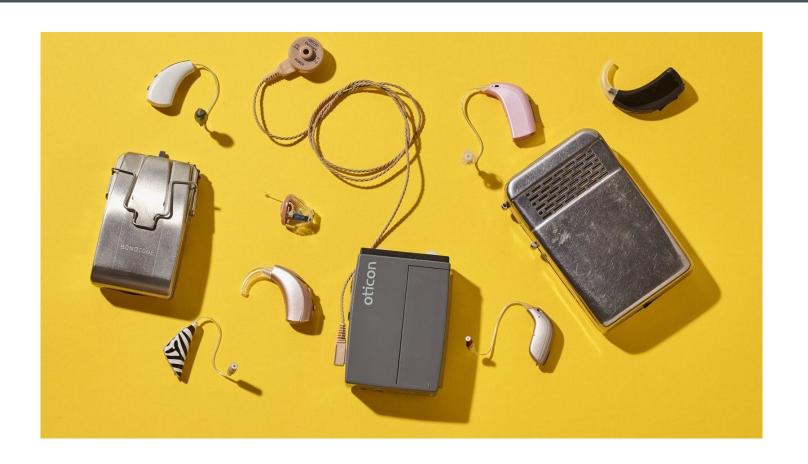
FDA proposed rule for over-the-counter (OTC) hearing aids: What the practicing audiologist needs to know

Laura Coco, PhD, AuD, CCC-A

The views expressed do not reflect the official policy or position of the US Veterans' Administration or the US Government.

OUTLINE

- Background
- Summary of the FDA rule
- What does the research show?
- Implications for clinicians & patients
- How to post a public comment



Bac

YOUR HEALTH

The FDA hearing a

October 19, 2021 - 1:55 Pt

BILL CHAPPELL

US regul counter

U.S. health offici without a prescri

By MATTHEW PERR October 19, 2021, 9:

> advocates have long called for Keith Bedford/Boston Globe via Ge

F.D.A. Moves to Make Some Hearing Aids Available Without a Prescription

The proposed rule could make it easier for Americans with mild to moderate hearing impairments to get the devices.





Current regulations, which are more than 40 years old, allow only licensed providers to prescribe and sell the devices, which can cost nearly \$5,000 a pair, and require multiple visits for fitting, testing and adjustments. iStock/Getty Images Plus

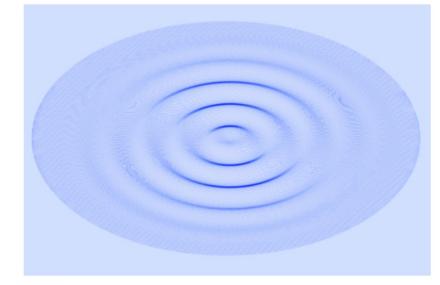
The New York Times

THE ON TECH NEWSLETTER

A Hearing Aid for Everyone

Over-the-counter hearing aids have the potential to show government and tech companies at their best.





Ruru Kuo

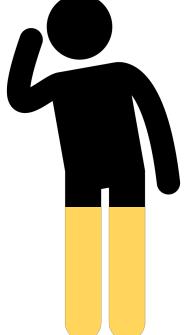


Oct. 20, 2021

Factors influencing uptake:

Approximately 38 million US adults have some degree of hearing loss Among adults \geq 70 years, **fewer than 1/3 use hearing aids**

Cost



Original Article

Hearing aid affordability in the United States

Anna Marie Jilla 🔀, Carole E. Johnson & Nick Huntington-Klein

Received 21 Jul 2020, Accepted 08 Sep 2020, Published online: 28 Oct 2020

66 Download citation |

https://doi.org/10.1080/17483107.2020.1822449



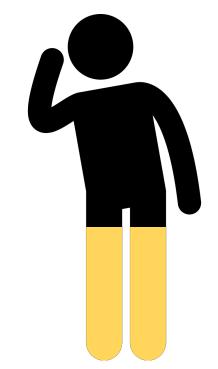
" an average bundled cost of \$2500 would constitute a **catastrophic expense** for 77% of Americans with functional hearing loss (N = 7,872,292) and would add an additional 4% of the population into poverty for the year (N = 423,548)"

Approximately 38 million US adults have some degree of hearing loss

Among adults \geq 70 years, fewer than 1/3 use hearing aids

Factors influencing uptake:

- Cost
- Self-reported hearing disability
- Perceived benefit
- Degree of hearing loss
- Stigma
- Age
- Psychological factors



Availability of providers

There are an average of 4 audiologists per 100,000 people in the United States.

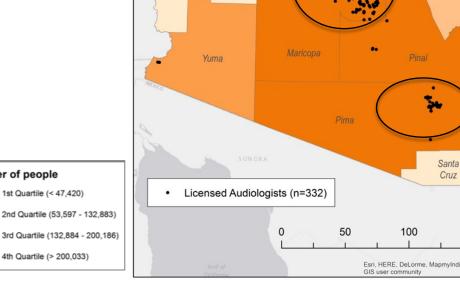
- Fewer audiologists in counties with older populations and lower family incomes (Planey, 2019).
- Patients in rural areas are delayed in use of hearing aid services compared to urban counterparts (Chan et al., 2017).



Availability of providers

Arizona Case Study:

- Fifteen counties in AZ.
- Six non-metro counties in AZ without any audiologists.
- Driving distance to the nearest audiologist could exceed 100mi.



Yavapai .

Mohave

La Paz

Apache

Greenlee

Navajo

Graham

Cochise

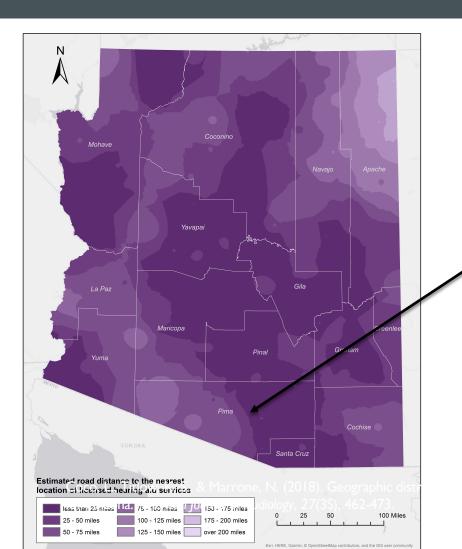
200 Miles

Number of people

1st Quartile (< 47,420)

4th Quartile (> 200.033)

How far will you travel?

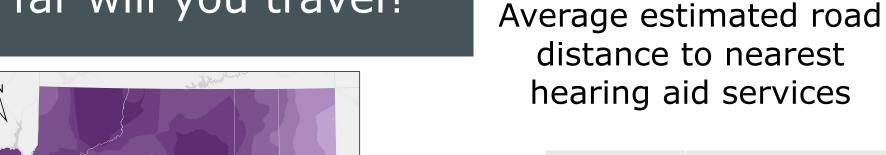


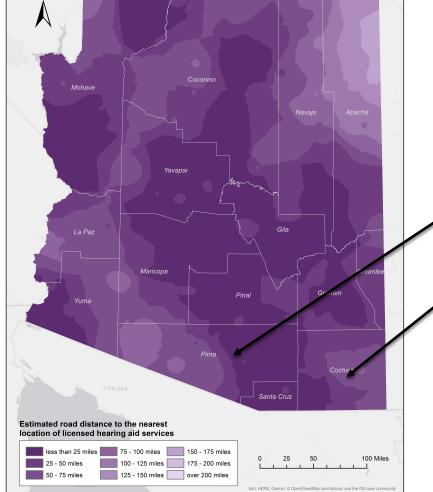
Average estimated road distance to nearest hearing aid services

Pima 4.11 miles

Coco, L., Titlow, K. S., & Marrone, N. (2018). Geographic distribution of the hearing aid dispensing workforce: A teleaudiology planning assessment for Arizona. *American Journal of Audiology*, *27*(3S), 462-473.

How far will you travel?





Coco, L., Titlow, K. S., & Marrone, N. (2018). Geographic distribution of the hearing aid dispensing workforce: A teleaudiology planning assessment for Arizona. *American Journal of Audiology*, *27*(3S), 462-473.

Pima

Cochise

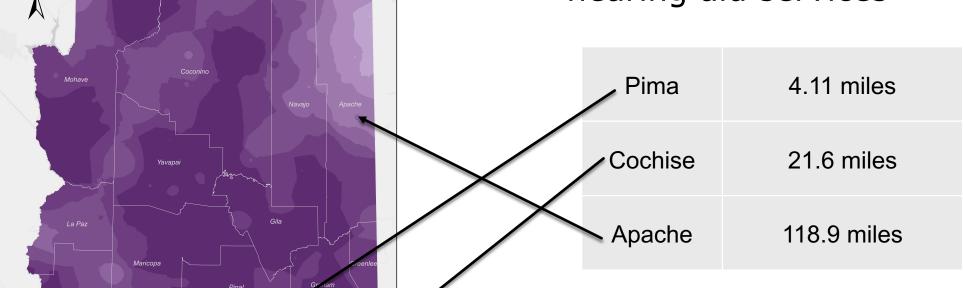
4.11 miles

21.6 miles

How far will you travel?

Estimated road distance to the nearest location of licensed hearing aid services

Average estimated road distance to nearest hearing aid services



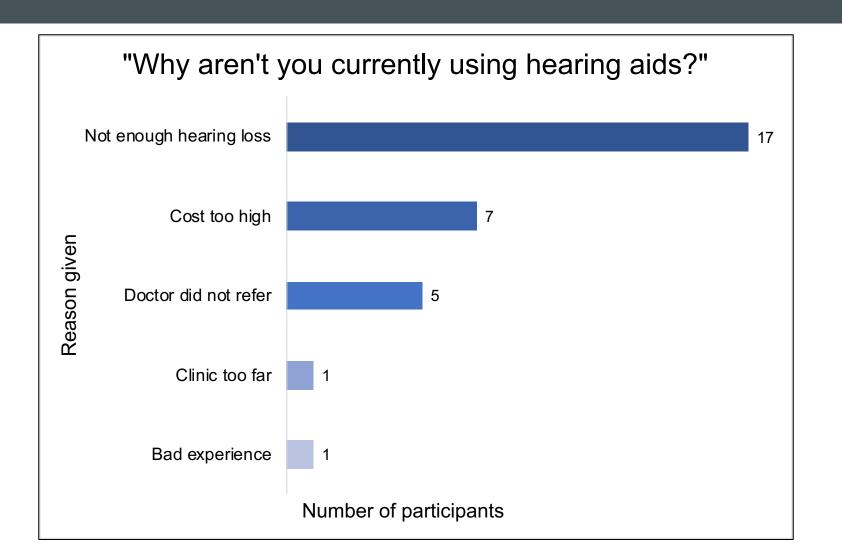
Coco, L., Titlow, K. S., & Marrone, N. (2018). Geographic distribution of the hearing aid dispensing workforce: A teleaudiology planning assessment for Arizona. *American Journal of Audiology*, *27*(3S), 462-473.

Conexiones (Connections) results



Coco, L., Piper, R., Navarro, C. & Marrone, N. Community Health Workers as patient-site facilitators in adult hearing aid services via synchronous teleaudiology: Feasibility results from the Conexiones randomized controlled trial. *Ear and Hearing*. (Invited to Resubmit)

Conexiones (Connections) results



President's Council of Advisors for Science & Technology (**PCAST**) 2015

National Academies of Sciences, Engineering, and Medicine (**NASEM**) 2016 EXECUTIVE OFFICE OF THE PRESIDENT

PRESIDENT'S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY

WASHINGTON, D.C. 20502

October 2015

President.

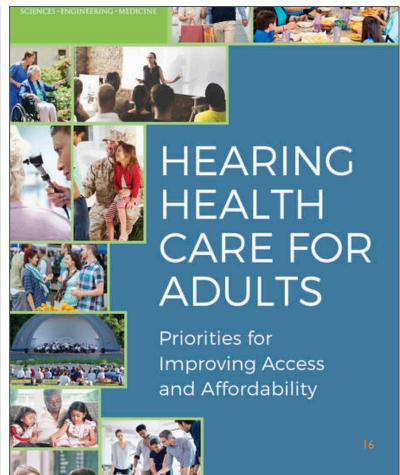
I hearing loss, especially in older Americans, is a substantial national problem. Only a ners who need assistance with hearing obtain and use hearing aids, in large part becaus plex dispensing procedures, social stigma, and performance shortfalls. While the core complex, your President's Council of Advisors on Science and Technology (PCAST) simple actions by the Federal Government could dramatically enhance the pace of in of competition in this domain, leading to rapid decrease in cost and improvement in cance, and use of assistive hearing devices. We expand on these ideas in this letter report

here only on devices to assist the tens of millions of Americans with age-related, pronoderate hearing loss. PCAST recognizes that many Americans have severe hearing imss from congenital or illness/injury causes, but we do not address these categories of ne

I. Age-related hearing loss is a substantial national problem.

ed hearing loss affects many Americans, with older adults particularly at risk—a quarter 50 and 69 years, over half in the range 70-79 years, and almost 80 percent of those older ifficulty hearing. The absolute number of those affected, already almost 30 million, is the population ages.

I hearing loss is statistically associated with higher risks of social isolation; depression; c injury; and inability to work, travel, or be physically active. ^{3,4,5,6,7,8,9} While the Natio lealth is planning a large randomized trial to supplement these correlational findings, th, the number of correlations, and their clinical plausibility are indicative of the types of be avoided with improved hearing. Recognizing the importance of good hearing health 020 has set a national goal to increase the use of hearing aids and other assistive de







This document is scheduled to be published in the Federal Register on 10/20/2021 and available online at **federalregister.gov/d/2021-22473**, and on **govinfo.gov**

4164-01-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Parts 800, 801, 808, and 874

[Docket No. FDA-2021-N-0555]

RIN 0910-AI21

Medical Devices; Ear, Nose, and Throat Devices; Establishing Over-the-Counter Hearing Aids

AGENCY: Food and Drug Administration, HHS.

ACTION: Proposed rule.

Summary of the FDA Proposed Rule on OTC Hearing Aids

Summary of FDA Proposed Rule

Executive Summary

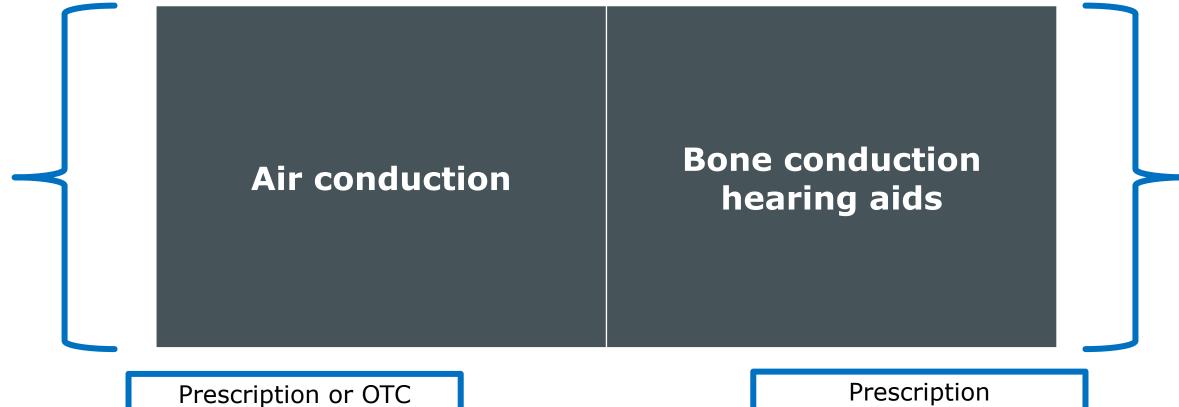
Purpose of the Proposed Rule

Hearing loss affects an estimated 30 million people in the United States and can have a significant impact on communication, social participation, and overall health and quality of life. Despite the high prevalence and public health impact of hearing loss, only about one-fifth of people who could benefit from a hearing aid seek intervention. Several barriers likely impede the use of hearing aids in hearing-impaired individuals such as high cost, stigma of being perceived as old or debilitated, and value (perceived hearing benefit relative to price). FDA is proposing rules to address some of these concerns.

Moreover, the FDA Reauthorization Act of 2017 (FDARA) directs FDA to establish a category of OTC hearing aids through rulemaking, and FDARA sets forth various requirements for OTC hearing aids, including preemption provisions. In addition to protecting and promoting the public health, we have developed these proposed rules to establish the OTC category and implement the requirements of FDARA.

- Hearing aid classification changes
- Category for OTC Hearing Aids
- Prescription hearing aid labeling

Proposed hearing aid classification



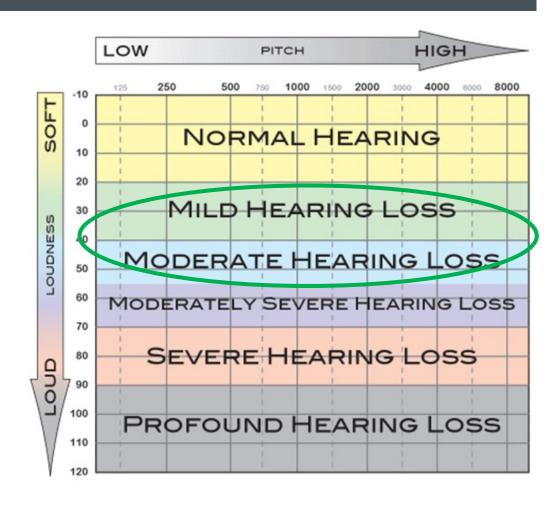
- Uses the same technology as air conduction HAs
- 2. "...through tools, tests, or software, allow the user to control the hearing aid and customize it to the user's hearing needs"
- 3. Available without involvement of a licensed person



■ Adults ≥18 years (no ID check).

Perceived mild to moderate HL.

No "Red Flag" conditions.



Personal Sound Amplification Products (PSAPs) 4. Hearing Products not Regulated as Hearing Aids

FDA does not consider personal sound amplification products (PSAPs) to be "devices"

within the meaning of section 201(h) of the FD&C Act (21 U.S.C. 321(h)) when they are not

intended to aid a person with, or compensate for, impaired hearing and do not otherwise meet the

Personal Sound Amplification Products (PSAPs)



The BEAN | Quiet Sound Amplifier

★★★☆ 4 reviews

Starting at \$28/mo with affirm. Prequalify now

Quick Overview

The BEAN™ is Etymotic's personal sound amplifier, also known as a Quiet Sound Amplifier. This is a product like no other in the market. Think of it as your over-the-counter conversation and speech hearing improvement device!

\$199.99 - \$299.99

Color: Platinum

PLATINUM



- · May not be ready to wear a hearing aid full-time
- · Wants a small amount of enhancement, especially for conversation or speech
- · Needs help hearing the TV or following conversations
- Wants to hear better when a speaker is farther away than in face-to-face communication. For example: worship service, a theatre play, a lecture.

Personal Sound Amplification Products (PSAPs) 4. Hearing Products not Regulated as Hearing Aids

FDA does not consider personal sound amplification products (PSAPs) to be "devices" within the meaning of section 201(h) of the FD&C Act (21 U.S.C. 321(h)) when they are not intended to aid a person with, or compensate for, impaired hearing and do not otherwise meet the

Self-fitting hearing aids

Defining hearing aids. FDARA authorizes controls for devices that, among other characteristics, use the same fundamental scientific technology as air-conduction hearing aids under §§ 874.3300 or 874.3305. Section 520(q)(1)(A)(i) of the FD&C Act does not specifically refer to § 874.3325 because, at the time of FDARA's enactment, FDA had not classified that device type. However, we consider self-fitting hearing aids currently classified under § 874.3325

to be eligible for regulation as OTC hearing aids.

OTC Hearing Aid "Controls"

1. Labeling requirements

2. Electroacoustic requirements

- 3. Additional specifications



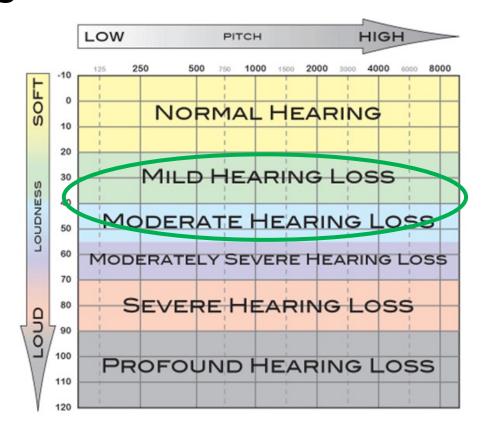


Labeling requirements

"Perceived mild to moderate hearing loss"

This hearing aid is designed and intended for perceived mild to moderate hearing loss in adults. If you experience any of the following, you may have this kind of hearing loss:

- Difficulty hearing or understanding conversations, especially in groups or noisy places, or when you can't see who is talking
- Difficulty hearing while using a telephone
- Fatigue due to greater listening effort
- Needing to turn up the volume of television, radio, or music louder than normal or loud enough for others to complain



Labeling requirements

"Red flag conditions"

WARNING: Conditions that Require Medical Care

Prior to purchasing this device, you should promptly consult with a licensed physician, preferably an ear specialist, if you have any of the following:

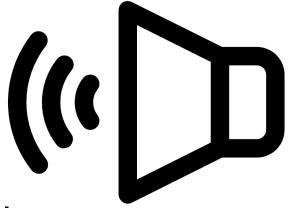
- Visible deformity of the ear, either present since birth or from trauma
- Fluid, pus, or blood coming out of the ear in the past 6 months
- Pain or discomfort in the ear
- History of excessive ear wax or suspicion that something is in the ear canal
- Episodes of vertigo (a sensation of spinning or swaying) or severe dizziness
- Sudden, quickly worsening, or fluctuating hearing loss in the past 6 months
- Hearing loss or ringing (tinnitus) only in one ear or a noticeable difference in hearing between ears

Electroacoustic requirements

Maximum OSPL90 output level:

115 dB SPL or

120 dB SPL if the device has inputcontrolled compression and volume control

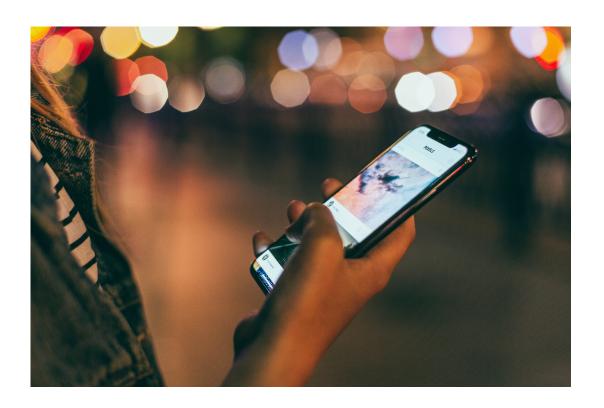


Additional Specifications

Atraumatic materials

Proper physical fit

A lay user may control



Conditions for sale

- Available over-the-counter
- Without a licensed person.
- Mail, online, or in-person.



Prescription Hearing Aids

- No medical evaluation
- New labeling rules

The proposed rule would necessitate the relabeling of all current hearing aids

(approximately 840) according to either the proposed OTC or prescription hearing aid labeling

requirements. While we lack specific data regarding what portion of hearing aids will be

relabeled as prescription devices and what portion will be relabeled as OTC hearing aids, for this

analysis, we assume that 10 percent will be relabeled as prescription medical devices (about 1

product per manufacturer) and 90 percent as OTC hearing aids (about 7 products per

manufacturer). The labeling cost model used in the PRIA suggests an annual estimated third
party disclosure burden of about 19 hours per product.

Research on self-fitting hearing aids and Personal Sound Amplifiers (PSAPs)

Study #1

RESEARCH ARTICLE

Factors Associated With Successful Setup of a Self-Fitting Hearing Aid and the Need for Personalized Support

Convery, Elizabeth^{1,2,3}; Keidser, Gitte^{1,2,3}; Hickson, Louise^{1,3}; Meyer, Carly^{1,3}

Author Information ⊙

Ear and Hearing: July/August 2019 - Volume 40 - Issue 4 - p 794-804 doi: 10.1097/AUD.000000000000663

EDITOR'S CHOICE



Hearing Aid – HD100 Companion

\$449.00 - \$830.00

- 45 Day Money Back Guarantee!
- Free <u>Customizer App</u> for Android & iPhone
- Presets on the device also provide easy, no smartphone needed adjustment
- Rechargeable battery Up to 15 hours per charge / no button cell batteries
- Integrated Bluetooth so you can take calls directly or stream music to a device
- Directional microphones for optimum performance in noisy conditions
- · Environmental profile settings for best sound in different locations
- Flexible fitting for comfort
- Standard 1-year manufacturer's warranty included
- Note: Like all hearing aids, SWS products can fail when exposed to excessive moisture such as high
 humidity and sweating. Because moisture damage is considered normal wear, it is NOT covered by
 the manufacturer's warranty. To prolong the life of your devices, we suggest you remove them in
 high-moisture situations and consider investing in a hearing aid dehumidifier to regularly help dry
 them out.

Get the Customizer App here:





Study #1

RESEARCH ARTICLE

Factors Associated With Successful Setup of a Self-Fitting Hearing Aid and the Need for Personalized Support

Convery, Elizabeth^{1,2,3}; Keidser, Gitte^{1,2,3}; Hickson, Louise^{1,3}; Meyer, Carly^{1,3}

Author Information ⊙

Ear and Hearing: July/August 2019 - Volume 40 - Issue 4 - p 794-804 doi: 10.1097/AUD.000000000000663

EDITOR'S CHOICE

MAIN OUTCOME:

68% self-fit successfully 32% were unsuccessful

Associated with successful self-fit:

- Previous hearing aid experience
- Mobile device ownership

RESEARCH ARTICLE

Factors Associated With Successful Setup of a Self-Fitting Hearing Aid and the Need for Personalized Support

Convery, Elizabeth^{1,2,3}; Keidser, Gitte^{1,2,3}; Hickson, Louise^{1,3}; Meyer, Carly^{1,3}

Author Information ⊗

Ear and Hearing: July/August 2019 - Volume 40 - Issue 4 - p 794-804 doi: 10.1097/AUD.000000000000663

EDITOR'S CHOICE

Among successful fitters:

63% sought help 37% did so independently

Associated with seeking help:

External locus of control



Research Article

The Effects of Service-Delivery Model and Purchase Price on Hearing-Aid Outcomes in Older Adults: A Randomized Double-Blind Placebo-Controlled Clinical Trial

Larry E. Humes,^a Sara E. Rogers,^a Tera M. Quigley,^a Anna K. Main,^a
Dana L. Kinney,^a and Christine Herring^a

Audiology Best Practices Consumer Decides (OTC)

Placebo

AJA

Research Article

The Effects of Service-Delivery Model and Purchase Price on Hearing-Aid Outcomes in Older Adults: A Randomized Double-Blind Placebo-Controlled Clinical Trial

Larry E. Humes, a Sara E. Rogers, Tera M. Quigley, Anna K. Main, Dana L. Kinney, and Christine Herring



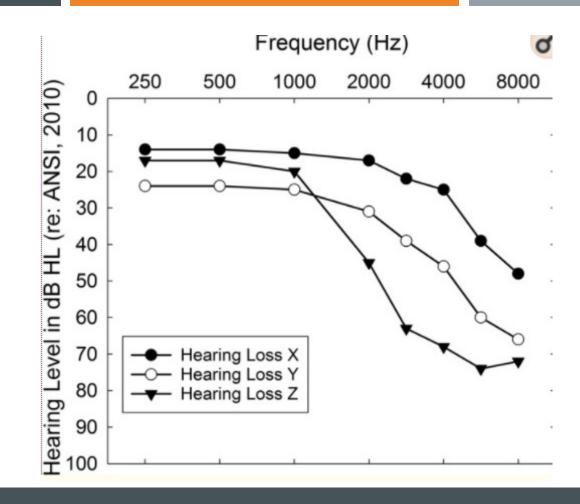
Resound Alera mini-BTE

Standard: U.S. \$3,600 Reduced: U.S. \$600

Audiology Best Practices = Program, verify, fine-tune, orientation session

Consumer Decides (OTC) = User selects between pre-set programs; instructional video

Placebo = Same as Audiology Best Practices, but hearing aid had no gain



Consumer Decides (OTC) group pre-set programming



Research Article

The Effects of Service-Delivery Model and Purchase Price on Hearing-Aid Outcomes in Older Adults: A Randomized Double-Blind Placebo-Controlled Clinical Trial

Larry E. Humes,^a Sara E. Rogers,^a Tera M. Quigley,^a Anna K. Main,^a
Dana L. Kinney,^a and Christine Herring^a



Main outcome – Subjective HA Benefit

No significant price x group interactions

Device-related satisfaction

Best Practices group better than OTC and Placebo group

Audiology Best Practices vs Consumer Decides (OTC) vs Placebo

Standard: U.S. \$3,600 vs Reduced: U.S. \$600

Original Article

Validation of a Self-Fitting Method for Over-the-Counter Hearing Aids

Andrew T. Sabin¹ (10), Dianne J. Van Tasell¹, Bill Rabinowitz¹, and Sumitrajit Dhar²

Trends in Hearing
Volume 24: 1–19
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2331216519900589
journals.sagepub.com/home/tia

\$SAGE

Self fit group, n = 38Audiology Best Practices Group, n = 37

Prototype Hearing Aid

The Bose prototype hearing aid (Figure 2) used in this experiment functioned like a wireless binaural airconduction hearing aid. It incorporated microphones on each of the earbuds and a flexible neckband housing rechargeable batteries and electronic components. The earbuds are designed to seal comfortably against the entrance to the ear canal. Signal processing parameters were selected wirelessly via Bluetooth using an

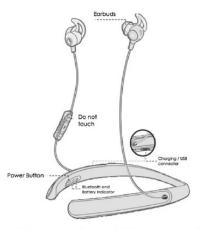


Figure 2. Bose prototype hearing aid. All participants wore this device throughout the experiment.

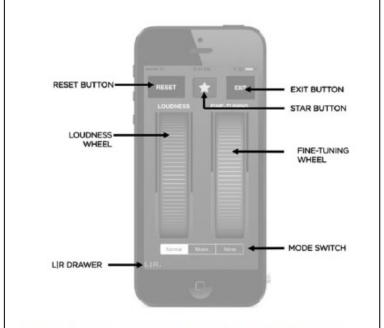


Figure 3. The mobile app home screen for the Self group.

Original Article

Validation of a Self-Fitting Method for Over-the-Counter Hearing Aids

Andrew T. Sabin¹ , Dianne J. Van Tasell¹, Bill Rabinowitz¹, and Sumitrajit Dhar²

Trends in Hearing
Volume 24: 1–19
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2331216519900589
journals.sagepub.com/home/tia

\$SAGE

Field Use

Once the audiologist felt that the participant understood the instructions, they asked the participant to perform a practice "Star Button Press." These practice events were repeated until the audiologist believed the user could conduct them on their own. These Star Button Press events provided the in-the-field data during the weeks of field use.

Prototype Hearing Aid

The Bose prototype hearing aid (Figure 2) used in this experiment functioned like a wireless binaural airconduction hearing aid. It incorporated microphones on each of the earbuds and a flexible neckband housing rechargeable batteries and electronic components. The earbuds are designed to seal comfortably against the entrance to the ear canal. Signal processing parameters were selected wirelessly via Bluetooth using an

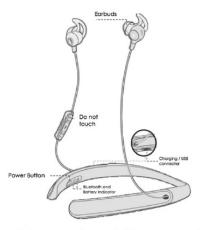


Figure 2. Bose prototype hearing aid. All participants wore this device throughout the experiment.

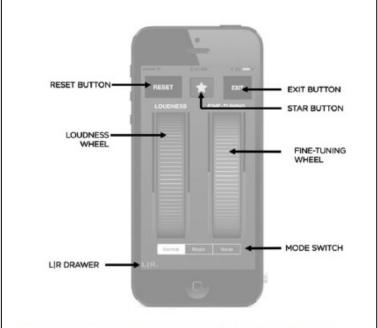


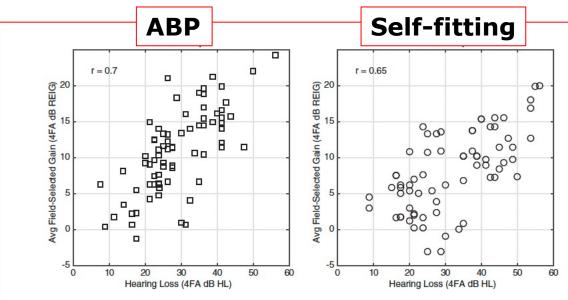
Figure 3. The mobile app home screen for the Self group.

Original Article

Validation of a Self-Fitting Method for Over-the-Counter Hearing Aids

Trends in Hearing
Volume 24: 1–19
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2331216519900589
journals.sagepub.com/home/da

Andrew T. Sabin^I , Dianne J. Van Tasell^I, Bill Rabinowitz^I, and Sumitrajit Dhar²



Relationship between hearing loss and field-selected gains

Self-fitters:

Overall gain correlated w/ their HL (left)

Small but significant preference for own settings

Randomized Controlled Trial > JAMA. 2017 Jul 4;318(1):89-90. doi: 10.1001/jama.2017.6905.

Personal Sound Amplification Products vs a Conventional Hearing Aid for Speech Understanding in Noise

```
Nicholas S Reed <sup>1</sup>, Joshua Betz <sup>2</sup>, Nicole Kendig <sup>3</sup>, Margaret Korczak <sup>3</sup>, Frank R Lin <sup>1</sup>

Affiliations + expand

PMID: 28672306 PMCID: PMC5817472 DOI: 10.1001/jama.2017.6905

Free PMC article
```

Participants: 42 adults ages 60 to 85 years with mild-to-moderate hearing loss

Unaided hearing

Oticon Nera 2 hearing aid

Sound World
Solutions CS50+

Soundhawk

Etymotic BEAN

Tweak Focus

MSA 30X

Randomized Controlled Trial > JAMA. 2017 Jul 4;318(1):89-90. doi: 10.1001/jama.2017.6905.

Personal Sound Amplification Products vs a Conventional Hearing Aid for Speech Understanding in Noise

Nicholas S Reed ¹, Joshua Betz ², Nicole Kendig ³, Margaret Korczak ³, Frank R Lin ¹
Affiliations + expand

PMID: 28672306 PMCID: PMC5817472 DOI: 10.1001/jama.2017.6905

ree PMC article

	Cost
Unaided hearing	NA
Oticon Nera 2 hearing aid	1,910.00
Sound World Solutions CS50+	349.99
Soundhawk	349.99
Etymotic BEAN	299.99
Tweak Focus	269.99
MSA 30X	29.99

Randomized Controlled Trial > JAMA. 2017 Jul 4;318(1):89-90. doi: 10.1001/jama.2017.6905.

Personal Sound Amplification Products vs a Conventional Hearing Aid for Speech Understanding in Noise

Nicholas S Reed ¹, Joshua Betz ², Nicole Kendig ³, Margaret Korczak ³, Frank R Lin ¹

Affiliations + expand

PMID: 28672306 PMCID: PMC5817472 DOI: 10.1001/jama.2017.6905

Free PMC article

Randomized Controlled Trial > JAMA. 2017 Jul 4;318(1):89-90. doi: 10.1001/jama.2017.6905.

Personal Sound Amplification Products vs a Conventional Hearing Aid for Speech Understanding in Noise

Nicholas S Reed ¹, Joshua Betz ², Nicole Kendig ³, Margaret Korczak ³, Frank R Lin ¹

Affiliations + expand

PMID: 28672306 PMCID: PMC5817472 DOI: 10.1001/jama.2017.6905

Free PMC article

Unaided hearing
Oticon Nera 2 hearing aid
Sound World Solutions CS50+
Soundhawk
Etymotic BEAN
Tweak Focus
MSA 30X

Cost

NA

Mean accuracy, % (95% CI)	Change from unaided hearing, % (95% CI)
76.5 (72.7 to 80.3)	NA

Randomized Controlled Trial > JAMA. 2017 Jul 4;318(1):89-90. doi: 10.1001/jama.2017.6905.

Personal Sound Amplification Products vs a Conventional Hearing Aid for Speech Understanding in Noise

Nicholas S Reed ¹, Joshua Betz ², Nicole Kendig ³, Margaret Korczak ³, Frank R Lin ¹

Affiliations + expand

PMID: 28672306 PMCID: PMC5817472 DOI: 10.1001/jama.2017.6905

	Cost	Mean accuracy, % (95% CI)	Change from unaided hearing, % (95% CI)
Unaided hearing	NA	76.5 (72.7 to 80.3)	NA
Oticon Nera 2 hearing aid	1,910.00	88.4 (84.5 to 92.4)	11.9 (9.8 to 14.0)
Sound World			

Solutions CS50+

Soundhawk

Etymotic BEAN

Tweak Focus

MSA 30X

Randomized Controlled Trial > JAMA. 2017 Jul 4;318(1):89-90. doi: 10.1001/jama.2017.6905.

Personal Sound Amplification Products vs a Conventional Hearing Aid for Speech Understanding in Noise

Nicholas S Reed ¹, Joshua Betz ², Nicole Kendig ³, Margaret Korczak ³, Frank R Lin ¹

Affiliations + expand

PMID: 28672306 PMCID: PMC5817472 DOI: 10.1001/jama.2017.6905

Free PMC article

	Cost	Mean accuracy, % (95% CI)	Change from unaided hearing, % (95% CI)
Unaided hearing	NA	76.5 (72.7 to 80.3)	NA
Oticon Nera 2 hearing aid	1,910.00	88.4 (84.5 to 92.4)	11.9 (9.8 to 14.0)
Sound World Solutions CS50+	349.99	87.4 (83.5 to 91.4)	11.0 (8.8 to 13.1)
Soundhawk	349.99	86.7 (82.7 to 90.6)	10.2 (8.0 to 12.3)
Etymotic BEAN	299.99	84.1 (80.2 to 88.1)	7.7 (5.5 to 9.8)
Tweak Focus	269.99	81.4 (77.4 to 85.3)	4.9 (2.8 to 7.0)
MSA 30X			

Randomized Controlled Trial > JAMA. 2017 Jul 4;318(1):89-90. doi: 10.1001/jama.2017.6905.

Personal Sound Amplification Products vs a Conventional Hearing Aid for Speech Understanding in Noise

Nicholas S Reed ¹, Joshua Betz ², Nicole Kendig ³, Margaret Korczak ³, Frank R Lin ¹

Affiliations + expand

PMID: 28672306 PMCID: PMC5817472 DOI: 10.1001/jama.2017.6905

Free PMC article

	Cost	Mean accuracy, % (95% CI)	Change from unaided hearing, % (95% CI)
Unaided hearing	NA	76.5 (72.7 to 80.3)	NA
Oticon Nera 2 hearing aid	1,910.00	88.4 (84.5 to 92.4)	11.9 (9.8 to 14.0)
Sound World Solutions CS50+	349.99	87.4 (83.5 to 91.4)	11.0 (8.8 to 13.1)
Soundhawk	349.99	86.7 (82.7 to 90.6)	10.2 (8.0 to 12.3)
Etymotic BEAN	299.99	84.1 (80.2 to 88.1)	7.7 (5.5 to 9.8)
Tweak Focus	269.99	81.4 (77.4 to 85.3)	4.9 (2.8 to 7.0)
MSA 30X	29.99	65.3 (60.1 to 70.4)	-11.2 (-15.2 to -7.3)

What are implications for people with hearing loss?

Potential advantages of OTC hearing aids

Lower prices

More availability closer to home

Reduced stigma

Psychological ownership, empowerment

Independence

Personalized settings



Areas for consideration

Price still may not be accessible for some

Difficulty navigating self-fitting

Need for post-fitting counseling, rehab, support

Audiologically inappropriate fittings possible

Conditions requiring medical care may not be attended to



Volume and bass / treble adjustment in the Bose Hear app. | Image: Bose

Potential scenarios

Scenario #1: Someone who never used HAs before tries OTC HAs.

They are disappointed and frustrated, stop using them, and vow to never use

HAs again.



Potential scenarios

Scenario #2: Someone who never used HAs tries OTC HAs.

They are delighted, wear them consistently, and experience benefits in their

daily life.



OTC HAs and the practicing Audiologist

OTCs and the practicing Audiologist

Potential for expanding existing practices:

New clients

New devices

New services or increased focus on:

Rehabilitation

Motivational counseling

Instructional counseling

Listening and communication help

Device usage

Types of services offered to help OTC users

- Diagnostic audiological assessment
- Quality check of devices
- Device customization
- Device training
- Hearing loss self-management skills training
- Services focusing on emotional, psychosocial, & functional impacts of HL

Audiology's Third Pillar: Comprehensive Follow-Up Care and Counseling for Those Who Choose to Self-Direct Their Care By Brian Taylor

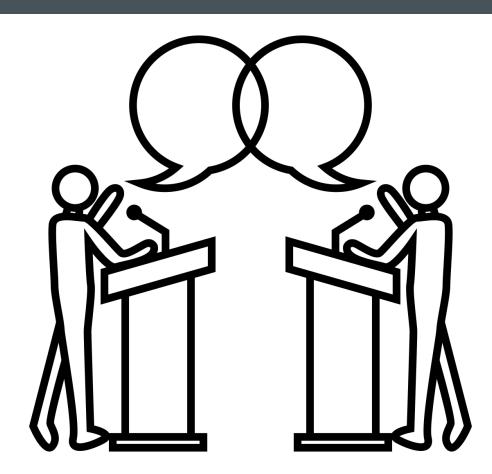
VA Audiology

- Are OTC HAs an appropriate option for Veterans?
- Will some Veterans prefer OTC?
- May help lower costs
- May help increase reach
- May encourage use by increasing empowerment, independence



Contentious issues

- Output limits
- Consumers with medical issues
- Candidacy



OTC candidacy

The Pure-Tone Average as a Universal Metric-Knowing Your Hearing

Frank R Lin 1 2, Nicholas S Reed 1 2

Affiliations + expand

PMID: 33355634 DOI: 10.1001/jamaoto.2020.4862

Unpacking the OTC Hearing Aid Act: How About the 12% with Normal Hearing and Self-Rated Hearing Difficulties?

Weinstein, Barbara E. PhD

Author Information (>)

A Questionnaire Survey of Current Rehabilitation Practices for Adults With Normal Hearing Sensitivity Who Experience Auditory Difficulties

Tess K. Koerner , Melissa A. Papesh and Frederick J. Gallun

https://doi.org/10.1044/2020_AJA-20-00027

- Volume 74 - Issue 5 - p 22,23 3694.a3 How to comment on the FDA Proposed Rule

How to post a public comment

Go to the Federal Register at Federalregister.gov Search for the Over-the-Counter Hearing Aids proposed rule Click on the green button "submit a formal comment"



How to post a public comment

Direct link:

https://www.federalregister.gov/documents/2021/10/20/2021-22473/medical-devices-ear-nose-and-throat-devices-establishing-over-the-counter-hearing-aids



■ ### ♀ ♀

Bose SoundControl™ Hearing Aids

*** 4.2 (153)

\$849.00

Price per pair. Limit two pairs per customer.

Call 800-761-2673 for any additional questions

Agent availability: Mon to Fri 9-9 ET. Saturday 9-7 ET



Order within 17 hrs 54 mins and choose 2-Day shipping to receive your product by Monday, Jan 17 $\,$



Pay as low as \$71/mo. with Bose Pay. Learn more

powered by Klarna.





COMPREHENSIVE WORLD-CLASS SUPPORT









90-DAY RISK-FREE TRIAL



HIGH-QUALITY AUDIO

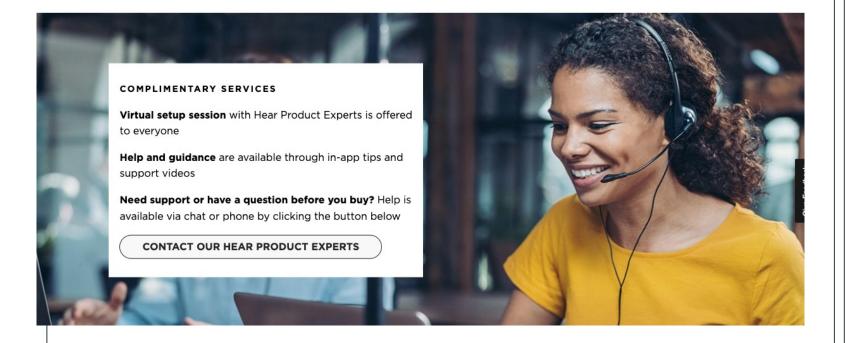


REPLACEABLE BATTERIES



Support, when and where you need it

Fitting and tuning Bose SoundControl™ Hearing Aids is simple, but of course, there is some adjustment needed to get used to a hearing aid. That's why we offer comprehensive, complimentary <u>product support</u>, from first-time setup to everyday use. Our Hear Product Experts are here to help you every step of the way. We also have a protection plan to cover your device.





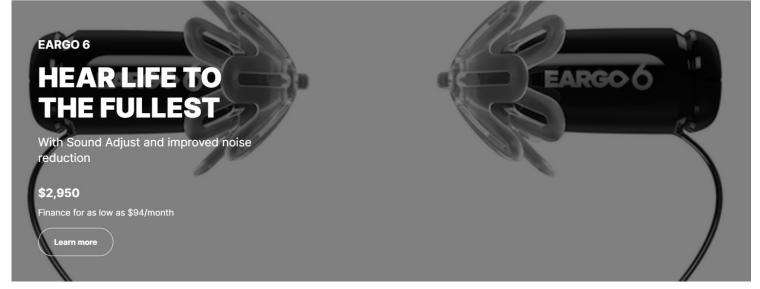
Apple Studying Potential of AirPods as Health Device

Earbuds could be offered as hearing aids and include an in-ear thermometer and posture warnings



Apple's AirPods dominate the global Bluetooth headset market, generating an estimated \$12.8 billion in revenue in 2020. PHOTO: KENNY WASSUS/THE WALL STREET JOURNAL







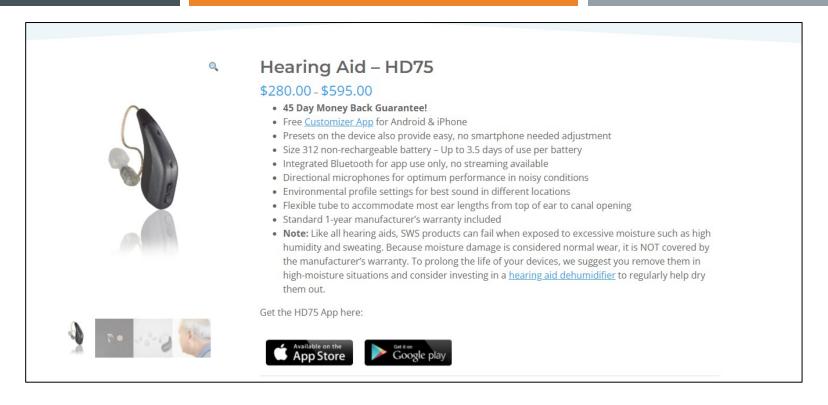
Ea	ra	0	5
_ ~	. 3	•	•

Traditional Hearing Aids

	Nearly invisible & rechargeable	~	×
	Fully remote telecare model ?	~	?
(D)	Access to lifetime support ?	✓	?
₽	Estimated delivery time	3-5 days	Up to 2 weeks

70

\$4700+



"Our device is sold as a hearing aid, and the same identical device is sold as a PSAP. We intend to have the same device qualify as an OTC hearing aid.

They're identical devices in any way you look at them. I made them that way to prove a point. There's no difference between the performance of these devices, only the way they are regulated."

Stavros Basseas, PhD, CEO of Sound World Solutions

Thank you!

coco@ohsu.edu / laura.coco@va.gov