

1. This document was created to support maximum accessibility for all learners. If you would like to print a hard copy of this document, please follow the general instructions below to print multiple slides on a single page or in black and white.
2. This handout is for reference only. Non-essential images have been removed for your convenience. 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.
3. Copyright: Images used in this course are used in compliance with copyright laws and where required, permission has been secured to use the images in this course. All use of these images outside of this course may be in violation of copyright laws and is strictly prohibited.
4. Social Workers: For additional information regarding standards and indicators for cultural competence, please review the NASW resource: [Standards and Indicators for Cultural Competence in Social Work Practice](#)
5. Need Help? Select the “Help” option in the member dashboard to access FAQs or contact us.

How to print Handouts

On a Mac

- Open PDF in Preview
- Click File
- Click Print
- Click dropdown menu on the right “preview”
- Click layout
- Choose # of pages per sheet from dropdown menu
- Checkmark Black & White if wanted.

On a PC

- Open PDF
- Click Print
- Choose # of pages per sheet from dropdown menu
- Choose Black and White from “Color” dropdown

No part of the materials available through the continued.com site may be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine-readable form, in whole or in part, without prior written consent of continued.com, LLC. Any other reproduction in any form without such written permission is prohibited. All materials contained on this site are protected by United States copyright law and may not be reproduced, distributed, transmitted, displayed, published or broadcast without the prior written permission of continued.com, LLC. Users must not access or use for any commercial purposes any part of the site or any services or materials available through the site.

A solid red square is located in the bottom left corner of the page.



Clinical Practice Insights from Large-scale Databases of Consumer Ratings about Hearing Aids

Erin M. Picou, AuD, PhD, CCC-A
Department of Hearing and Speech Sciences
Vanderbilt University Medical Center
Nashville, TN

Erin Margaret Picou, AuD, PhD, CCC-A

Erin Picou, PhD, CCC-A, is an associate professor in the Department of Hearing and Speech Sciences at Vanderbilt University Medical Center. She has been working in the Dan Maddox Hearing Aid Research Laboratory since she was an AuD student. After completing her Ph.D. (also at Vanderbilt) she was hired to a research faculty position. She now directs the Hearing and Affect Perception Interest (HAPI) laboratory, which focuses on speech recognition, listening effort, and emotional perception for adults and school-aged children. This work continues to be supported through a variety of industry and federal funding sources. In addition to her research activities, Erin is involved with teaching and mentoring clinical and research graduate. Erin is currently serving as section editors for the American Journal of Audiology and Ear and Hearing.



Disclosures

- **Presenter Disclosure:** Financial: Erin Picou is employed by Vanderbilt University. She received an honorarium for presenting this course. Non-financial: Erin Picou has no relevant non-financial relationships to disclose.
- **Content Disclosure:** This learning event does not focus exclusively on any specific product or service.
- **Sponsor Disclosure:** There is no external sponsor for this course.

Acknowledgements

- MarkeTrak data
 - Hearing Industries Association (HIA)
 - A² Marketing Research
 - Kate Carr
 - Thomas Powers
- HearingTracker data
 - Abram Bailey
 - Vinay Manchaiah
 - Larissa Bannon

No information may be distributed, reproduced, or used without the express prior written permission of HIA.

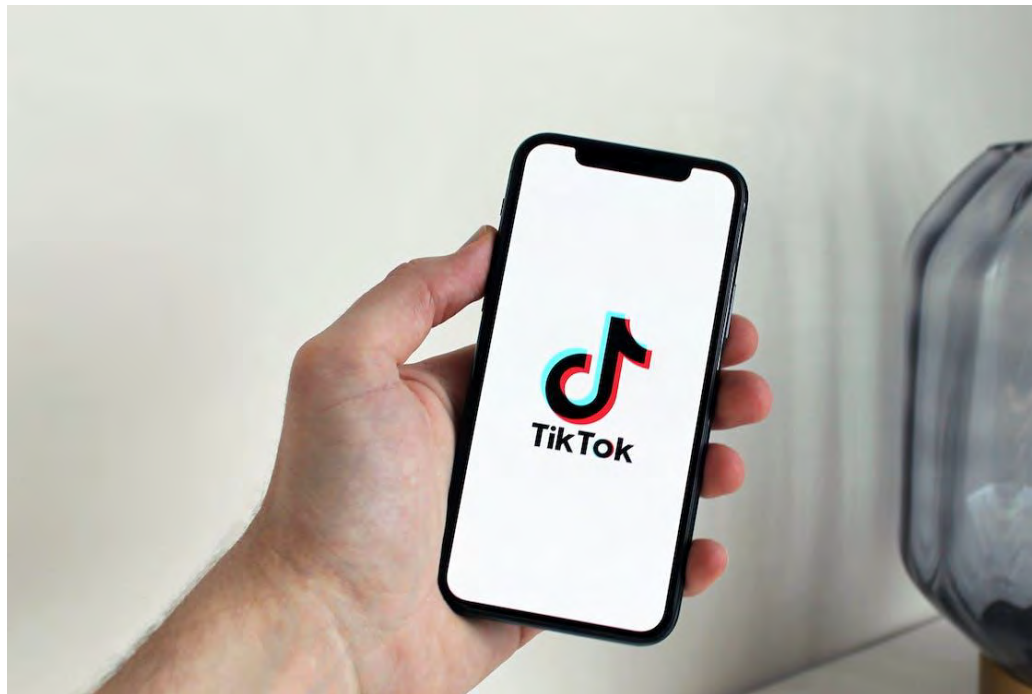
Learning Outcomes

After this course, participants will be able to

1. Describe the source for at least one large-scale database of consumer ratings.
2. Describe the consumer perception of the importance of the hearing care professional.
3. Describe one factor that differentiates hearing aid users from non-users and one thing that could be done clinically to address that factor.

6 things I would do as...

... an audiologist who spends time reviewing large-scale databases of consumer ratings



Sources of data

- Two large-scale datasets of consumer ratings
 - HearingTracker
 - MarkeTrack
- Similarities between sources
 - Big data
 - Electronic
 - Self-report
 - De-identified
 - Adult respondents



MarkeTrak (20 and 22)

- Hearing Industries Association (HIA)
- “field’s window into the consumers’ behaviors and perceptions”
 - Estimate and track hearing difficulty, hearing aid usage, and adoption rates within the United States
 - Gain market insight into patient journey among people with hearing difficulty
- Data collection
 - Surveys sent electronically to pre-recruited sample members of a panel
 - 20,000 households representative of US population
 - One “reporter” per household
 - Households containing person with hearing difficulty invited to answer additional questions

MarkeTrak Satisfaction Ratings

SATISFACTION SCALE AND SCORES:

Bottom-3 Box Score

Top-3 Box Score



MarkeTrak Categories

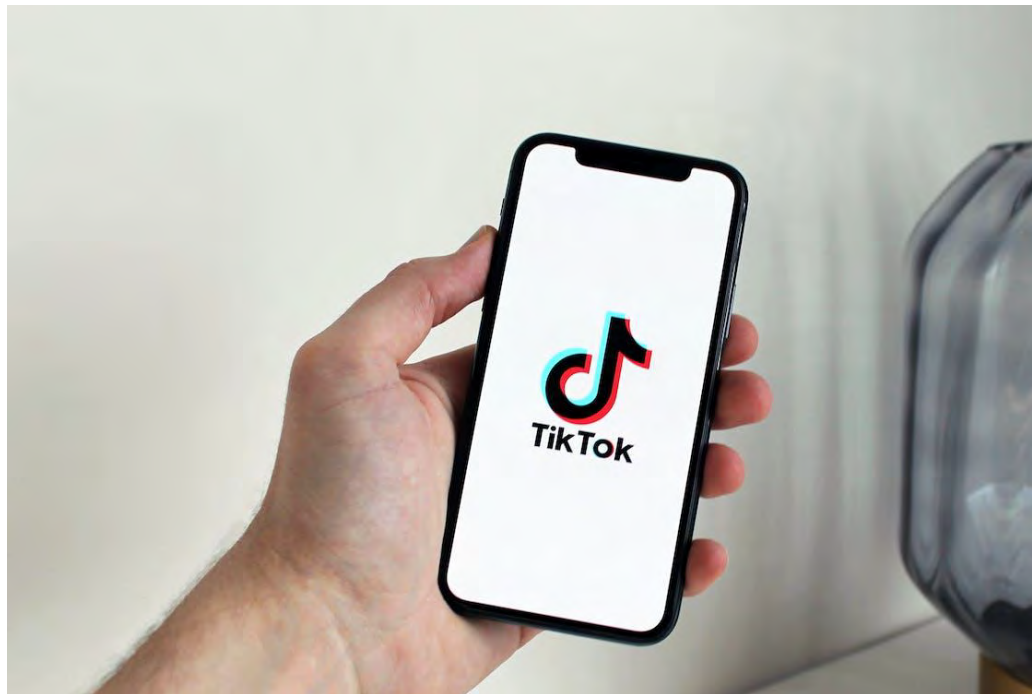
- No 'over-the-counter' category at the time of the survey
- Hearing aid channels
 - Fit by a professional in a face-to-face appointment
 - Fit remotely (e.g., Lively)
 - Self-fit by the patient (e.g., Bose)
- Personal sound amplifiers (PSAPs)
 - Purchased directly by consumer
 - Not the focus of this presentation
 - Primarily people who have minimal self-reported 'loss'

HearingTracker.com

- HearingTracker.com is an independently-owned informational resource for hearing aid consumers
 - “ ... **to help consumers find better hearing aids and better hearing professionals.** Hearing aids and Hearing professionals are rated by real patients. This helps ensure more meaningful information for consumers and professionals.”
 - Information only (no hearing aid sales)
- Two mechanisms for data collection
 - Help Me Choose tool for hearing aid shoppers
 - Surveys sent to hearing aid users on the mailing list

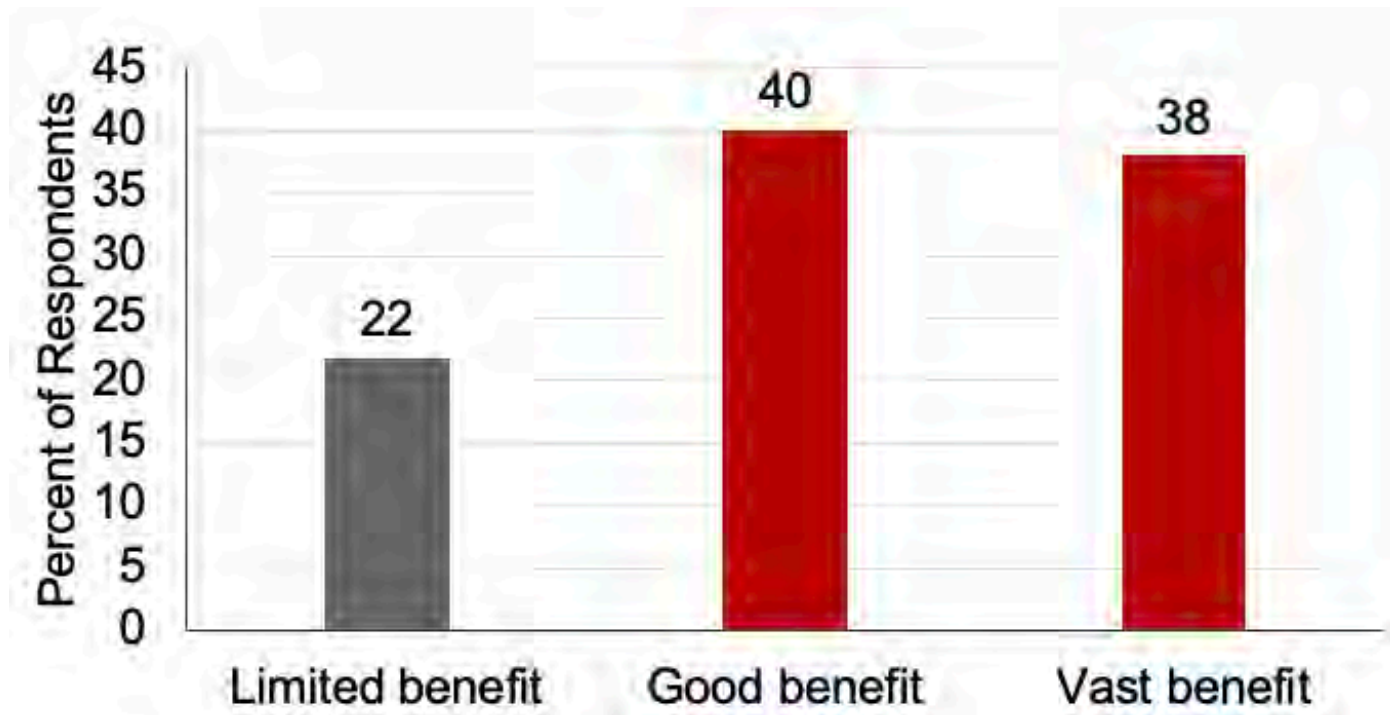
6 things I would do as...

... an audiologist who spends time reviewing large-scale databases of consumer ratings



#1 – Have confidence

- Most hearing aid users report that their hearing aids are beneficial

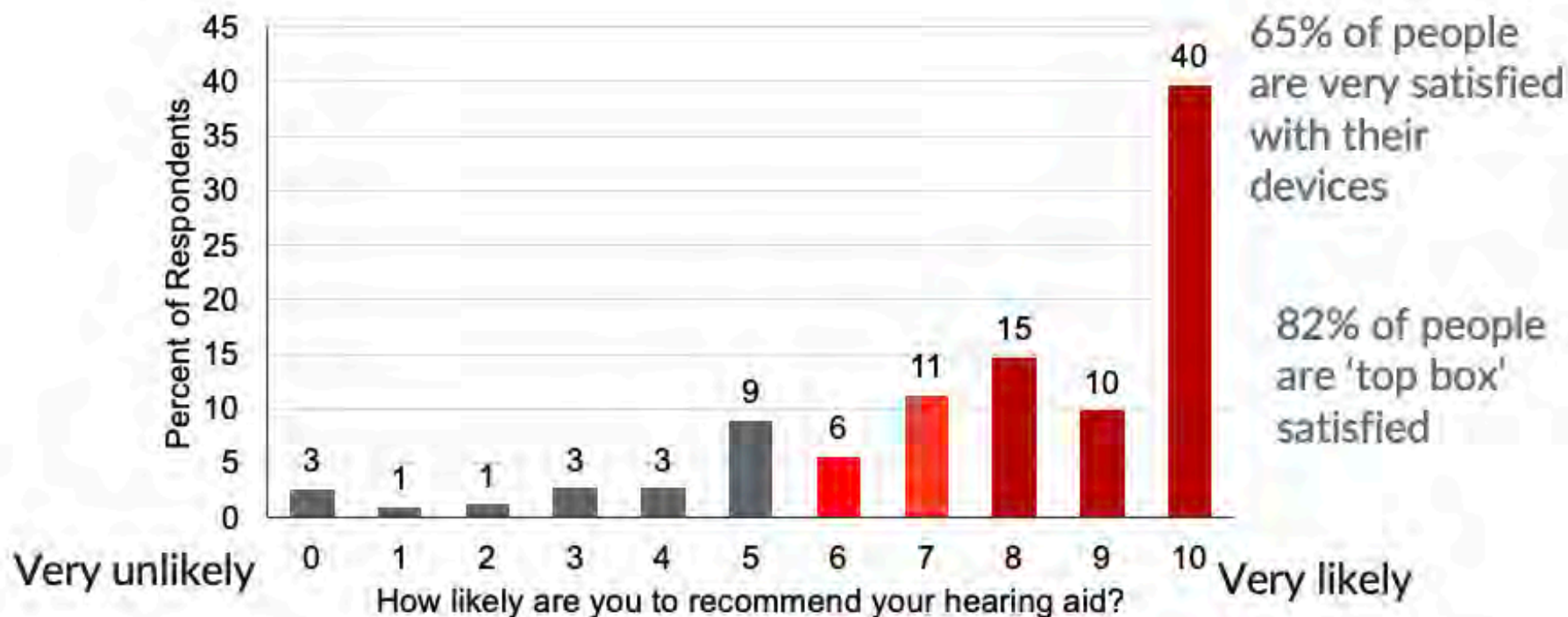


The Difference Between Benefit and Satisfaction

- Hearing aid benefit
 - Improvements in hearing function and communication ability as a result of hearing aid use
 - “How have hearing aids changed the way you hear?”
- Hearing aid satisfaction (or consumer loyalty)
 - Pleasurable emotional experience as an outcome of an evaluation of performance
 - “How likely are you to recommend a hearing aid?”

#1 – Have confidence

- Most hearing aid users would recommend their hearing aids, suggesting they are satisfied



#1 – Have confidence

- Most hearing aid users are satisfied with their hearing aids

Hearing Aid Satisfaction Rates Among Current Owners Over Time



58% in 1989
(Powers & Carr 2022)

#1 – Have confidence

- Hearing aids are improving lives

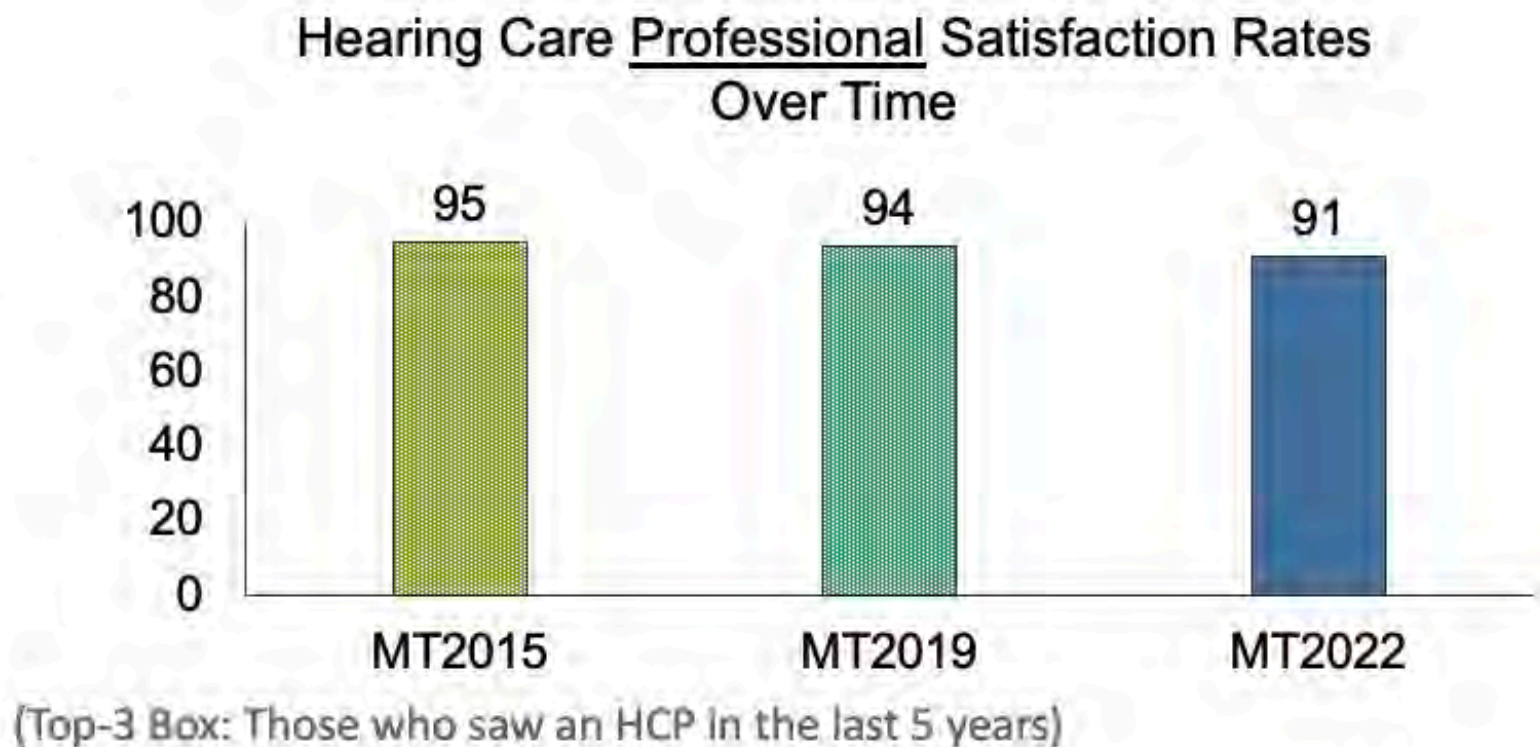


(Current Owners who got HA in last 5 years)

(Picou 2022)

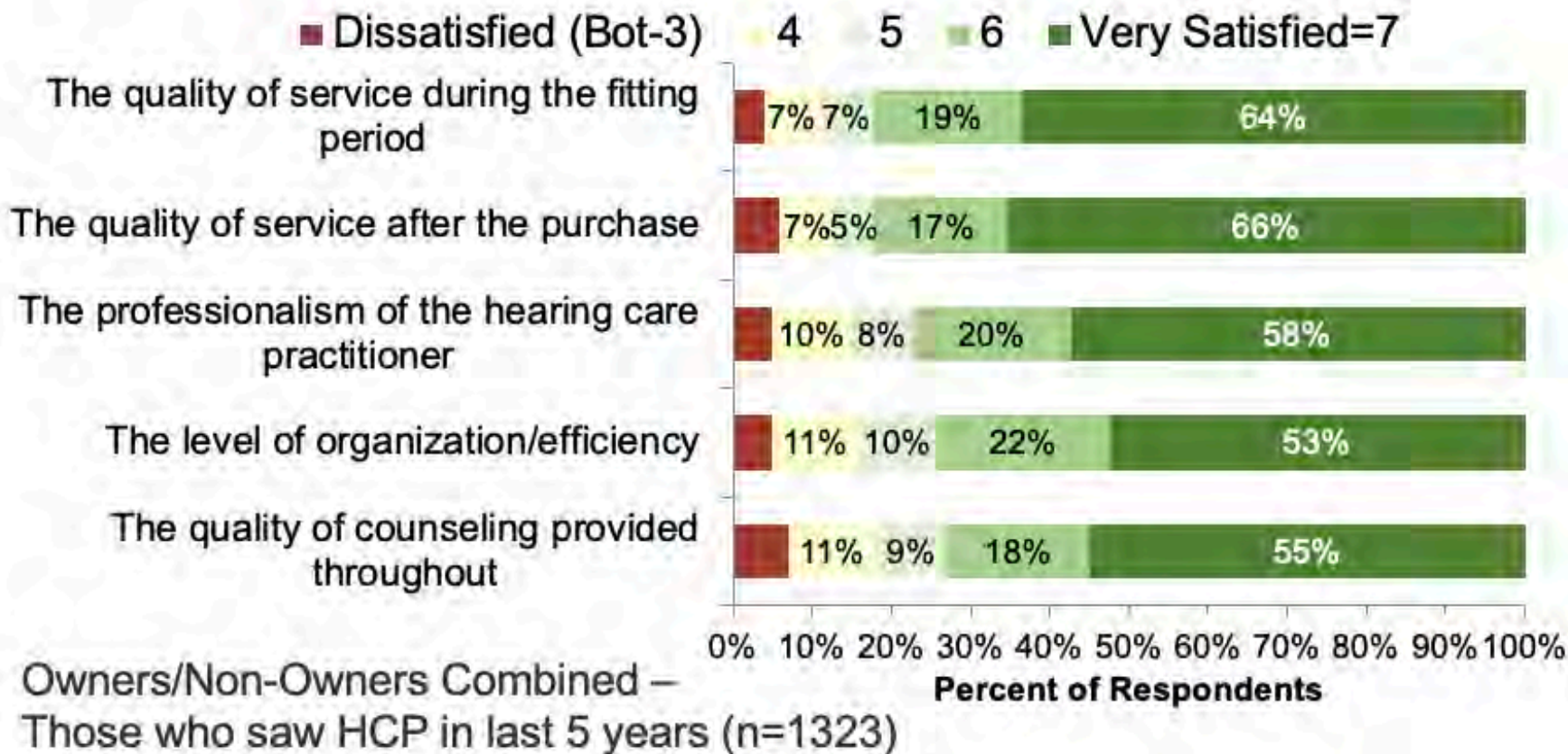
#1 – Have confidence

- Most people are satisfied with their hearing care professional



#1 – Have confidence

Level of Satisfaction with HCP on Key Areas



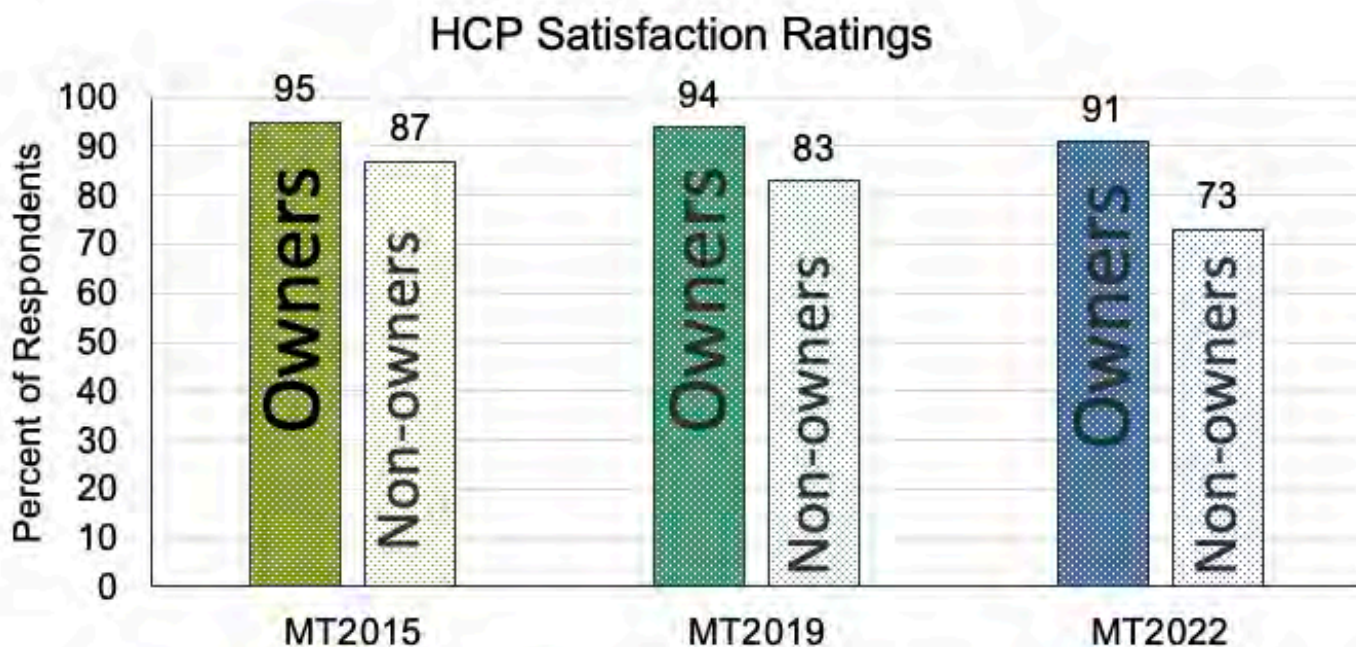


#1 – Have confidence

- Most people report hearing aids are beneficial
- Most hearing aid users are satisfied with their devices
- Hearing aids are improving lives
- Most people are satisfied with their hearing care professional

#2 – Know your importance

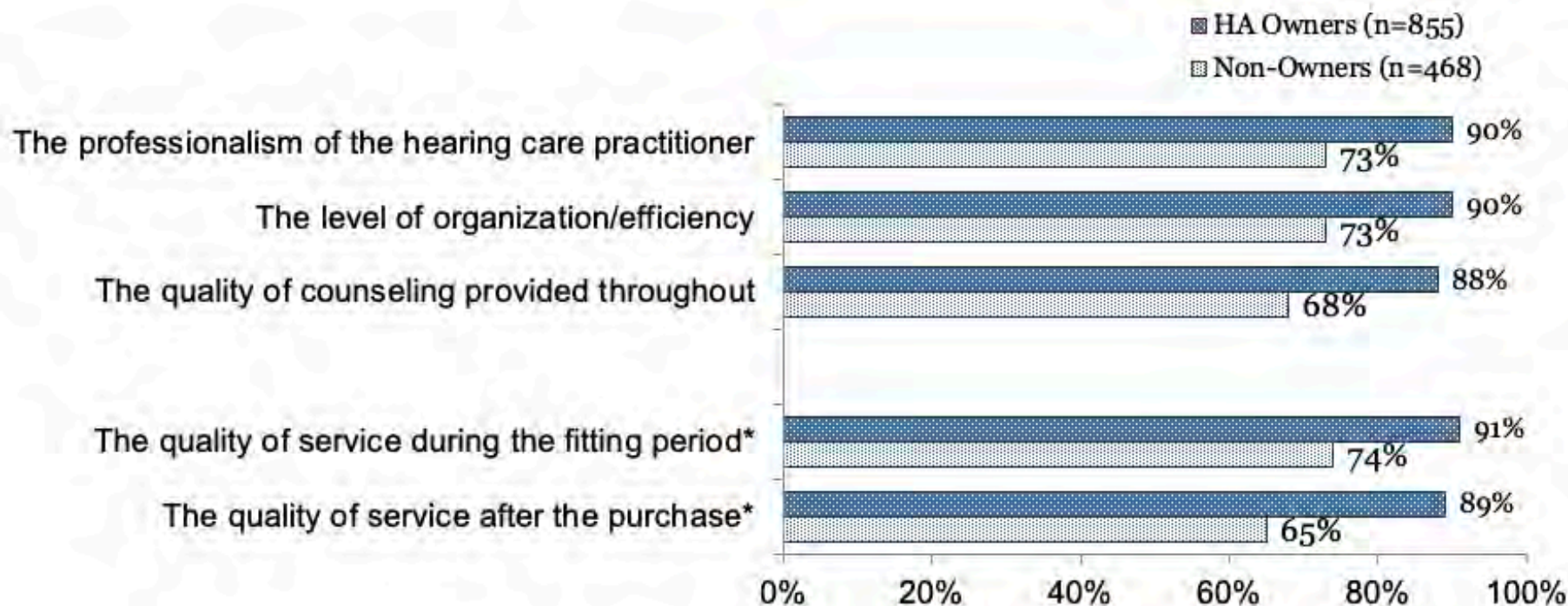
- Satisfaction with hearing care professional is associated with hearing aid adoption



(Top-3 Box: Those who saw an HCP in the last 5 years)

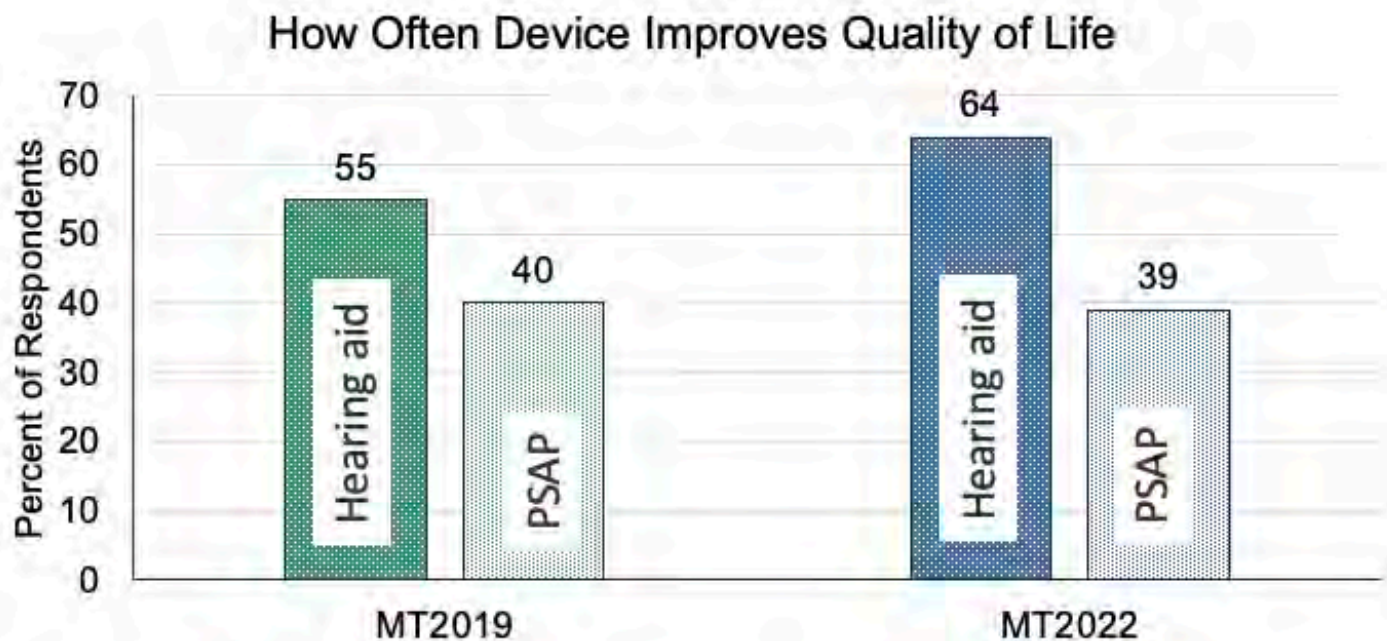
#2 – Know your importance

- Satisfaction with the quality of counseling throughout is notably different between hearing aid owners and non-owners



#2 – Know your importance

- Devices fit with a hearing care professional are more likely to improve quality of life

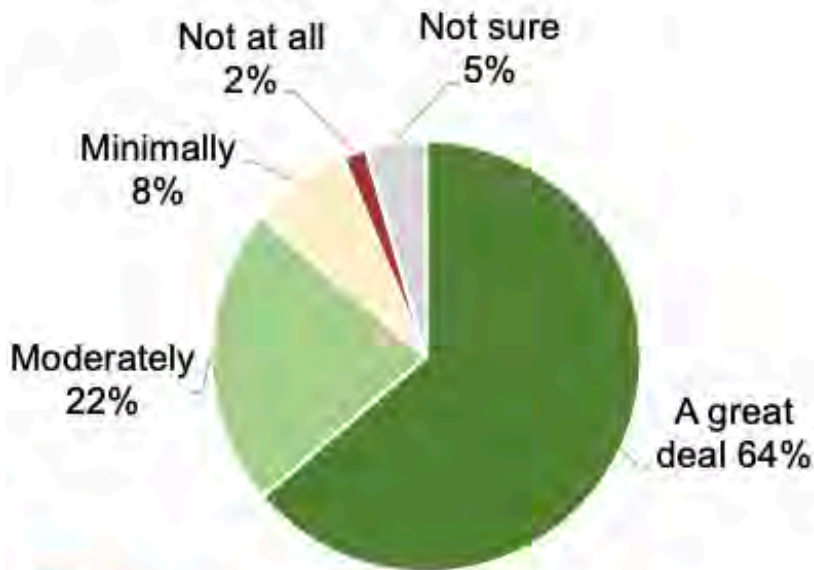


(Current Owners who got HA in last 5 years)

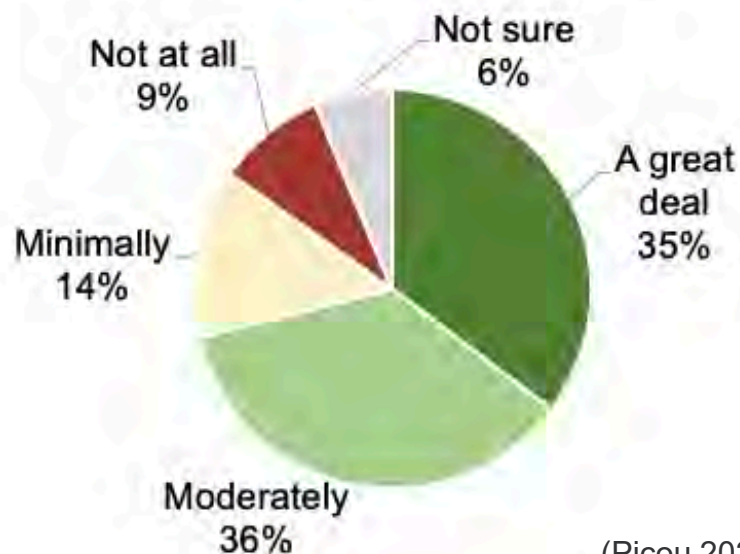
#2 – Know your importance

- Hearing aid owners recognize the potential value of professional services

**How Much Hearing Care Professional Helped
(n=1070)**



**How Much Would Have Likely Benefited From Having HCP Help
(n=200)**





#2 – Know your importance

- You can increase likelihood of hearing aid adoption rates
 - Satisfaction with hearing care professional is associated with hearing aid adoption
- Your services increase the likelihood of quality-of-life improvements
 - Devices fit with a hearing care professional are more likely to improve quality of life
- Most people think the hearing care professional services are important
 -even if they were fit through a limited service (or no service) delivery model

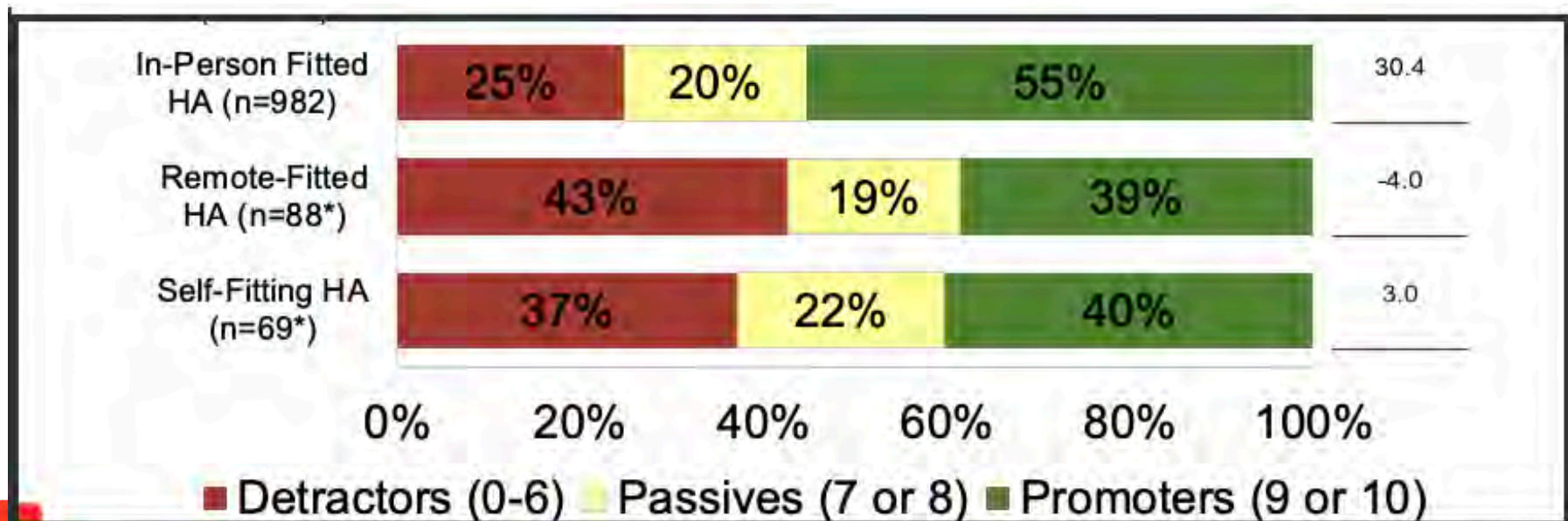
What is a Net Promoter Score?

- Calculation of the number of promoters divided by the number of detractors
- Would recommend this company/
would not recommend this company
- Associated with market growth and brand loyalty
 - Van Doorn et al. 2013; Pingitore et al. 2007; Fisher & Kordupleski 2019
- Score interpretation
 - Higher scores are better 
 - Scores of 0 are neutral
 - Negative scores are unfavorable 

#3 – Provide services people can't get on-line

(Picou 2022)

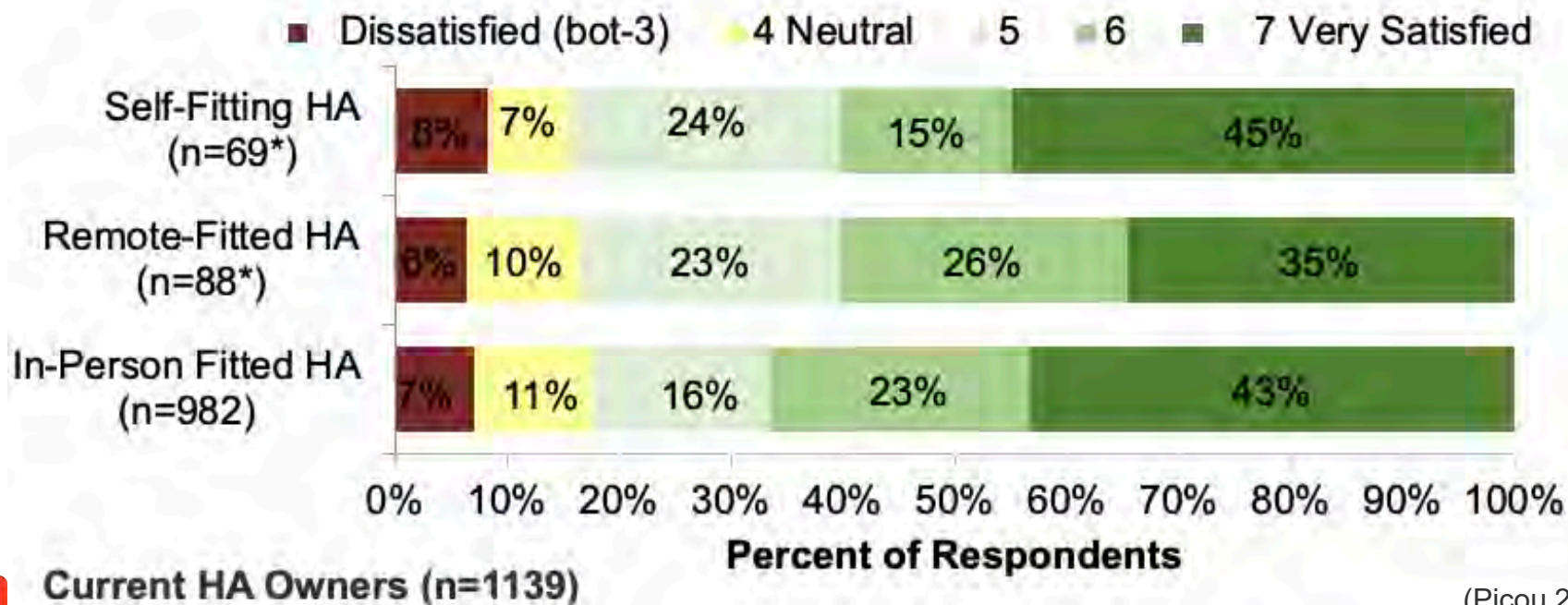
- Net promoter scores are much higher for in-person fitted hearing aids than other channels



#3 – Provide services people can't get on-line

- Hearing aid fitting channel is not closely associated with hearing aid satisfaction

Overall Satisfaction by Hearing Aid Channel



#3 – Provide services people can't get on-line

- People in the channels without professional assistance were satisfied with their devices, but not with their experience overall
 - Satisfaction rates similar across hearing aid fitting channels
 - Net promoter score differences reflect differences in services or manufacturer overall
 - Respondents are satisfied with the hearing aids, but not their experience with the hearing aid acquisition and follow-up care
- These results are consistent with recent work looking at family-centered services (Ekeberg et. al 2022)
 - Traditional hearing health care services received
 - NPS = 22
 - Services where the family member was involved in care received
 - NPS = 83

#3 – Provide services people can't get on-line

- Implications of low net promoter scores
 - Less market growth
 - Lower brand (or provider) loyalty
- Need more work to improve the 'experience' than the 'device'

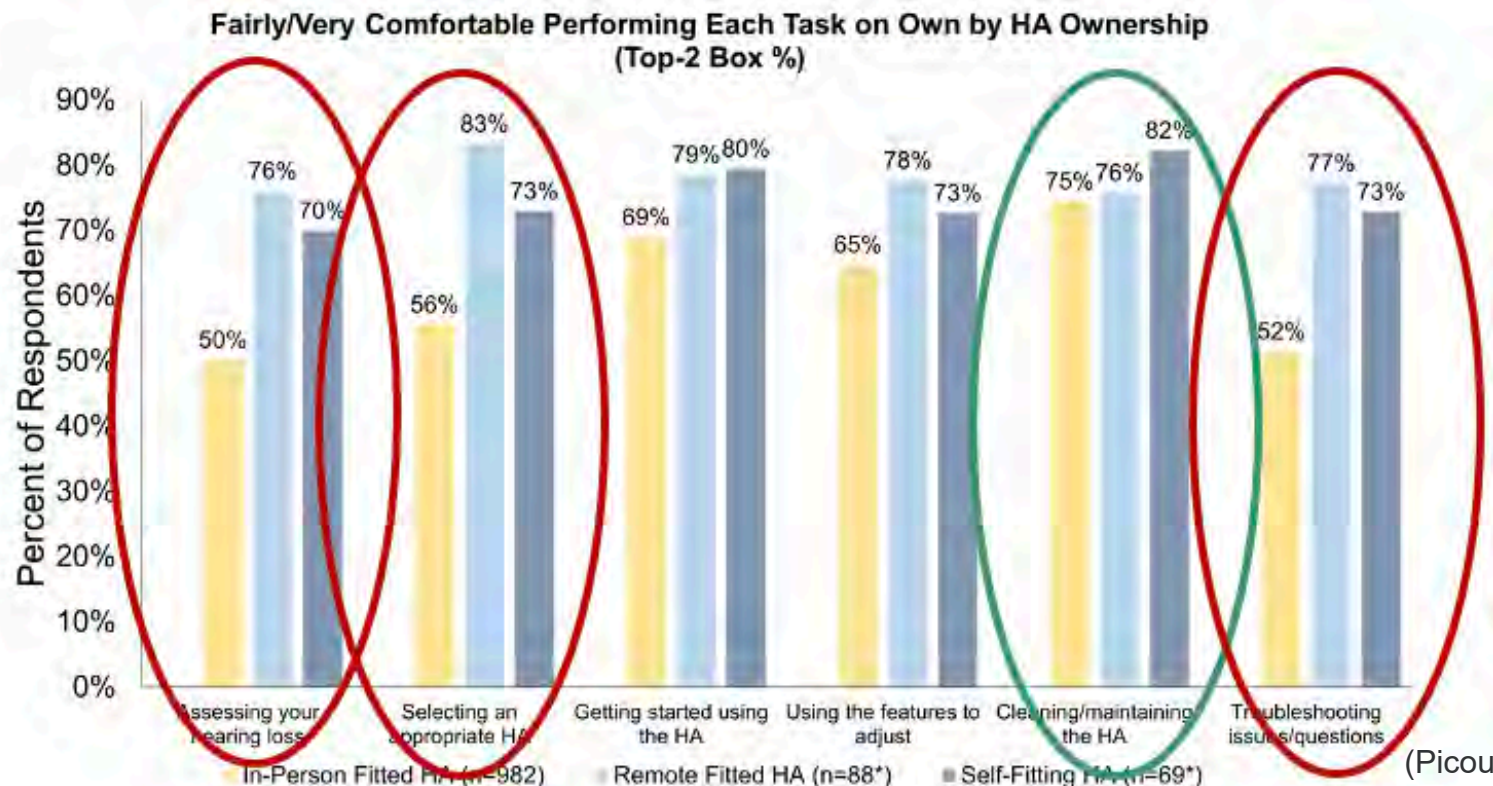
How to increase patient satisfaction with you, as an HCP

- Simple tips for increasing trustworthiness and satisfaction with professional services
 - Organizational efficiency
 - Reduced waiting time (Chandra et al. 2019)
 - Not necessarily more time, but time relative to wait time (Kargas & Doyle 1996)
 - Clear, simple language
 - (Sciacca et al. 2017)
 - Patient-centered care
 - (Wolf et al. 2008)



#3 – Provide services people can't get on-line

- People are least likely to feel comfortable performing hearing assessment, selecting hearing aid, and hearing aid troubleshooting on their own



#3 – Provide services that are not available on-line



- Many people are not comfortable performing tasks on their own
 - Hearing aid selection
 - Hearing assessment
 - Hearing aid troubleshooting
 - Using hearing aid features
- Your services increase the likelihood that someone would recommend a hearing aid
 - Services might not be linked to satisfaction, but hearing aid recommendations are an important part of market penetration and growth

#4 – Focus on the fitting quality

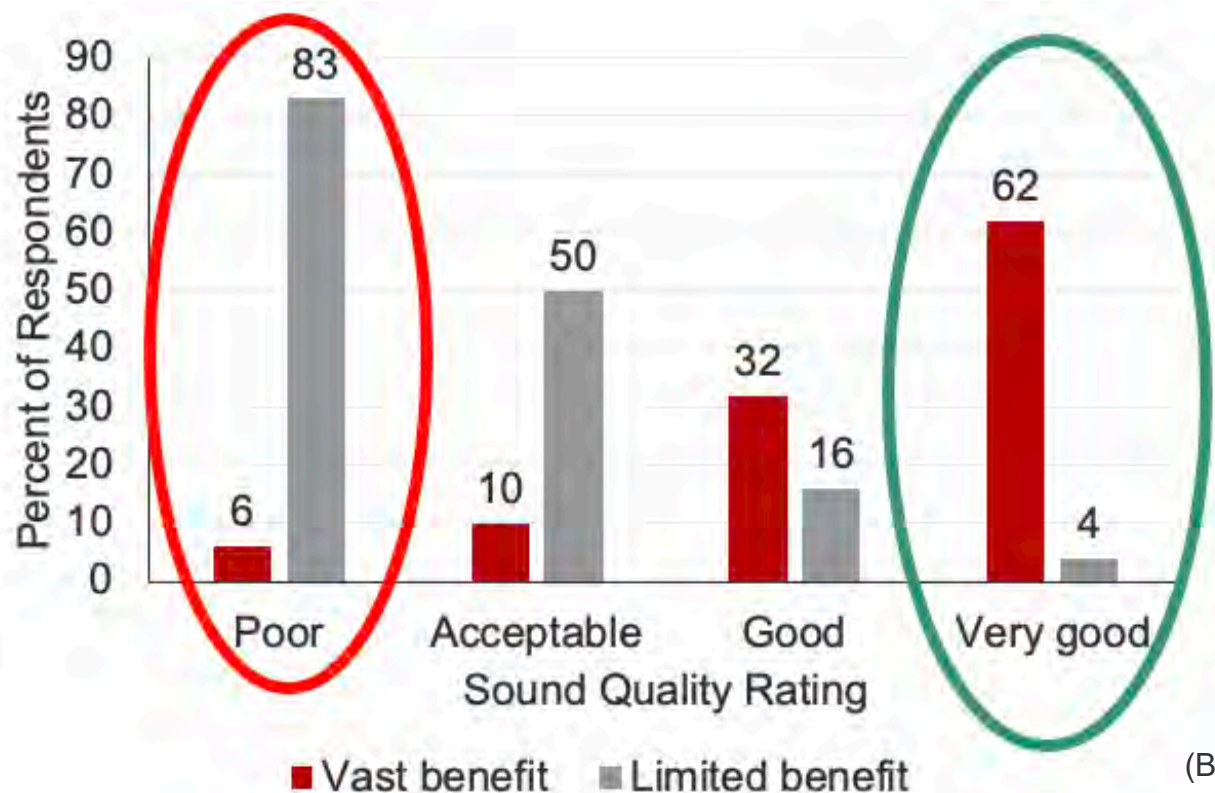
- HearingTracker data reveal potential drivers of benefit and satisfaction
 - Demographic
 - Self-report audiologic
 - Device-specific
 - Fitting quality metrics
- Respondents were mostly
 - Older than 55, retired, within the moderate-severe perceived hearing loss range
- Hearing aids were mostly
 - ~\$4k, fit bilaterally, from a clinic, not covered by insurance

#4 – Focus on the fitting quality

- Ratings of benefit related to:
 - Degree of hearing loss
 - More loss related to more reported benefit
 - Hearing aid experience
 - More experience related to more benefit
 - Cost
 - More expensive hearing aids related to more benefit
 - Quality of the fitting
 - Sound quality, fit/comfort, battery life
 - Better fittings related to more benefit ...

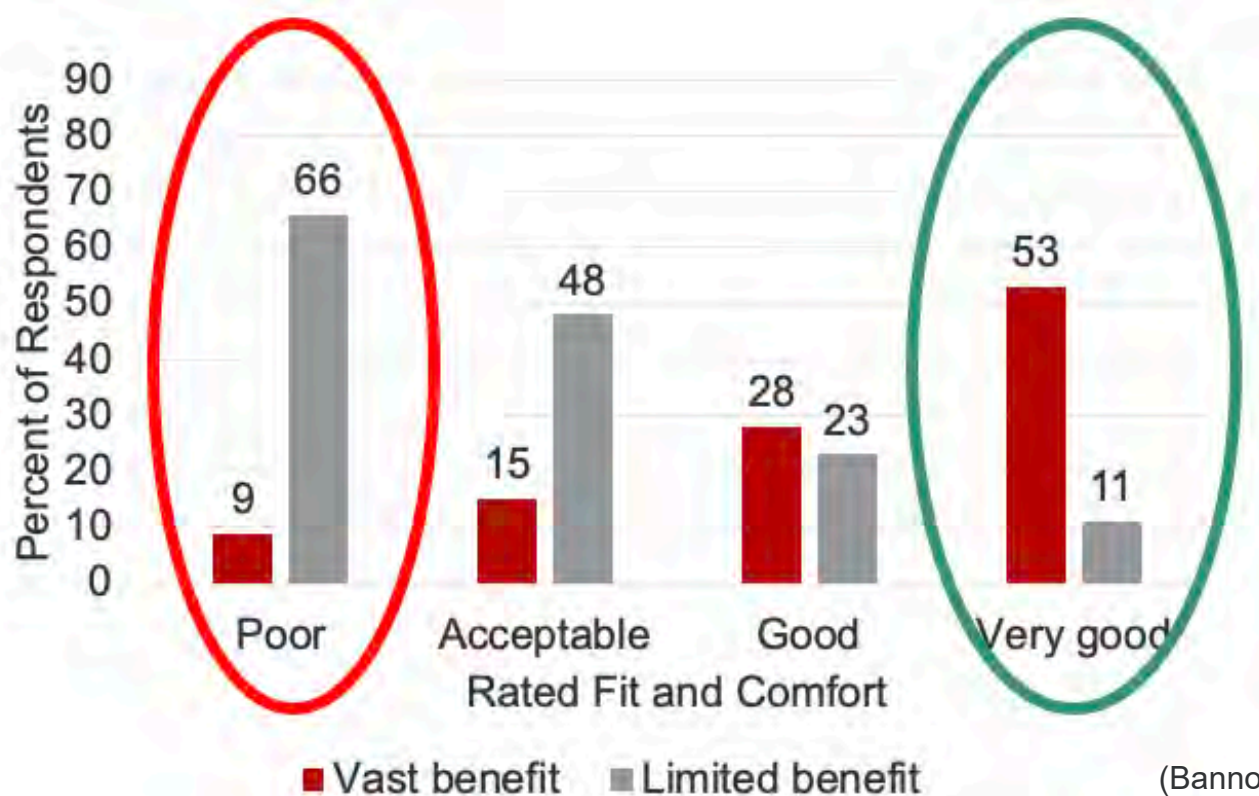
#4 – Focus on the fitting quality

- People who reported good sound quality were more likely to report vast benefit



#4 – Focus on the fitting quality

- Hearing aid fit and comfort were also significantly related to perceived benefit



#4 – Focus on fitting quality

- Ratings of benefit were NOT related to
 - Gender, income, employment, duration of hearing loss, insurance coverage
 - Professional who did the fitting
 - How many hearing aids
 - Hearing aid brand
 - Level of technology

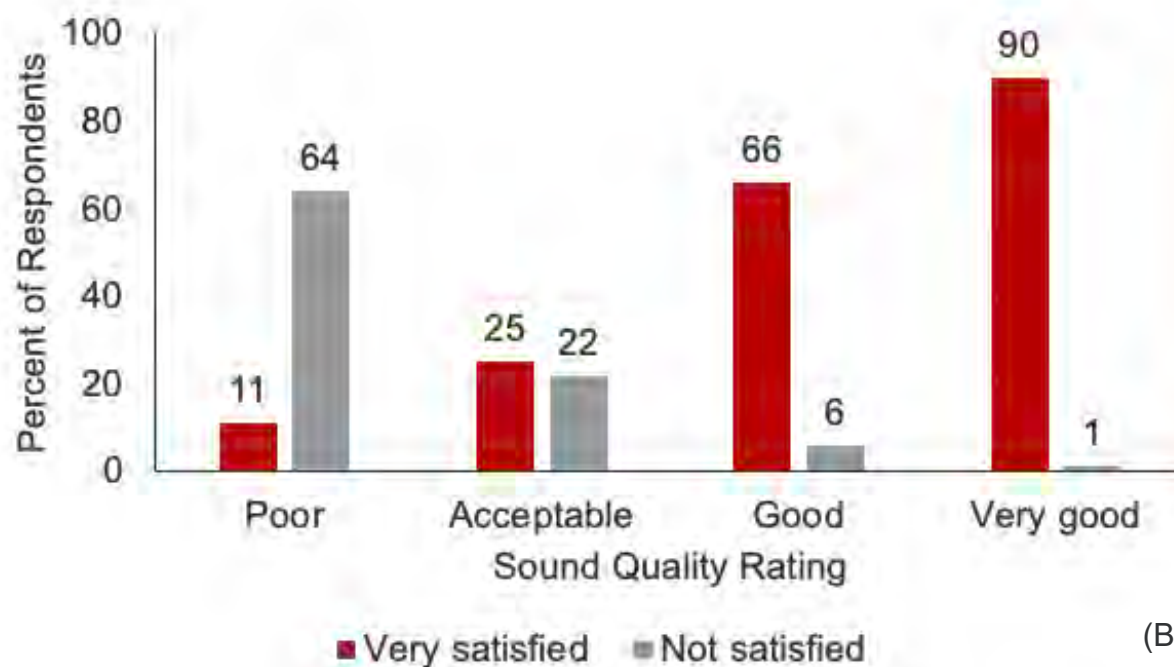


#4 – Focus on fitting quality

- Ratings of satisfaction related to...
 - Age
 - Younger people were more likely to be very satisfied (< 18 years old)
 - Employment
 - Students were more likely to be very satisfied
 - Brand
 - People with 3 specific brands were more likely to be satisfied
 - Quality of the fitting
 - Sound quality, fit/comfort, battery life
 - Better fittings were related to higher satisfaction...

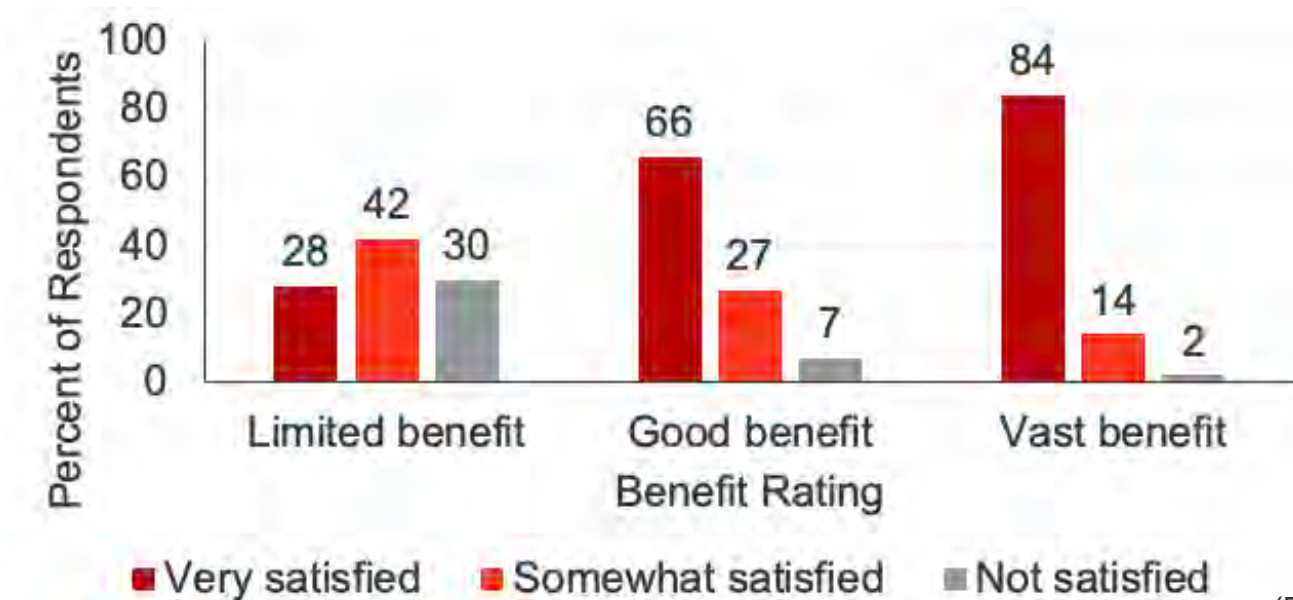
#4 – Focus on fitting quality

- People who rated the sound quality as ‘very good’ were also very likely to be very satisfied with their hearing aids



#4 – Focus on fitting

- Just because someone is satisfied, doesn't mean they are noticing benefit
- Just because someone is noting benefit, doesn't mean they are satisfied



#4 – Focus on fitting quality

- Among people who report that their hearing aid is performing worse than expected (low satisfaction), common themes include

- Not hearing well (38%) of respondents
 - Not hearing well enough, not hearing better
- Product issue (30%)
 - Uncomfortable, ugly, app doesn't work
- Sound issue (19%)
 - Noise, sound quality, feedback
- Price issue (6%)
 - Too expensive
- Professional issue (3%)
 - Not helpful, not efficient

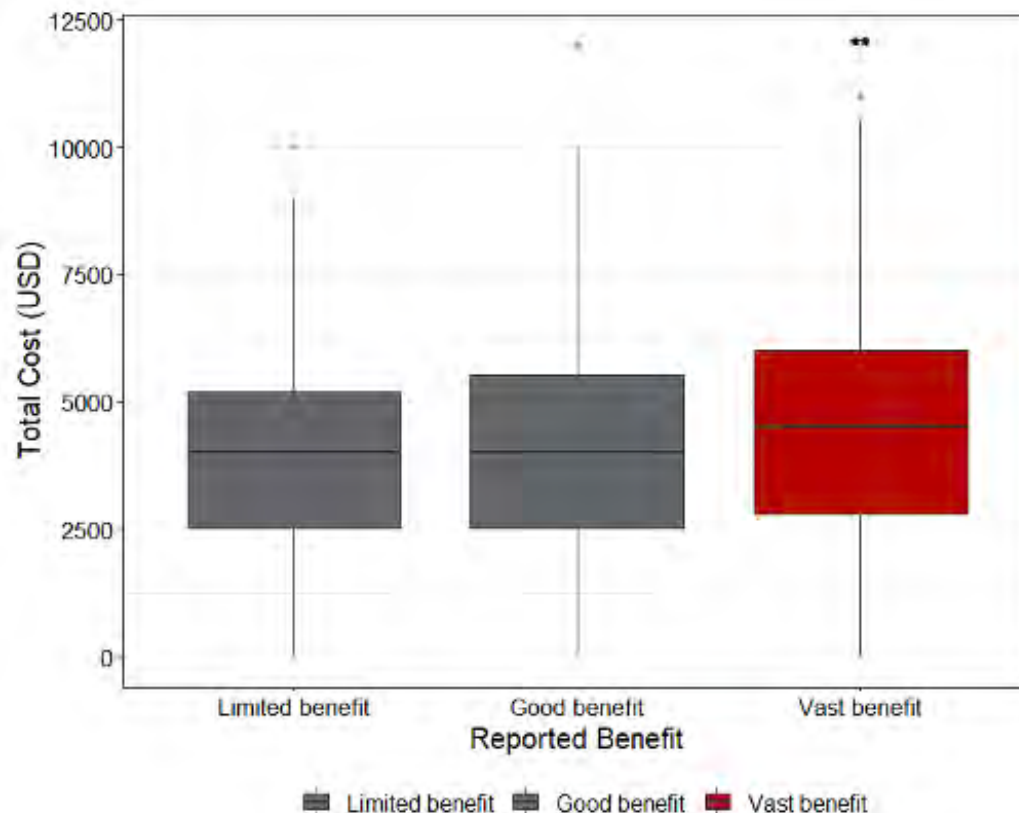


#4 – Focus on fitting quality

- Poor sound quality and comfort are common drivers of unmet expectations (and low satisfaction)
- Hearing aid benefit and satisfaction are significantly related to perceived sound quality, fit/comfort, and battery life
 - Not related to type of professional, number of hearing aids, level of technology
- People who reported good benefit were also more likely to pay more for their hearing aids

#5 – Fit hearing aids with features

- People who reported ‘vast benefit’ were also more likely to have paid more money for their hearing aid



#5 – Fit hearing aids with features

- Some notable increases in the fitting of features over time

	MT2022 (n=815)	MT2019 (n=702)	MT2015 (n=782)
Features			
Volume control	72%	67%	65%
Program button	53%	41%	49%
Rechargeable hearing aid	52%	15%	16%
Directional, dual, twin, or multiple microphones	39%	28%	35%
Telecoil	33%	20%	23%
Tinnitus masker	29%	14%	16%
Wireless Capabilities	-	-	-
The ability to “link” volume or program changes	47%	43%	36%
The ability to stream sound from a smartphone directly	44%	13%	2%
The ability to stream sound <u>using</u> an additional accessory	38%	26%	20%
NET: Wireless hearing aid (calculated)	63%	54%	43%
Accessories/Apps	-	-	-
Downloadable “app” for smartphones	44%	17%	6%
Hearing aid remote control	39%	21%	22%
Body-worn Bluetooth device	31%	15%	12%
TV streamer	27%	11%	12%
Companion microphone	25%	7%	9%

#5 – Fit hearing aids with features

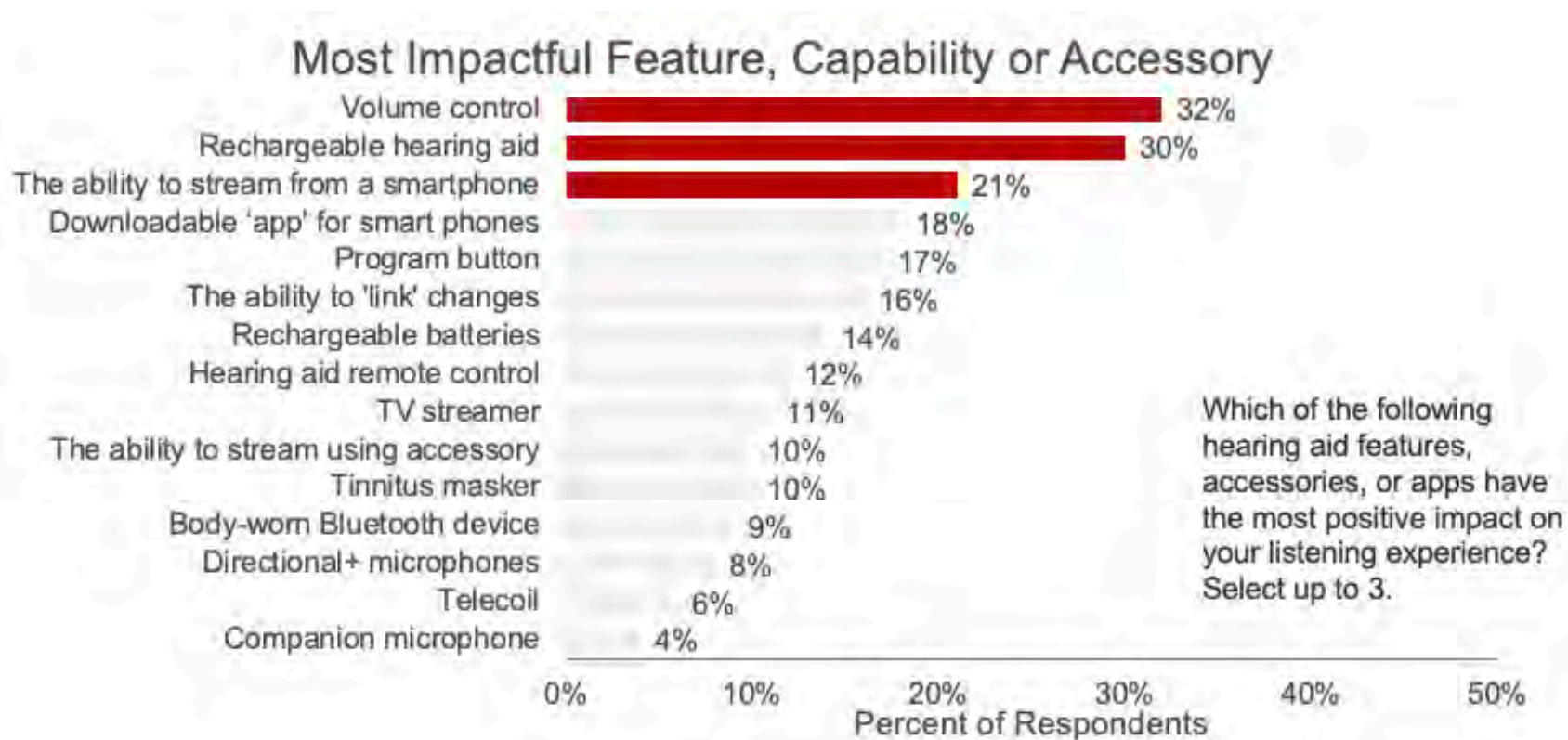
- Hearing aids are improving lives



(Current Owners who got HA in last 5 years)

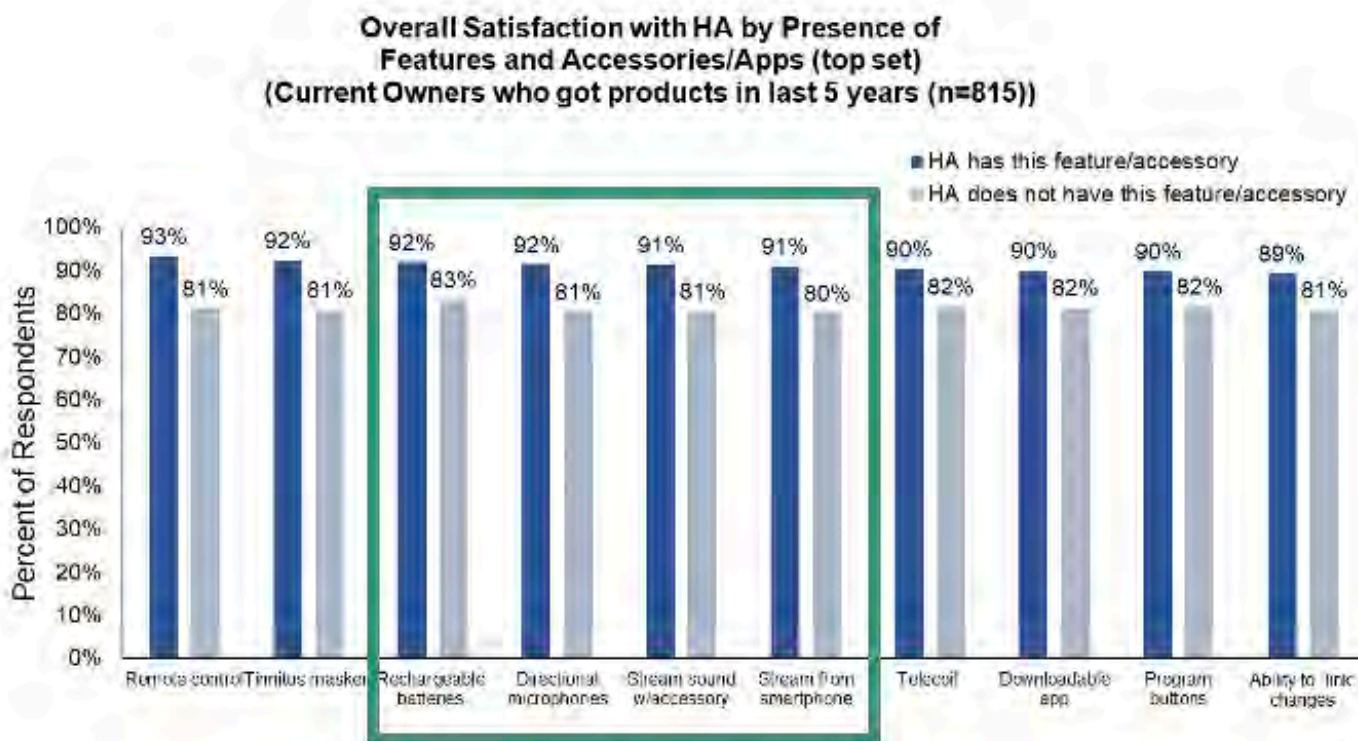
#5 – Fit hearing aids with features

- Hearing aid features are impactful



#5 – Fit hearing aids with features

- People with certain features are more likely to be satisfied with their hearing aids

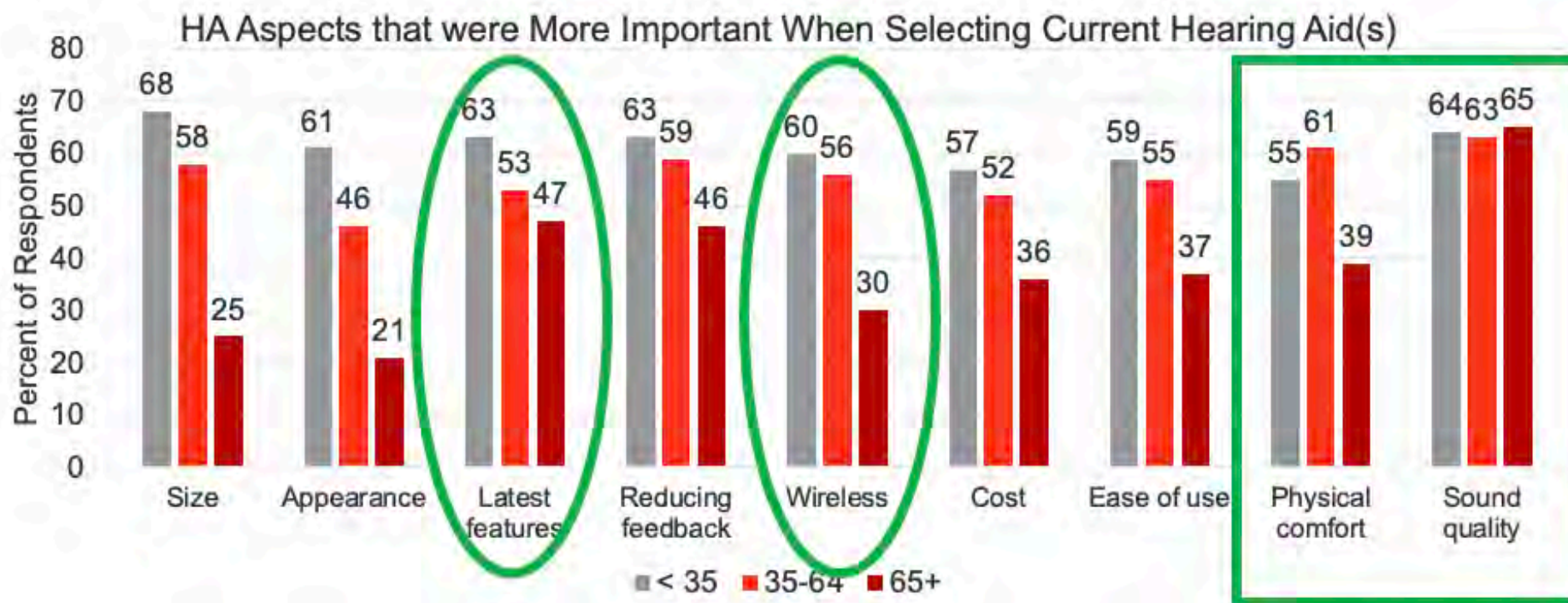


#5 – Fit hearing aids with features

- Features expected to be beneficial
 - Lab studies (Wu et al. 2019)
 - Consumer data studies (Picou 2020, 2022)
- ‘Levels of technology’ not related to outcomes
 - Field studies (Johnson et al. 2016)
 - Consumer data studies (Bannon et al. in press)
- Why not?
 - Levels are not consistent across clinics
 - Levels of technology change

#5 – Fit hearing aids with features

- Features and size might be more important for younger patients than older ones



#5 – Fit hearing aids with features

- ... and also make sure you counsel on the feature use





#5 – Fit hearing aids with features

- Hearing aid feature use and quality-of-life benefits both increased since 2015
- Subjectively rated most impactful features
 - Rechargeability
 - Volume control
 - Wireless streaming
- Hearing aid features associated with higher satisfaction
 - Streaming
 - Directionality
 - Rechargeability
- Features might be more important for younger patients

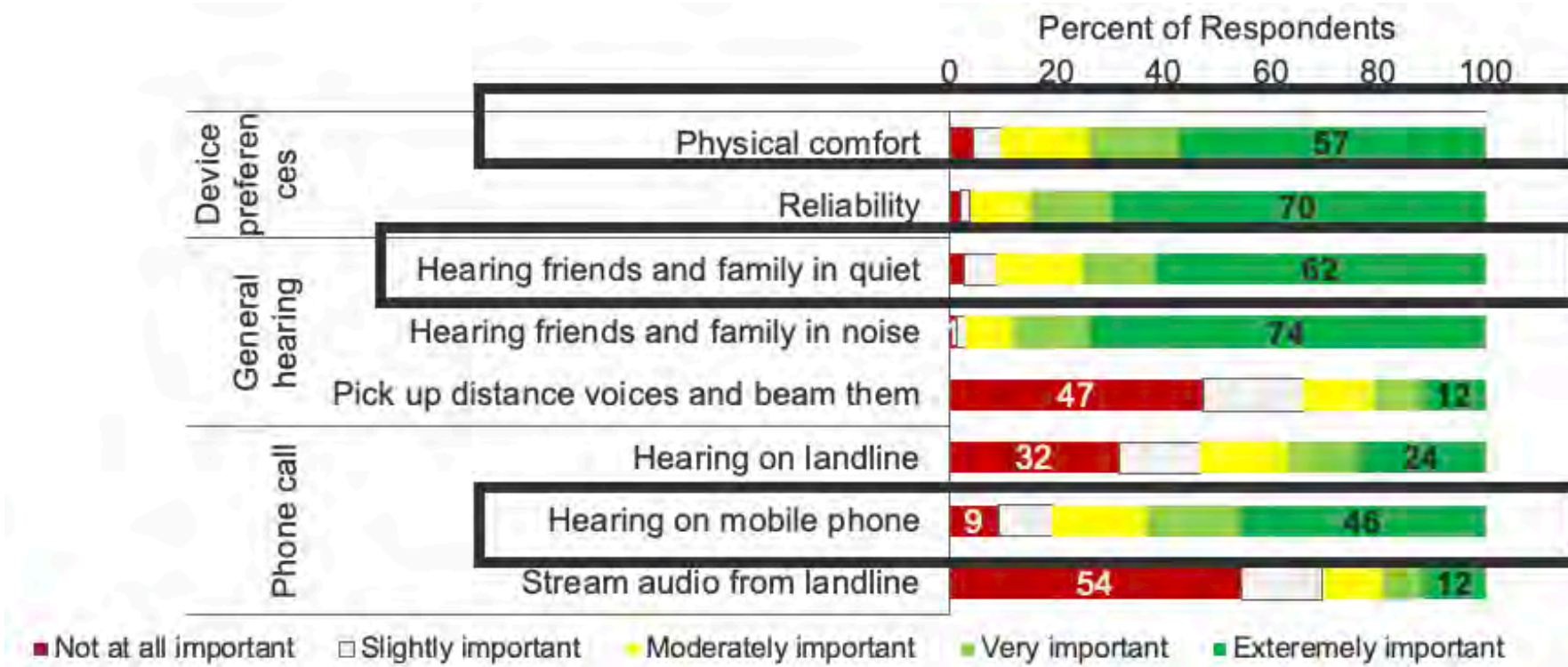
#6 – Address telephone listening

- Some hearing aid users still struggle on the telephone

Top-3 Box Satisfaction (on 7-point scale)	HA Owners	All Non-Owners	Difference between HA users and non- owners
	(n=1061)	(n=1840)	
In conversations with large groups	72%	27%	45%
At home with family members	83%	44%	39%
In a larger lecture hall	72%	34%	38%
In school or a classroom	70%	34%	36%
At a movie theater	70%	49%	21%
When talking on a cell phone	78%	47%	31%
When talking on a traditional telephone	75%	46%	29%

#6 – Address telephone listening

- Hearing on the telephone is important to many people



#6 – Address telephone listening

- Telephone solutions

- Telecoils

- (+) low technical requirements
 - (+) also works in looped rooms
 - (+) individualized amplification
 - (+) hearing loops are on Google maps

- Wireless streaming

- (+) not sensitive to positioning constraints
 - (+) can connect to multiple pieces of technology
 - (+) technology and skills quickly advancing

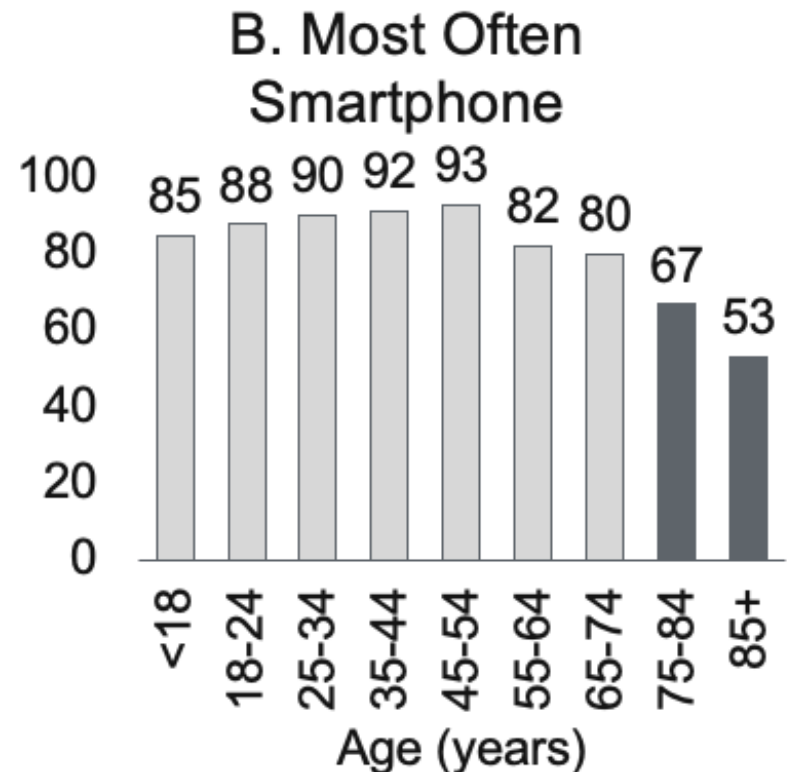
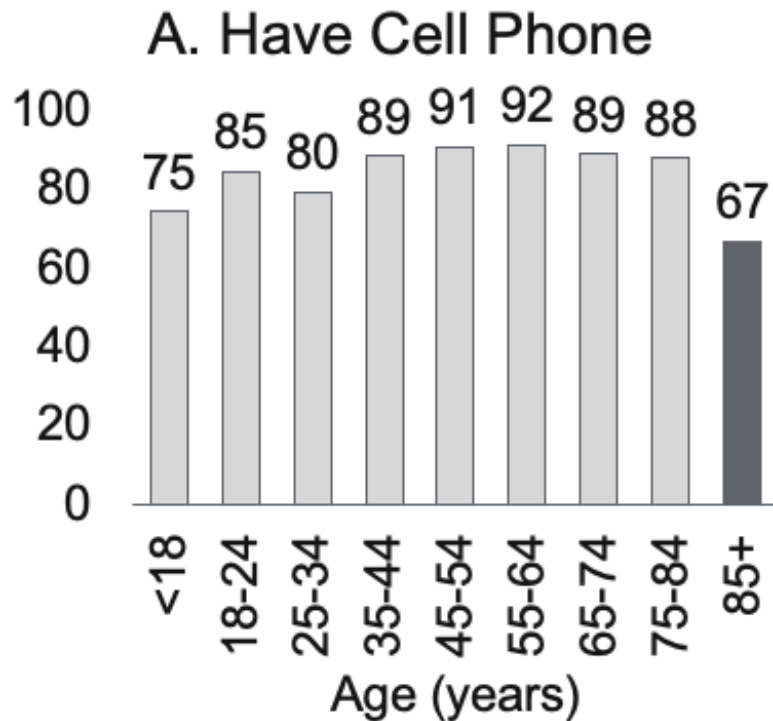
- Maybe these solutions are not mutually exclusive

- https://www.hearingtracker.com/podcast/wireless-hearing?fbclid=IwAR3QiB-ixnw527c6_jeBrVyNip4AjAjkWUpBuR2i4ZApviw3Iwu9YzNfUcE



#6 – Address telephone listening

- Most adults have access to a smartphone



#6 – Address telephone listening

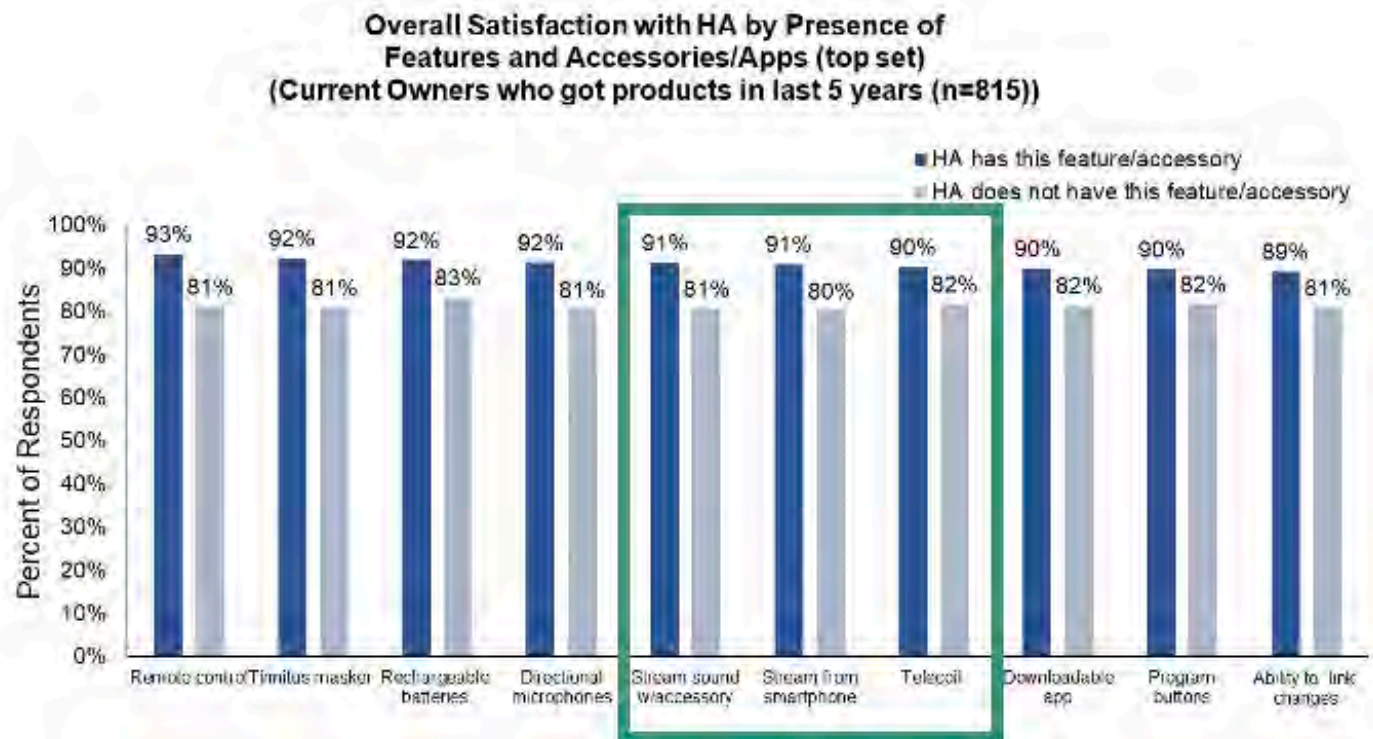
- Telephone-related hearing aid features have limited adoption (tinnitus masker and volume control displayed for context)

HEARING AID FEATURES	HA Owners who got HA(s) <u>in last 5 years</u> [% “Yes”]		
	MT2022 (n=815)	MT2019 (n=702)	MT2015 (n=782)
	Question: Below are some different hearing aid features, capabilities or accessories/apps. Please indicate whether your current hearing aid has each one, as far as you know.		
Volume control	72%	67%	65%
Tinnitus masker	29%	14%	16%
Telecoil	33%	20%	23%
The ability to stream sound from a smartphone directly	44%	13%	2%
The ability to stream sound <u>using</u> an additional accessory	38%	26%	20%
Body-worn Bluetooth device	31%	15%	12%



#6 – Address telephone listening

- Telecoils and smartphone streaming are associated with higher rates of satisfaction



#6 – Address telephone listening



- Telephone listening remains problematic for many hearing aid users
- Many people report hearing on the telephone to be an important listening situations
- Use of telecoils and wireless streaming increasing, but wireless increasing faster
 - Many people have smartphones
- Use of telecoils and wireless related to hearing aid satisfaction

Objective 1 – Describe the source for at least one large-scale database of consumer ratings

- HearingTracker data
 - Surveys completed by people who were seeking information on-line or are on a mailing list
 - Hearingtracker.com
- MarkeTrak data
 - Surveys completed by people invited to participate based on targeted sampling of household representative of US demographic
 - Hearing Industries Association

Objective 2 - Describe the consumer perception of the importance of the hearing care professional

- Importance of hearing care professional for hearing aids
 - Most people report that a hearing care professional would have been helpful
 - Patients are least likely to be comfortable performing
 - Hearing assessment
 - Hearing aid selection
 - Services are important for net promoter scores, which reflect consumers' overall experiences and might indicate market growth and penetration

Objective 3 - Describe one factor that differentiates hearing aid users from non-users and one thing that could be done clinically to address that factor

- Hearing aid adoption rates are affected by satisfaction with a hearing care professional
 - People who adopted hearing aids were more likely to be satisfied with their professional than were people who did not adopt hearing aids
- Patient-centered care
 - Increases trust and satisfaction
 - Related to net promoter scores
 - Could increase hearing aid adoption rates

6 things I would do...

- #6 – Address telephone listening
- #5 – Fit hearing aids with features
- #4 – Focus on the fitting outcome
- #3 – Provide services patients can't get on-line
- #2 – Know your importance
- #1 – Have confidence



Thank you!!



erin.picou@vumc.org erin.picou@vanderbilt.edu