MarkeTrak 9 (MT9): A New Baseline

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Disclosures

• I am a consultant to and paid by the Hearing Industries Association and the Better Hearing Institute

• The opinions expressed during this presentation are mine and mine alone and do not necessarily represent those of HIA/BHI or any of its members
<table>
<thead>
<tr>
<th>HIA Members</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Amplifon USA</td>
<td>Oticon Inc.</td>
</tr>
<tr>
<td>Audina Hearing Instruments</td>
<td>Panasonic</td>
</tr>
<tr>
<td>Audiology Online</td>
<td>Phonak Inc.</td>
</tr>
<tr>
<td>Beltone Electronics</td>
<td>Rayovac</td>
</tr>
<tr>
<td>Earlens</td>
<td>Rexton, Inc.</td>
</tr>
<tr>
<td>EarQ</td>
<td>Siemens Hearing Instruments</td>
</tr>
<tr>
<td>Energizer</td>
<td>Sonic Innovations, Inc.</td>
</tr>
<tr>
<td>ESCO</td>
<td>Sonion</td>
</tr>
<tr>
<td>GN Hearing Care</td>
<td>Starkey Hearing Technologies</td>
</tr>
<tr>
<td>Interton, U.S.</td>
<td>The Hearing Journal</td>
</tr>
<tr>
<td>Intricon Corporation</td>
<td>The Hearing Review</td>
</tr>
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<td>Knowles Electronics</td>
<td>Unitron Hearing US</td>
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<tr>
<td>Micro-Tech Hearing Instruments</td>
<td>Widex</td>
</tr>
<tr>
<td>ON Seminconductor</td>
<td></td>
</tr>
</tbody>
</table>
HIA Programs

Government Relations
Statistics
Market Development
Better Hearing Institute, 
http://www.betterhearing.org/

Exploring the Consumer’s Journey

• On-line Survey of Satisfied Users (2007)
• Focus Groups and Personal Interviews (2012)
Market Development

MarkeTrak (1984–Present)
Longitudinal study to track issues related to
- Hearing loss
- Attitudes and perceptions
- Barriers to hearing aid use
MarkeTrak 9 (MT9) 2014

- On-line
- Best Practices/Blinded study objective
- Coordination with EuroTrak
- Survey Flow

17k households profiled individuals

Hearing difficulty continue

1K owners

No hearing difficulty – complete

2K non-owners
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%
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
• 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%
Preliminary Highlights (continued)

• At 30.2%, US hearing aid adoption rate is higher
  o Largest increase among the youngest people
  o Average age of owners is slightly lower
  o More first-time buyers
• More people being screened at physical exams
  o Youngest (less than 20) and oldest (75+)
  o May contribute to slightly higher adoption rate?
The satisfaction rate for hearing aids 4 years or newer is:

a. 65%
b. 75%
c. 85%
d. 95%
Question 4

• What is the percentage of hearing aids reported to be “in the drawer”?  
  
a. 3%  
b. 6%  
c. 9%  
d. 12%
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
Answer 3

• The satisfaction rate for hearing aids 4 years or newer is:
  a. 65%
  b. 75%
  c. 85%
  d. 95%
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%
Satisfaction with hearing care professionals has increased
• Owners – 93%, Non-owners – 82%
• Non-owner satisfaction may contribute to lack of motivation to buy
Answer 5

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

a. 60%
b. 70%
c. 80%
d. 90%
Hearing Difficulty & Hearing Aid Rates

About 10% of individuals in the US report having hearing difficulty, which equates to just over 33 million people.

• This is slightly lower than in the past wave (where it was 11.3%).

About 3% of all individuals have hearing aids, which equates to about 10 million people in the US.

• This rate, at 3.2%, is just slightly higher than in the past wave (where it was 2.8%).

Both of these rates increase with age, as shown in the figure below.
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.
• The hearing aid adoption rate is much higher in countries with national health care programs that cover hearing aids

a. True

b. False
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

<table>
<thead>
<tr>
<th>Tinnitus Details Among those with tinnitus</th>
<th>All Ages with Tinnitus (n=2,712)</th>
<th>Adults 20+ with Tinnitus (n=2,627)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilateral condition (both ears)</td>
<td>73%</td>
<td>74%</td>
</tr>
<tr>
<td>Unilateral condition (one ear)</td>
<td>27%</td>
<td>26%</td>
</tr>
<tr>
<td><strong>Level:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant (always there)</td>
<td>52%</td>
<td>52%</td>
</tr>
<tr>
<td>Intermittent</td>
<td>48%</td>
<td>48%</td>
</tr>
</tbody>
</table>
Question 7

• 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

Rates for Conditions

- 10.6% have the condition
- 1% have PSAP
Answer 7

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

a. 5%

b. 10%

c. 15%

d. 20%
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

<table>
<thead>
<tr>
<th>Hearing loss assessments at physical in last year</th>
<th>All Ages (n=47,593)</th>
<th>Adults 20+ (n=36,477)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screened at physical</td>
<td>26%</td>
<td>23%</td>
</tr>
<tr>
<td>Discussed hearing level at physical (but not “screened”)</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>Had physical, but no screen or discussion</td>
<td>39%</td>
<td>40%</td>
</tr>
<tr>
<td>Did not have physical</td>
<td>24%</td>
<td>27%</td>
</tr>
</tbody>
</table>
Hearing Aid Owners

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

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

Hearing Industries Association
### Self-Reported Level of Hearing Loss

- 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

<table>
<thead>
<tr>
<th>Self-Reported Level of Loss Among those with hearing difficulty</th>
<th>Total (n=3,079)</th>
<th>HA Owners (n=980)</th>
<th>HA Non-Owners (n=2,099)</th>
<th>Adoption Rates by Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>29%</td>
<td>12%</td>
<td>37%</td>
<td>12%</td>
</tr>
<tr>
<td>Moderate</td>
<td>54%</td>
<td>60%</td>
<td>52%</td>
<td>33%</td>
</tr>
<tr>
<td>Severe</td>
<td>14%</td>
<td>25%</td>
<td>9%</td>
<td>53%</td>
</tr>
<tr>
<td>Profound</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>44%</td>
</tr>
</tbody>
</table>
The age of the hearing aids varies widely among current owners, but **over half have relatively new hearing aids.**
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

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Very Dissat.</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very Sat.</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=1 (n=340)</td>
<td>1%</td>
<td>2%</td>
<td>7%</td>
<td>14.5%</td>
<td>32.6%</td>
<td>43.1%</td>
<td>18.8%</td>
</tr>
<tr>
<td>2-5 (n=442)</td>
<td>3%</td>
<td>4%</td>
<td>4%</td>
<td>12%</td>
<td>20.1%</td>
<td>30.3%</td>
<td>27.4%</td>
</tr>
<tr>
<td>6+ (n=115)</td>
<td>8%</td>
<td>4%</td>
<td>4%</td>
<td>10%</td>
<td>20.0%</td>
<td>35.3%</td>
<td>18.8%</td>
</tr>
</tbody>
</table>

**Satisfaction with Current Hearing Aid**

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

**How Current HA Compares to 1st**
(among n=440 who have had more than one HA)

- Much worse than 1st hearing aid: 0.2%
- The same as 1st hearing aid: 13.3%
- Somewhat worse: 2.3%
- Much better than 1st hearing aid:
  - 50.7%
  - 33.5%

**How Hearing Aid Compares to Expectations by Age of Hearing Aid**

<table>
<thead>
<tr>
<th>Age</th>
<th>Much Worse</th>
<th>Somewhat Worse</th>
<th>About As</th>
<th>Somewhat Better</th>
<th>Much Better</th>
</tr>
</thead>
<tbody>
<tr>
<td>6+ (n=115)</td>
<td>5%</td>
<td>11%</td>
<td>54.5%</td>
<td>20.7%</td>
<td>8.2%</td>
</tr>
<tr>
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<td>15%</td>
<td>44.6%</td>
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<td>12.8%</td>
</tr>
<tr>
<td>&lt;=1 (n=340)</td>
<td>5%</td>
<td>41.8%</td>
<td>32.3%</td>
<td>20.6%</td>
<td></td>
</tr>
</tbody>
</table>
Satisfaction with Hearing Care Professional

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.**
MarkeTrak surveys trends and they are positive

- 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
The “Silver-Haired Tsunami” is sweeping the US:
• 43,140,477 adults age 65 or older
• 61,105,407 adults age 60 or older
• 78,000,000 people born between 1946-1964

This is important because:
• 50% of adults age 65 or older have hearing loss
• 10,000 people turn 65 everyday and this will continue for the next 15 years
• “Being able to communicate is a cornerstone of healthy aging”

Institute of Medicine, National Academies of Science, January 2014
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
With hearing difficulty
- Hearing difficulty
- Hearing aid ownership
- Hearing aid adoption

Part-1: Estimate Rates

Part-2: Gain Insight on Journey
- With hearing difficulty
- With professionals
- With hearing aids/solutions

17K Household Reporters

Person with HD in Household – continue

1K HA owners

No person with HD in household – complete

2K Non-owners
Transtheoretical (Stages of Change) Model
Prochaska & DiClemente (1983)
Pre-contemplation
Contemplation
Health Belief Model

Glanz, Rimer, & Lewis (2002).

Perceived susceptibility
- Factor 1
- Factor 2

Perceived seriousness
- Factor 1
- Factor 2

Perceived benefits
- Factor 1
- Factor 2

Perceived barriers
- Factor 1
- Factor 2

Perceived threat

Outcome expectations

Self-efficacy

http://www.slideshare.net/mkunze/theories-at-a-glance
What are John’s barriers?

- Can hear well enough in most situations: 55%, 47%, 43%, 47%, 57%, 49%
- Too expensive: 23%, 30%, 22%, 22%, 24%, 19%
- Could not afford them: 30%, 36%, 31%, 32%, 38%, 38%
- No coverage (insurance, etc.): 15%, 18%, 22%, 26%, 24%, 11%
- Have other more serious priorities: 16%, 20%, 22%, 17%, 27%, 0%

Segments:
- Segment-1 (=206)
- Segment-2 (n=176)
- Segment-3 (n=163)
- Segment-4 (n=150)
- Segment-5 (n=140)
- Segment-6 (n=120)
John’s timeline

This includes those on their 4th+ pair as well – so it shows a bigger increase than it would be for just the 3rd HA.
Preparation – Readiness for Change
# Preparation

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

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

**Hearing Aid Category Classification**
(All respondents, n=3079)

- Definitely a consumer product, 3%
- More of a consumer product than a medical device, 5%
- An equal mix of both, 23%
- More of a medical device than a consumer product, 28%
- Definitely a medical device, 43%
Action
Who will John visit?

![Combinations of Professionals](n=3079)

- No professionals: 22%
- HCP only: 31%
- ENT only: 7%
- Doctor only: 19%
- Doctor and ENT (no HCP): 2%
- ENT and HCP: 7%
- Doc and HCP: 6%
- All 3 (Doctor, ENT & HCP): 5%
Who will John visit?

Discuss HD with Professional/Assistant

- A hearing care professional (audiologist or hearing instrument specialist): 33%
- A 'general medicine' doctor (general practitioner, family doctor, etc.): 31%
- An ENT (ear, nose, throat) doctor: 34%
- Some other kind of specialty doctor (Internal Medicine Doctor, OBGYN, etc.): 22%
- None of the above: 31%

Total (3079)
HA Owners (980)
Non-Owners (2099)
Influence of PCPs

**Total (n=996)**
- Conclusion or recommendation indicated hearing loss: 60%
- Said I had hearing loss directly: 25%
- Said hearing loss not bad enough to warrant HA(s): 11%
- Said wait awhile before retesting: 5%
- Did not say anything about hearing: 6%
- Said hearing was normal: 6%
- Indicated HA(s) would not help enough: 5%

**HA Owners (n=231)**
- Conclusion or recommendation indicated hearing loss: 82%
- Said I had hearing loss directly: 43%
- Said hearing loss not bad enough to warrant HA(s): 9%
- Said wait awhile before retesting: 8%
- Did not say anything about hearing: 5%
- Said hearing was normal: 4%
- Indicated HA(s) would not help enough: 4%

**Non-Owners (n=765)**
- Conclusion or recommendation indicated hearing loss: 12%
- Said I had hearing loss directly: 29%
- Said hearing loss not bad enough to warrant HA(s): 31%
- Said wait awhile before retesting: 7%
- Did not say anything about hearing: 6%
- Said hearing was normal: 6%
- Indicated HA(s) would not help enough: 6%
PCP Recommendations

% of those told to see an ENT who complied:
- 80% of total
- 90% owners
- 74% non-owners

% of those who got this suggestion who complied:
- 28% of total
- 30% owners
- 27% non-owners

Referred to HCP: 25% Total, 41% HA Owners, 20% Non-Owners
Referred to ENT: 15% Total, 22% HA Owners, 13% Non-Owners
Recommended surgery / procedure: 4% Total, 4% HA Owners, 4% Non-Owners
Recommended HA(s): 18% Total, 32% HA Owners, 14% Non-Owners
Influence of ENTs

**Total (n=735)**
- Conclusion or recommendation indicated hearing loss: 78%
- Said I had hearing loss directly: 22%
- Said hearing loss not bad enough to warrant HA(s): 53%
- Said wait awhile before retesting: 9%
- Indicated HA(s) would not help enough: 4%
- Said hearing was normal: 2%
- Did not say anything about hearing: 10%

**HA Owners (n=293)**
- Conclusion or recommendation indicated hearing loss: 93%
- Said I had hearing loss directly: 8%
- Said hearing loss not bad enough to warrant HA(s): 58%
- Said wait awhile before retesting: 5%
- Indicated HA(s) would not help enough: 4%
- Said hearing was normal: 1%
- Did not say anything about hearing: 2%

**Non-Owners (n=442)**
- Conclusion or recommendation indicated hearing loss: 69%
- Said I had hearing loss directly: 31%
- Said hearing loss not bad enough to warrant HA(s): 50%
- Said wait awhile before retesting: 14%
- Indicated HA(s) would not help enough: 12%
- Said hearing was normal: 4%
- Did not say anything about hearing: 3%
ENT Recommendations

- Referred to HCP: 31% Total (n=735), 49% HA Owners (n=293), 20% Non-Owners (n=442)
- Recommended surgery / procedure: 11% Total (n=735), 9% HA Owners (n=293), 13% Non-Owners (n=442)
- Recommended HA(s): 33% Total (n=735), 57% HA Owners (n=293), 19% Non-Owners (n=442)

% of those who got this suggestion who complied:
- 40% of total
- 54% owners
- 33% non-owners
Influence of HCPs

**Conclusions From HCP**

- **Total (n=1692)**
  - Conclusion or recommendation indicated hearing loss: 84%
  - Said I had hearing loss directly: 9%
  - Said hearing loss not bad enough to warrant HA(s): 7%
  - Indicated HA(s) would not help enough: 6%
  - Said wait awhile before retesting: 2%
  - Said hearing was normal: 3%

- **HA Owners (n=915)**
  - Conclusion or recommendation indicated hearing loss: 56%
  - Said I had hearing loss directly: 6%
  - Said hearing loss not bad enough to warrant HA(s): 5%
  - Indicated HA(s) would not help enough: 2%
  - Said wait awhile before retesting: 2%

- **Non-Owners (n=777)**
  - Conclusion or recommendation indicated hearing loss: 55%
  - Said I had hearing loss directly: 14%
  - Said hearing loss not bad enough to warrant HA(s): 13%
  - Indicated HA(s) would not help enough: 5%
  - Said wait awhile before retesting: 25%
  - Said hearing was normal: 5%
HCP Recommendations

% of those who got this suggestion who complied:
- 41% of total
- 28% owners
- 46% non-owners

- Recommended surgery / procedure
  - Total (n=1692): 5%
  - HA Owners (n=915): 3%
  - Non-Owners (n=777): 8%

- Recommended HA(s)
  - Total (n=1692): 63%
  - HA Owners (n=915): 87%
  - Non-Owners (n=777): 37%
How motivating is the healthcare provider?

- Discussions with general medicine doctor: Owners 26%, Non-Owners 10%
- Discussions with ENT: Owners 40%, Non-Owners 22%
- Discussions with 1st HCP*: Owners 48%, Non-Owners 18%
- Discussions with HCP who fit HA/last saw: Owners 61%, Non-Owners 24%
- Results from first official hearing test (for current difficulty): Owners 57%, Non-Owners 24%
Reasons for choosing HCP

1. To get hearing tested: 67% (Owners) 67% (Non-Owners)
2. To purchase hearing aid(s): 38% (Owners) 7% (Non-Owners)
3. Tired of asking to repeat: 28% (Owners) 18% (Non-Owners)
4. Easy place to get to: 36% (Owners) 23% (Non-Owners)
5. To evaluate hearing aids: 23% (Owners) 18% (Non-Owners)
6. Felt ready, willing and able: 30% (Owners) 23% (Non-Owners)
7. Easy to get appointment: 27% (Owners) 21% (Non-Owners)
8. Cost (or what I pay) affordable: 23% (Owners) 22% (Non-Owners)
9. To find out about technology: 21% (Owners) 21% (Non-Owners)
10. Practice had good reputation: 21% (Owners) 18% (Non-Owners)
11. Hours worked for me: 21% (Owners) 18% (Non-Owners)
12. Near place I already go: 23% (Owners) 22% (Non-Owners)
13. Recommendation from professional: 26% (Owners) 16% (Non-Owners)
14. Recommendation from non-prof: 16% ( Owners) 11% (Non-Owners)
15. To appease someone else: 15% (Owners) 10% (Non- Owners)
16. Hoping to prove hearing normal: 9% (Owners) 12% (Non-Owners)
Reasons for purchasing at particular clinic

- Hearing test clearly demonstrated need: 54%
- Trusted the hearing care professional: 42%
- Had some coverage / help paying for HAs: 33%
- The trial clearly showed HA(s) could improve hearing: 28%
- Was impressed with technology/features: 28%
- The price was right/reasonable: 27%
- Could afford it (had funds to purchase HA(s)): 26%
- Liked the organization/practice: 18%
- Satisfaction guarantee (money back, etc.): 13%
- Felt pressure from others to purchase HA(s): 10%
- Special offer/promotion: 8%
- Free trial: 8%
- Felt pressure from doctor/ENT to purchase HA(s): 3%
- Felt pressure from HCP to purchase HA(s): 3%
Satisfaction with HCP (within 5 years of visit)

HA Owners (n=845) vs. Non-Owners (n=600)

1% Very Dissatisfied 2% Very Dissatisfied 10% Very Satisfied
10% Very Satisfied 27% Very Satisfied 43% Very Satisfied
27% Very Satisfied 59% Very Satisfied

- Non-Owners: 1% Very Dissatisfied, 2% Very Dissatisfied, 10% Very Satisfied
- HA Owners: 1% Very Dissatisfied, 3% Very Dissatisfied, 9% Very Satisfied

Legend:
- Very Dissatisfied = 1
- Very Satisfied = 7
Key areas influencing satisfaction

<table>
<thead>
<tr>
<th>Area</th>
<th>Total (n=1445)</th>
<th>HA Owners (n=845)</th>
<th>Non-Owners (n=600)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The quality of service during the fitting period</td>
<td>94%</td>
<td>94%</td>
<td>89%</td>
</tr>
<tr>
<td>The quality of service after the purchase</td>
<td>92%</td>
<td>92%</td>
<td>88%</td>
</tr>
<tr>
<td>The professionalism of the hearing care “practitioner”</td>
<td>90%</td>
<td>93%</td>
<td>86%</td>
</tr>
<tr>
<td>The sophistication of the equipment/processes</td>
<td>90%</td>
<td>94%</td>
<td>86%</td>
</tr>
<tr>
<td>The quality of the support staff/assistants</td>
<td>88%</td>
<td>91%</td>
<td>85%</td>
</tr>
<tr>
<td>The quality of counseling provided throughout</td>
<td>87%</td>
<td>91%</td>
<td>81%</td>
</tr>
<tr>
<td>The level of organization/efficiency of the practice</td>
<td>86%</td>
<td>90%</td>
<td>81%</td>
</tr>
<tr>
<td>The purchase policies (financing, trial, guarantee, etc.)</td>
<td>78%</td>
<td>88%</td>
<td>62%</td>
</tr>
<tr>
<td>The selection of hearing aids carried</td>
<td>77%</td>
<td>88%</td>
<td>59%</td>
</tr>
</tbody>
</table>
What would have made John purchase sooner?

- Having insurance that will cover some/more of the cost: 51%
- A hearing test that makes it clear to me that I need one: 36%
- A positive recommendation from my doctor: 20%
- Knowing that unaided hearing loss can contribute to or exacerbate other health issues (memory loss, etc.): 20%
- A place to evaluate or try hearing aids without feeling pressure to buy on the first visit: 19%
- A recommendation from a hearing care professional I trust: 18%
- Evidence that today's technology makes hearing aids significantly better than they were 5 years ago: 16%
- More information on the latest technologies and how they improve hearing and the hearing aid experience: 12%
- Learning that people who start wearing hearing aids when their loss is minimal tend to end up being more successful hearing aid users: 11%
- None of the above: 13%
Maintenance

- Action
- Preparation
- Contemplation
- Relapse
- Pre-contemplation
Current vs. previous hearing aids

How Current Hearing Aid Compares to 1st Hearing Aid
(n=433 Owners who have had more than one HA
(regardless of age of HA))

- Much worse than 1st hearing aid: 0.2%
- The same as 1st hearing aid: 13%
- Somewhat better: 34%
- Somewhat worse: 2%
- Much better than 1st hearing aid: 51%
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

- Ease of use
- Product quality
- Appearance (visibility, aesthetics, etc.)
- Physical comfort
- Effort required for maintenance
- Sound quality
- Effectiveness of enhanced features
- Value (quality/performance vs. price paid)
- Out of pocket price paid

Very Dissatisfied=1  2  3  4  5  6  Very Satisfied=7
## Satisfaction as a function of specific listening situations

<table>
<thead>
<tr>
<th>Top-3 Box Satisfaction small samples in some cells – use caution</th>
<th>Owners: HA &lt; 5 years (n=760)</th>
<th>Non-Owners: HA 6+ years (n=112)</th>
<th>Returners Who Tried HA (n=44)</th>
<th>Never Owned (n=2055)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall, across all listening situations</td>
<td>80%</td>
<td>67%</td>
<td>55%</td>
<td>42%</td>
</tr>
<tr>
<td>In conversations with 1 person</td>
<td>88%</td>
<td>70%</td>
<td>53%</td>
<td>62%</td>
</tr>
<tr>
<td>In the workplace</td>
<td>83%</td>
<td>70%</td>
<td>66%</td>
<td>46%</td>
</tr>
<tr>
<td>At home with family members</td>
<td>82%</td>
<td>74%</td>
<td>58%</td>
<td>49%</td>
</tr>
<tr>
<td>In conversations with small groups</td>
<td>81%</td>
<td>67%</td>
<td>54%</td>
<td>46%</td>
</tr>
<tr>
<td>When listening to music</td>
<td>80%</td>
<td>66%</td>
<td>55%</td>
<td>53%</td>
</tr>
<tr>
<td>When watching TV with others</td>
<td>79%</td>
<td>68%</td>
<td>56%</td>
<td>40%</td>
</tr>
<tr>
<td>During leisure activities (e.g., exercising, taking a walk, etc.)</td>
<td>78%</td>
<td>66%</td>
<td>57%</td>
<td>53%</td>
</tr>
<tr>
<td>Outdoors</td>
<td>78%</td>
<td>65%</td>
<td>54%</td>
<td>49%</td>
</tr>
<tr>
<td>In a store, when shopping</td>
<td>76%</td>
<td>62%</td>
<td>57%</td>
<td>46%</td>
</tr>
<tr>
<td>At a movie theater</td>
<td>75%</td>
<td>70%</td>
<td>62%</td>
<td>53%</td>
</tr>
<tr>
<td>When riding in a car</td>
<td>75%</td>
<td>69%</td>
<td>51%</td>
<td>46%</td>
</tr>
<tr>
<td>In a larger lecture hall (e.g., theater, concert hall, place of worship, etc.)</td>
<td>73%</td>
<td>59%</td>
<td>62%</td>
<td>38%</td>
</tr>
<tr>
<td>When talking to children</td>
<td>72%</td>
<td>67%</td>
<td>55%</td>
<td>42%</td>
</tr>
<tr>
<td>In conversations with large groups</td>
<td>71%</td>
<td>57%</td>
<td>54%</td>
<td>28%</td>
</tr>
<tr>
<td>When talking on a cell phone</td>
<td>70%</td>
<td>59%</td>
<td>50%</td>
<td>47%</td>
</tr>
<tr>
<td>When talking on a traditional telephone</td>
<td>69%</td>
<td>59%</td>
<td>52%</td>
<td>51%</td>
</tr>
<tr>
<td>In a classroom (as observer or student)</td>
<td>68%</td>
<td>58%</td>
<td>76%</td>
<td>37%</td>
</tr>
<tr>
<td>When trying to follow conversations in the presence of noise (e.g., restaurant, etc.)</td>
<td>67%</td>
<td>50%</td>
<td>51%</td>
<td>25%</td>
</tr>
</tbody>
</table>
Satisfaction Across all Listening Situations

- HA <=5 years (n=769): 80%
- HA 6+ years (n=112): 67%
- Unaided (never owned) (n=2055): 42%
Hours of use

Hours Per Day Wear Hearing Aid
(n=679 daily HA wearers)

- <= 4 hours, 5%
- 5-8 hours, 22%
- 9-12 hours, 36%
- 13-16 hours, 32%
- 17-20 hours, 4%
- 21-24 hours, 1%
Non-Auditory Benefits: Rejection & Embarrassment

How often feel made fun of or rejected because.....
...wearing hearing aid (for owners)
...of hearing difficulty (for non-owners)

How often feel embarrassed because.....
...wearing hearing aid (for owners)
...of hearing difficulty (for non-owners)

HA Owner/Wearers (n=765 got in last 5 years)
Non-Owners (n=2071)

Never | Rarely | Occasionally | Regularly
---|---|---|---
HA Owner/Wearers (n=765 got in last 5 years)
5% | 9% | 13% | 73%
Non-Owners (n=2071)
4% | 21% | 31% | 45%

HA Owner/Wearers (n=765 got in last 5 years)
5% | 9% | 15% | 70%
Non-Owners (n=2071)
12% | 37% | 28% | 24%
Non-Auditory Benefits: Forgetfulness

In the last year, have you found yourself getting more forgetful?

- No Hearing Difficulty (n=4005)
  - No: 42%
  - Yes, somewhat more: 56%
  - Yes, much more: 4%

- Hearing Difficulty with no HA (n=425)
  - No: 38%
  - Yes, somewhat more: 6%
  - Yes, much more: 6%

- Hearing Difficulty and a HA (n=233)
  - No: 46%
  - Yes, somewhat more: 52%
  - Yes, much more: 3%
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?”

- No Hearing Difficulty (n=4006):
  - Not at All: 55%
  - For Several Days: 26%
  - For More Than Half the Days: 12%
  - Nearly Every Day: 8%

- Hearing Difficulty with no HA (n=426):
  - Not at All: 47%
  - For Several Days: 27%
  - For More Than Half the Days: 15%
  - Nearly Every Day: 12%

- Hearing Difficulty and a HA (n=233):
  - Not at All: 60%
  - For Several Days: 22%
  - For More Than Half the Days: 10%
  - Nearly Every Day: 8%
Non-Auditory Benefits: Depression

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

- Nearly Every Day
- For More Than Half the Days
- For Several Days
- Not at All

No Hearing Difficulty (n=4006)
- 56%

Hearing Difficulty with no HA (n=426)
- 48%

Hearing Difficulty and a HA (n=233)
- 65%
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
Overall improvement in quality of life

**Improves quality of life**
(n=765 Owners/Users who got HA in the last 5 years)

- Regularly, 48%
- Occasionally, 40%
- Rarely, 9%
- Never, 2%
Beyond MT9
The "HEARING BONE’S" Connected to the WHAT?

Hearing loss may signal other important health issues

- **CARDIOVASCULAR DISEASE (CVD)**: Could the ear be a window to the heart? Hearing loss and CVD linked.
- **ALZHEIMER’S & DEMENTIA**: Dementia risk may be up to 5X higher with hearing loss.
- **DIABETES**: Hearing loss 2X as likely for those with diabetes.
- **DEPRESSION**: Symptoms go down, quality of life goes up with hearing aid use.
- **FALLING**: Hearing loss tied to 3-fold risk of falling.
- **CHRONIC KIDNEY DISEASE (CKD)**: Moderate CKD associated with 43% increased risk of hearing loss.
- **HOSPITALIZATION**: 32% more likely for older adults with hearing loss.
- **MORTALITY**: Hearing loss tied to greater risk of dying for older men.

Treat hearing loss may help more than just your hearing. Take an online hearing check at www.betterhearing.org.
Hearing Loss and Cognition

• Hearing loss is a factor in mental acuity
  o More severe the loss, steeper the decline
  o Accelerated brain shrinkage in structures for auditory processing
  o Increased listening effort, cognitive fatigue

• Seniors with hearing loss are more likely to develop dementia

• Hearing aids may not only improve hearing but also help preserve the brain

Frank Lin, MD; Johns Hopkins University, 2013-2014
Hearing Loss and Falls

- 1 in 3 adults over 65 fall each year
- Falls are the leading cause of injuries in seniors
- People with 25 dB hearing loss are about 3 times more likely to fall
- Hearing loss decreases awareness of environment and increases cognitive load

NIH, National Health and Nutrition Examination Survey, 2001-2004
Hearing Loss and Diabetes

- Hearing loss is twice as common in adults with type 2 diabetes
- People with diabetes are likely to incur progressive hearing loss
- Diabetes may lead to hearing loss by damaging the inner ear

NIH National Health and Nutrition Examination Survey, 1999-2004
Hearing Loss and Cardiovascular Disease

• Low frequency hearing loss is significantly associated with:
  o Strokes and TIAs
  o Peripheral vascular disease
  o Coronary artery disease
  o Myocardial infarction

• Low frequency hearing loss could be an early warning signal

Charles Bishop, AuD; University of Mississippi Medical Center

“The ear may be a window to the heart.”

David R. Friedland, MD, PhD; University of Wisconsin, 2009
Hearing Loss and Chronic Kidney Disease (CKD)

- CKD associated with a 43% increased risk of hearing loss
  
  American Journal of Kidney Disease

Hearing Loss and Depression

- Reduction in symptoms and improved quality of life observed early on with use of hearing aids
- General health, vitality, social functioning, emotional stability and mental health improved

Geriatric Gerontology International, 2012
What does this mean for my patients?

- Upgrade your health history to include all key co-morbidities
- Explain the co-existence; be careful not to imply causality
- Advise that amplification will improve communications with physicians and general outlook on/engagement with life

“Untreated hearing loss is not a benign condition.”

James Firman, PhD; President, National Council on the Aging
What does this mean for business/practice?

New opportunity to connect with local medical community!

- Majority want hearing aid recommendation from MD
- Majority of physical exams DO NOT include a hearing check of any kind
- 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
By the way...

Medicare now requires that every patient have a hearing screening:

- Initial Patient Physical Exam (IPPE)
- Annual Wellness Visit (AWV)
Impact of Untreated Hearing Loss

- Older age associated with brain susceptibility, reduced plasticity and diminished functional reserve
- “Requests” to brain compete for finite resources which may have functional consequences, increase fragility
- Reduced plasticity may make adaptation less likely
- Hearing loss may negatively impact functional domains like balance, speech, etc.
http://www.betterhearing.org/hearingpedia

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

-Ernest Hemingway
References


References


THANK YOU