influence of HCPs



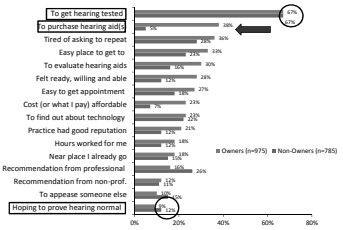
HCP Recommendations



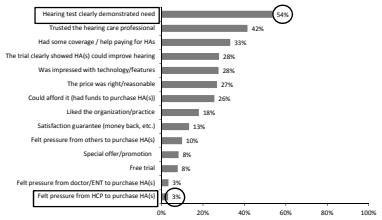
How motivating is the healthcare provider?



Reasons for choosing HCP

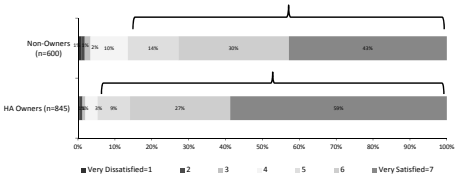


Reasons for purchasing at particular clinic



Satisfaction with HCP

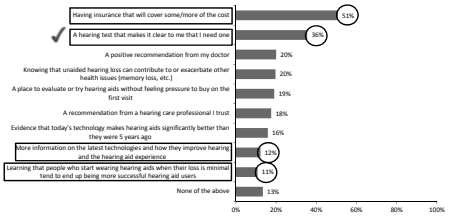
(within 5 years of visit)



Key areas influencing satisfaction

Those who saw HCP in last 5 years	Total (n=1445)	HA Owners (n=845)	Non-Owners (n=600)
The quality of service during the fitting period	94%	94%	89%
The quality of service after the purchase	92%	92%	88%
The professionalism of the hearing care "practitioner"	90%	93%	86%
The sophistication of the equipment/processes	90%	94%	86%
The quality of the support staff/assistants	88%	91%	85%
The quality of counseling provided throughout	87%	91%	81%
The level of organization/efficiency of the practice	86%	90%	81%
The purchase policies (financing, trial, guarantee, etc.)	78%	88%	62%
The selection of hearing aids carried	77%	88%	59%

What would have made John purchase sooner?




They Say
"I Can't Hear in Noise,"
We Say
"Say the Word Base"

BY GEORGE LINDLEY

An individual's ability to understand speech-in-noise provides valuable insight when recommending a hearing aid technology level, need for assistive listening devices, and in establishing realistic expectations.

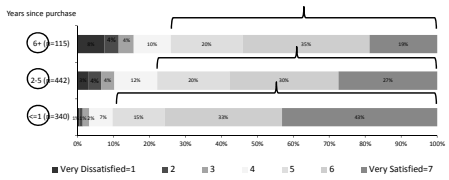
The impact of hearing loss varies substantially from person to person. Degree and type of hearing loss, lifestyle, age, and personality are a few factors that play a role. Difficulty in background noise, however, emerges as a common complaint for most people with hearing loss. Despite the commonality of this complaint, few audiologists routinely obtain a speech-in-noise measure during an audiological or hearing aid evaluation. Yet, the results of a speech-in-noise test, when combined with a speech-in-quiet score, provide valuable insight when recommending a hearing aid technology level, need for assistive listening devices, and in establishing realistic expectations.

Limitations of the Audiological Evaluation

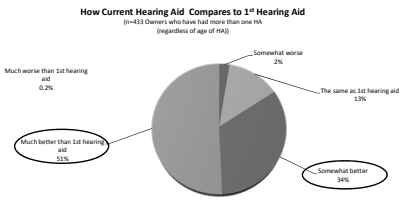
Most patients undergo audiometry and word recognition testing in quiet, as part of the traditional test battery. These measures can have important

Maintenance

Hearing aid satisfaction



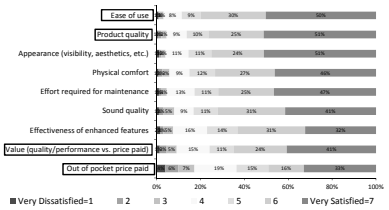
Current vs. previous hearing aids



Factors that Increase in Importance

- Half of repeat purchasers feel their current hearing aid is much better than their first because:
  - ✓ **Quality of product** is better
  - ✓ **HCP did a better job**
  - ✓ **Willing to use** current HA
  - ✓ **Better sense of what they need**, specifically:
    - *premium sound quality*
    - *reduced feedback*
    - *ease of use*

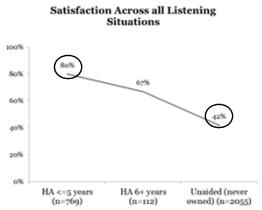
Key factors influencing satisfaction



Digging Deeper

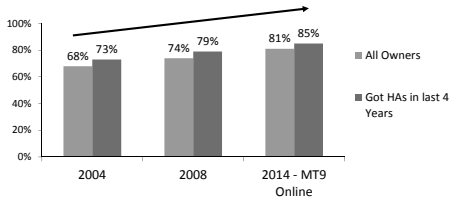
Satisfaction as a function of specific listening situations

Top-3 Box Satisfaction small samples in some cells use caution	Owners: HA <=5 years (n=760)	Owners: HA 6+ years (n=112)	Non-Owners: Returners *Who Tried HA* (n=41)	Non-Owners: Never Owned (n=2055)
Overall, across all listening situations	80%	67%	53%	42%
In conversations with 1 person	88%	79%	53%	62%
In the workplace	83%	70%	66%	46%
At home with family members	82%	74%	56%	49%
In conversations with small groups	81%	67%	54%	46%
When listening to music	80%	69%	55%	52%
When watching TV with others	79%	68%	56%	40%
During leisure activities (e.g., exercising, taking a walk, etc.)	78%	66%	57%	53%
Outdoors	78%	65%	54%	49%
In a store, when shopping	76%	64%	57%	46%
At a movie theater	75%	70%	62%	53%
When riding in a car	75%	69%	52%	46%
In a larger lecture hall (e.g., theater, concert hall, place of worship, etc.)	73%	59%	62%	38%
When talking to children	72%	67%	55%	42%
In conversations with large groups	71%	57%	54%	28%
When talking on a cell phone	70%	59%	50%	47%
When talking on a traditional telephone	69%	59%	52%	51%
In a classroom (as observer or student)	68%	58%	76%	37%
When trying to follow conversations in the presence of noise (e.g., restaurant, etc.)	67%	50%	51%	25%



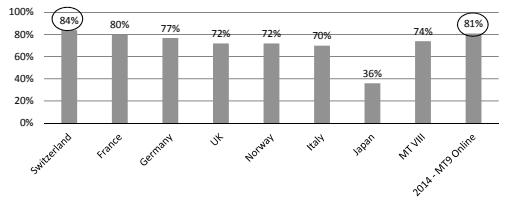
MarkeTrak Satisfaction

% top 3 on scale, all HA purchased within last 3 years

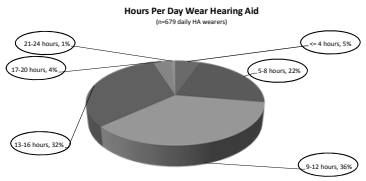


MarkeTrak and EuroTrak

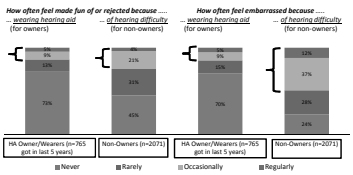
Satisfaction Scores % top 3 box - All owners



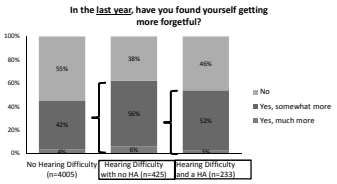
Hours of use



Non-Auditory Benefits: Rejection & Embarrassment



Non-Auditory Benefits: Forgetfulness



Memory and cognition

Question 11

- Cognitive disorder screening should be part of a comprehensive hearing assessment

a. Yes
b. No
c. Not sure

International Journal of Audiology 2003; 42:S49–S58

Thomas Lunner

Oticon A/S,
Research Centre Eriksholm,
Snekkersten, Denmark, and
Department of Technical Audiology,
Linköping University,
Linköping, Sweden

Key Words
Hearing aids
Hearing aid use
Ageing
Hearing loss
Assessment
Speech processing
Noise processing
Speech recognition in noise
Cognitive
Working memory
Reading span
Verbal information-processing speed

Cognitive function in relation to hearing aid use

Abstract
Two experiments were conducted to investigate possible relationships between cognitive function and hearing aid use. In Experiment 1, 72 first-time hearing aid users were tested for speech recognition in noise (Hagerman sentence test) with and without hearing aids. Cognitive function was assessed by tests of working memory (reading span test) and verbal information-processing speed. The results indicate that, after controlling for age and hearing loss, significant correlations exist between the measures of cognitive performance and speech recognition in noise, both with and without hearing aids. High cognitive performance was associated with high performance in the speech recognition task. In Experiment 2, 17 first-time hearing aid users with either high or low working-memory capacity tested an experimental hearing aid which processed the sound differently depending on whether or not speech was detected. The results revealed that those with high working-memory capacity were better than those with low capacity at identifying and reporting the specific processing effects of the aid. This may have implications for how reported results should be interpreted in a research context, how a person's rehabilitation needs are formulated, and how hearing aid controls should be supervised. In conclusion, careful attention should be paid to the cognitive status of listeners, as it can have a significant influence on their ability to utilize their hearing aids.

Self-Reported Hearing Loss, Hearing Aids, and Cognitive Decline in Elderly Adults: A 25-Year Study

Hélène Amieva, PhD, Camille Ouvrard, MSc, Caroline Giulioli, MSc, Céline Meillon, MSc, Laetitia Rullier, PhD, and Jean-François Dartigues, MD, PhD

OBJECTIVES: To investigate the association between hearing loss, hearing aid use, and cognitive decline.
DESIGN: Prospective population-based study.
SETTING: Data gathered from the Personnes Agées QUID study, a cohort study begun in 1999–01.
PARTICIPANTS: Individuals aged 65 and older (N = 3,675).
MEASUREMENTS: At baseline, hearing loss was determined using a questionnaire assessing self-perceived hearing loss; 137 subjects reported major hearing loss, 3,139 reported moderate problems (difficulty following the conversation when several persons talk at the same time or in a noisy place), and 399 reported no hearing difficulties at baseline. Cognitive decline was measured using the Mini-Mental State Examination (MMSE), administered at follow-up visits over 25 years.
RESULTS: Self-reported hearing loss was significantly associated with lower baseline MMSE score ($\beta = -0.69$, $P < .001$) and greater decline during the 25-year follow-up ($\beta = -0.04$, $P < .001$) after controlling for age, sex, and education. A difference in the rate of change in MMSE score over the 25-year follow-up was observed between participants with hearing loss not using hearing aids and controls ($\beta = -0.06$, $P < .001$). In contrast, subjects with hearing loss using a hearing aid had no difference in cognitive decline ($\beta = 0.07$, $P = .08$) from controls.
CONCLUSIONS: Self-reported hearing loss is associated with accelerated cognitive decline in older adults; hearing aid use attenuates such decline. J Am Geriatr Soc 63:2009–2104, 2015.

Key words: hearing loss; hearing aids; cognitive decline; elderly

Hearing loss is the third most common chronic health condition affecting older adults. Approximately 30% of individuals aged 65 and older have some degree of hearing loss, with estimates ranging from 70% to 90% of those aged 85 and older.[1,2] Individuals with hearing loss often experience depressive symptoms and social isolation.[3–5] Cross-sectional studies showed that hearing loss have poorer cognitive performance.[6–10] Two longitudinal studies showed an association between hearing loss and cognitive decline over 6 years of follow-up.[11,12] In particular, the Health, Aging and Body Composition (Health ABC) Study, conducted in a sample of 1,984 community-dwelling individuals aged 70 to 79 at baseline, hearing loss measured using audiometric tones was independently associated with accelerated cognitive decline and incident cognitive impairment during the 6 years of follow-up.[12]

Despite its high prevalence and consequences for health outcomes, hearing loss is largely underdiagnosed and thus undertreated.[13] Almost two-thirds of older adults who have hearing loss do not use a hearing aid.[14] Little is known about the effect of hearing aids on health outcomes in older adults, in particular cognitive decline. In one study,[11] hearing aid use was associated with slightly lower rates of cognitive decline and risk of incident cognitive impairment in individuals with hearing loss, but the results were not statistically significant, possibly because of a lack of power, because of lack of statistical power. In the other longitudinal study,[12] because of small sample size, the association between hearing aid use and cognitive decline could not be properly examined.

With the ongoing follow-up of the Personnes Agées QUID (PAQUID) cohort specifically designed to study aging and dementia, we have the opportunity to further assess the relationship between hearing loss and long-term age-related cognitive decline. Using self-reported measure of hearing loss, the association between hearing loss and cognitive trajectories over 25 years was investigated in a community-based cohort of older adults, and the trajec-

JAGS 63:2009–2104, 2015
DOI: 10.1111/jgs.13689

Recent trade journal emphasis

THE Hearing Journal
THE MOST RESPECTED PUBLICATION IN HEARING HEALTHCARE

Enter Keywords | Search | Advanced Search

Home | Archive | Collections | HJ eNews | Blogs | Media | Directory

Home > Current Issue > Preventing Cognitive Decline: Hearing Interventions Promisi...

< Previous Article | Next Article >

Hearing Journal:
September 2015 - Volume 68 - Issue 9 - pp 22,23,24,26
doi: 10.1097/01.HJ.0000477627.83736.ec
Golden Rules

Preventing Cognitive Decline: Hearing Interventions Promising

Weinstein, Barbara E. PhD

PDF

Article Outline

THE HearingReview

NEWS PRODUCTS BUYER'S GUIDE RESOURCE CENTER BLOGS

58 Share 10 Tweet 2 Share 3 Email

EXPERT INSIGHT

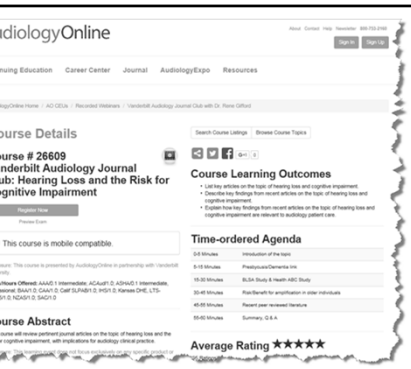
Expert Roundtable: Cognition, Audition, and Amplification: 2015

Published on August 20, 2015

Expert Roundtable | September 2015 *Hearing Review*

This series of articles is a review of the key points addressed during the 2015 AudiologyNOW! featured session titled "Issues, Advances, and Considerations in Cognition and Amplification" on March 26, 2015, San Antonio, Texas. As moderator for this exciting event, I was honored to work with my friends and colleagues Brent Edwards PhD, Jason Galster, PhD, Andrea Pittman, PhD, Gabrielle Saunders, PhD, Christian Füllgrabe, PhD, and Gurjit Singh, PhD. Indeed, this feature session was enthusiastically attended by some 400 audiologists from across the globe. Of course, an event of this size requires immense coordination and cooperation, and I am especially grateful to my friend and colleague Jason Galster, who co-chaired and co-managed the session. Special thanks to Jason for his friendship, insight, expertise, and willingness to make and receive phone calls and emails in the wee hours of the night. Jason, you're the best!

Douglas L. Beck, AuD



AudiologyOnline

Continuing Education Career Center Journal AudiologyExpo Resources

Course Details

Course # 26609
Vanderbilt Audiology Journal Club: Hearing Loss and the Risk for Cognitive Impairment

Register Now

This course is mobile compatible.

Course Learning Outcomes

- List key articles on the topic of hearing loss and cognitive impairment
- Describe key findings from recent articles on the topic of hearing loss and cognitive impairment
- Explain how key findings from recent articles on the topic of hearing loss and cognitive impairment are relevant to audiology patient care.

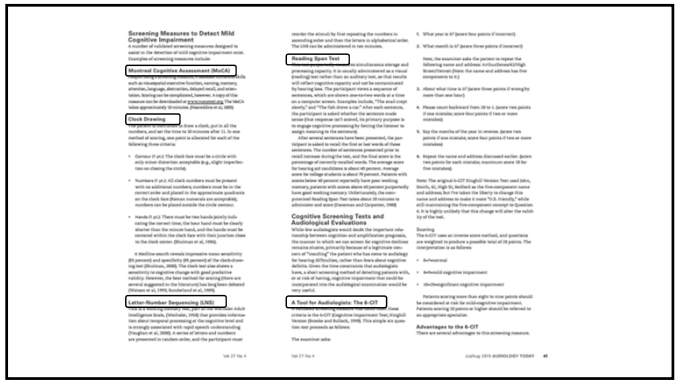
Time-ordered Agenda

0-5 Minutes	Introduction of the topic
5-15 Minutes	Presbycusis/Dementia link
15-30 Minutes	BLSA Study & Health ABC Study
30-45 Minutes	Risk/Benefit for amplification in older individuals
45-55 Minutes	Recent peer-reviewed literature
55-60 Minutes	Summary, Q & A

Course Abstract

This course will review pertinent journal articles on the topic of hearing loss and the risk for cognitive impairment, with implications for audiology clinical practice.

Average Rating ★★★★★



Screening Measures to Detect Mild Cognitive Impairment

Montreal Cognitive Assessment (MoCA)

Clock Drawing

Letter-Number Sequencing (LNS)

Reading Span Test

Cognitive Screening Tests and Audiological Evaluations

A Tool for Audiologists: The 6-CIT

Advantages to the 6-CIT

Vol 27 No 4 Vol 27 No 4 July/Aug 2015 AUDIOLOGY TODAY 45

Six Item Cognitive Impairment Test (6CIT)

- Developed in 1983
- Useful dementia screening tool in Primary Care.
- uses an inverse score method to produce a possible total of 28 points
  - 0 – 7 = normal
  - 8 – 9 = mild cognitive impairment
  - 10-28 = significant cognitive impairment

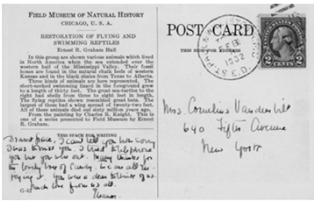
http://primedr.com/images/Forms/Cognitive_Function_Screening.pdf

Item 1: What is the year?

Item 2: What is the month?

Item 3: Repeat an address out loud

5 element address:
1. First name
2. Last name
3. Number
4. Street
5. City



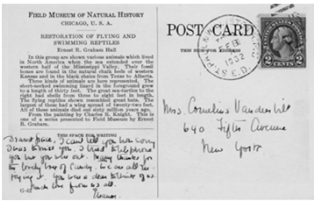
Item 4: About what time is it?

Item 5: Count backwards from 20 out loud

Item 6: Recite the months of the year backwards

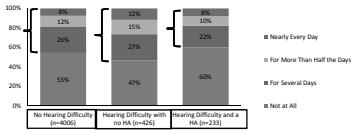
December
November
October
September
August
July
June
May
April
March
February
January

Item 7: What was the address from earlier?



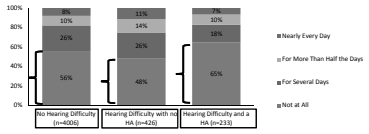
Non-Auditory Benefits: Lack of Interest or Pleasure

Over the last 2 weeks, how often have you been bothered by: "Little interest or pleasure in doing things?"



Non-Auditory Benefits: Depression

Over the last 2 weeks, how often have you been bothered by: "Feeling down, depressed or hopeless"?



Impact of depression?

The Official Journal of the American Psychosomatic Society
PSYCHOSOMATIC MEDICINE
Journal of Biobehavioral Medicine

"Hearing loss is associated with substantially reduced mental health ratings among some young and middle-aged persons, but usually does not affect mental health much among older persons."

Psychosomatic Medicine:
September/October 2004 - Volume 66 - Issue 5 - pp 776-782
Moderate Effects of Hearing Loss on Mental Health and Subjective Well-Being: Results From the Nord-Trøndelag Hearing Loss Study
Tambs, Kristian PhD

Question 12

- Depression screening should be part of a comprehensive hearing assessment

a. Yes
b. No
c. Not sure

Physician Quality Reporting System (PQRS)

- Measure #134: Preventive Care and Screening: Screening for Clinical Depression and Follow-Up Plan
  - *Required when you perform the procedure represented by 92625 (Tinnitus evaluation)*

Depression Screening Tools

- Adolescent screening tools:
  - Patient Health Questionnaire for Adolescents (PHQ-A), Beck Depression Inventory-Primary Care Version (BDI-PC), Mood Feeling Questionnaire (MFQ), Center for Epidemiologic Studies Depression Scale (CES-D), and PRIME MD-PHQ2
- Adult screening tools:
  - Patient Health Questionnaire (PHQ-9), Beck Depression Inventory (BDI or BDI-II), Center for Epidemiologic Studies Depression Scale (CES-D), Depression Scale (DEPS), Duke Anxiety- Depression Scale (DADS), Geriatric Depression Scale (GDS), Cornell Scale Screening, and PRIME MD-PHQ2

Geriatric Depression Scale (Short Form)

Patient's Name _____ Date _____

Instructions: Choose the best answer for how you felt over the past week.

No.	Question	Answer	Score
1	Are you basically satisfied with your life?	Yes / No	
2	I have you dropped many of your activities and interests?	Yes / No	
3	Do you feel that your life is empty?	Yes / No	
4	Do you often get bored?	Yes / No	
5	Are you hopeful about the future?	Yes / No	
6	Are you afraid that something bad is going to happen to you?	Yes / No	
7	Do you feel happy most of the time?	Yes / No	
8	Do you often feel helpless?	Yes / No	
9	Do you prefer to stay at home, rather than going out and doing new things?	Yes / No	
10	Do you think you have more problems with memory than most?	Yes / No	
11	Do you think it is wonderful to be alive?	Yes / No	
12	Do you feel pretty useless the way you are now?	Yes / No	
13	Do you feel full of energy?	Yes / No	
14	Do you feel that your situation is hopeless?	Yes / No	
15	Do you think that most people are better off than you are?	Yes / No	
		Total	

Scoring:

Assign one point for each of bold underlined:

1. **No**; 2. **Yes**; 3. **Yes**; 4. **Yes**; 5. **No**; 6. **Yes**; 7. **No**; 8. **Yes**; 9. **Yes**; 10. **Yes**; 11. **No**; 12. **Yes**; 13. **No**; 14. **Yes**; 15. **Yes**

A score of 5 is normal. A score above 5 suggests depression.

Source:

1. Sheikhan J.A., Yesavage J.A. Reliability of the Geriatric Depression Scale: recent findings and revised version. J Clin Psychol. May 1986; 47(3):265-70.
2. Yesavage J.A., Brink T.L., Rose T.L. et al. Development and validation of a geriatric depression screening scale: a preliminary report. J Psychiatr Res. 1983; 17(1):37-49.

Relapse

Relapse Risks

- Major life changes
  - Loss of spouse
  - Loss of job
  - Loss of independence
  - Major illness or injury
- Significant change in hearing
- Inadequate follow-up
- Unresolved hearing aid complaint(s)
- **Failure to provide post-fitting rehabilitation**
  - **Group-based aural rehabilitation**
  - **Auditory training**

Can we train the brain?

You Betcha!

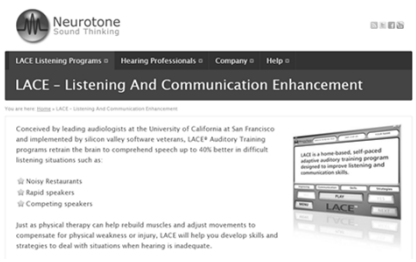
What's available?

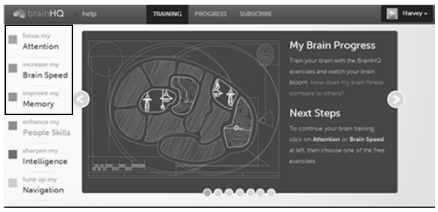
- LACE
- Brain HQ
- Lumosity
- ReadMyQuips

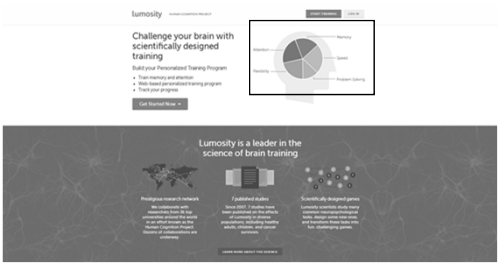
Gamification

- *The concept of applying game mechanics and game design techniques to engage and motivate people to achieve their goals*
- *Gamification taps into the basic desires and needs of the users impulses which revolve around the idea of Status and Achievement*

https://badgeville.com/wiki/Gamification






lumosity
Challenge your brain with scientifically designed training
Build your Personalized Training Program
Train memory and attention
Web-based personalized training program
Track your progress
Get Started Now
Memory
Speed
Problem Solving
Flexibility
Lumosity is a leader in the science of brain training
Prestigious research network
7 published studies
Scientifically designed games


WELCOME
PRODUCT INFO
FOR PROVIDERS
SUPPORT
One of the most exciting innovations in speech comprehension
ReadmyQuips
"Train Your Brain" and Understand Again!
FREE TRIAL
For the Hearing Impaired
For Hearing Professionals


ReadmyQuips
Acting is all about honesty.
(George Burns)

LACE (Sweetow & Henderson-Sabes, 2007)

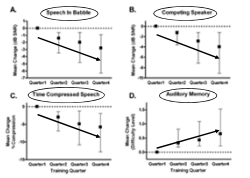
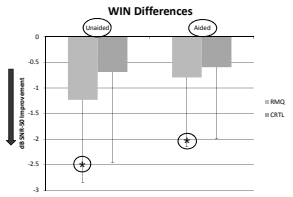


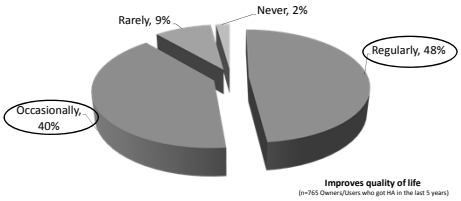
Figure 2. Mean improvement on training task scores for each quarter of the training relative to the first quarter of training, for all subjects completing Listening and Communication Enhancement (LACE) training. (A) Group mean change on speech in babble performance. A decrease in decibels of signal-to-noise ratio (dB SNR) score indicates improvement. (B) Group mean improvement on speech with a competing speaker performance. A decrease in dB SNR score indicates improvement. (C) Group mean improvement on time-compressed speech performance. A decrease in score indicates improvement. (D) Group mean improvement on auditory memory performance. An increase in score indicates improvement. Error bars indicate 95% confidence interval of the mean.

WIN

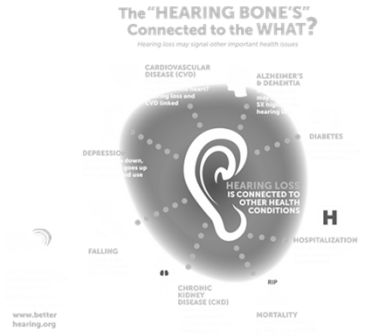


*p < .05

Quality of life improvement with HA use



Beyond MT9



What does this all mean for my practice?

Review your clinical protocols

- Upgrade your health history to include all key co-morbidities
- Explain the co-existence; be careful not to imply causality
- Advise that amplification may improve communications with physicians and general outlook on/engagement with life
- Employ *meaningful* measures of hearing and communication performance
- Provide post-fitting rehabilitation tools

"Untreated hearing loss is not a benign condition."

-James Firman, PhD; President, National Council on the Aging

What does this all mean for my practice?

Connect/reconnect with your local medical community

- Many of your patients want hearing aid recommendation from MD
- Majority of physical exams DO NOT include a hearing check of any kind *(*Medicare now requires that each patient have their hearing screened*)*
- Most specialists are not aware of connection between their condition/disease and hearing loss

"…Hearing loss in not only a pervasive problem but also one that can affect virtually all aspects of a person's life."

Institute of Medicine Workshop, January 2014

It is good to have an end to journey toward; but it is the journey that matters, in the end.

-Ernest Hemingway

References

Abrams HB, Kihm J. (2015). An introduction to MarkeTrak IX: new baseline for the hearing aid market. *Hearing Review, 22*(6):16-21.

Amieva H, et al. (2015). Self-reported hearing loss, hearing aids, and cognitive decline in elderly adults: a 25-year study. Journal of the American Geriatrics Society, 63(10):2099-2104.

Callaghan, R.C., Taylor, L., & Cunningham, J.A. (2007). Does progressive stage transition mean getting better? A test of the Transtheoretical Model in alcoholism recovery. Addiction, 102(10), 1588-1596.

Glanz, K., Rimer, B.K. & Lewis, F.M. (2002). Health Behavior and Health Education. Theory, Research and Practice. San Fransisco: Wiley & Sons.

Kochkin S. (2009). MarkeTrak VIII: 25-year trends in the hearing health market. *Hearing Review, 16* (11), 12-31

Johnson, S.S., Driskell, M-M., Johnson, J.L., Dyment, S.J., James O. Prochaska, J.O., et al. (2006). Transtheoretical model intervention for adherence to lipid-lowering drug. Disease Management, 9(2): 102-114.

Laplante-Levesque, A. (2015). Applying the stages of change to audiologic rehabilitation. Hearing Review, 68(6), 8-12.

References

Laplante-Lévesque, A., Hickson, L., & Worrall, L. (2013) Stages of change in adults with acquired hearing impairment seeking help for the first time: application of the transtheoretical model in audiologic rehabilitation. *Ear & Hearing, 34*(4):447–457

Logue E., Karen Sutton, K., Jarjoura, D., Smucker, W., Baughman, K., & Capers, C. (2005). Tanstheoretical model-chronic disease care for obesity in primary care: A randomized trial. Obesity Research, 13(5), 917-927.

Prochaska, J. Q., & DiClemente, C. C. (1983). Stages and processes of self-change of smoking: Toward an integrative model of change. Journal of Consulting and Clinical Psychology, 51, 390-395.

Prochaska, J.O., Redding, C.A., Harlow, L.L., Rossi, J.S., Wayne F. Velicer, W.F. (1994). The Transtheoretical Model of Change and HIV Prevention: A Review. Health Education Behavior, 21(4), 471-486.

Saunders, G., Frederick, M., Silverman, S., Papesh, M. (2013). Application of the health belief model: Development of the hearing beliefs questionnaire (HBQ) and its associations with hearing health behaviors. International Journal of Audiology 2013; 52: 558–567.

Websites

http://www.betterhearing.org/hearingpedia

http://iom.nationalacademies.org/activities/healthservices/hearinghealthcareforadults.aspx

Thank You

crogin@bostrom.com
hbabrams@gmail.com