

SPRING 2024

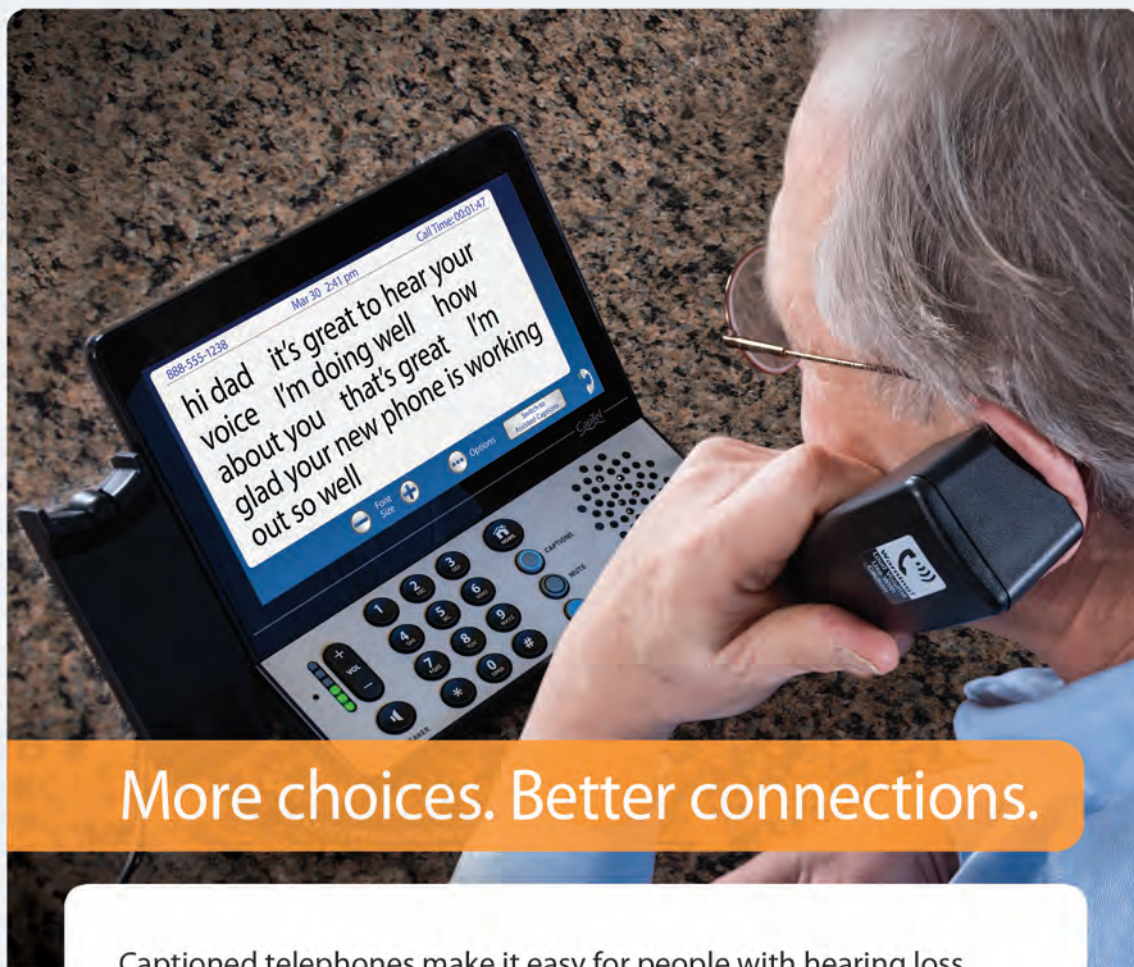
hearing life

THE MAGAZINE FOR BETTER HEARING



AI and Other Hearing Technology Advancements

A PUBLICATION OF THE HEARING LOSS ASSOCIATION OF AMERICA (HLAA)



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Considering OTC Hearing Aids? HLAA's OTC Tip Sheet Can Help

What is "mild to moderate" hearing loss?

You may have mild to moderate hearing loss if...

- You have trouble understanding conversations in groups, with background noise, or when you can't see who is talking.
- You have trouble hearing on the telephone.
- You need to turn up the volume of television, or radio loud enough for others to complain.
- Your friends or family complain that you don't understand speech, and ask them to repeat often.

OTC may NOT help you if...

- You also have trouble hearing conversations in quiet environments.
- You also have trouble hearing loud sounds like power tools, or motor vehicles.

If you experience these, you should see a hearing care professional.

Important questions to ask about OTC hearing aids

- Is there a free trial period, or money back return policy?
- Does it need a smartphone, app, or computer to install, operate, and customize to my needs?
- Is it compatible with cellphones, or smartphones?
- Does it have connectivity via Bluetooth, or **telecoil** to a smartphone, computer, or listening system?
- Can the hearing aid's amplification be adjusted? How do you control feedback?
- Is it water/sweat resistant?
- How does it control, reduce, or block out background, or wind noise?
- How long is the battery life? Can it be recharged?

Other considerations

- Pay attention to package warnings. If you have pain, sudden hearing changes, or dizziness, see a doctor.
- It may take time to adjust to hearing devices.
- If the first hearing aid doesn't work, keep trying until you find the right product for you.

Read more at hearingloss.org/OTC.

**Check out our OTC 101:
Ask the Experts webinar
recordings for more information!**





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ABOUT HLAA—We are the leading organization representing the growing number of people with, and at risk of, hearing loss in the U.S. HLAA helps millions thrive with hearing loss through information, education, advocacy, and a nationwide network of support.

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Hearing Life (ISSN 1090-6215) is published seasonally by the Hearing Loss Association of America, 6116 Executive Blvd., Suite 320, Rockville, MD 20852. Some HLAA members receive the magazine via postal mail. For membership information, visit hearingloss.org/membership

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GET IN THE HEARING LOOP

It's Time to
Get in the
Hearing Loop



Many people aren't yet aware of hearing loops or other technologies that can improve communication access and public engagement, or how they can enrich the lives of people with hearing loss, their families, friends, colleagues and even communities. The Get in the Hearing Loop program is changing that—one loop, one advocate, one ADA request at a time.

Get in the Hearing Loop, a communication access program of HLAA, is dedicated to providing and promoting community education, advocacy on behalf of people with hearing loss and consultation services to help venues of all kinds successfully implement hearing loop technology.

We dream of a world where people with hearing loss can thrive each day with communication access, full inclusion and equal participation in all aspects of life, everywhere they go.

For more information about hearing loops and the Get in the Hearing Loop program, visit hearingloss.org/githl or email GITHLinfo@hearingloss.org.

What Do You Know About Hearing Aids and Assistive Listening Systems?

Watch this TEDx video of HLAA hearing loop adviser, advocate and audiologist Juliëtte Sterkens, Au.D., explaining what many don't know about hearing aids, features and hidden technology that can help people with hearing loss overcome challenges. Learn about assistive listening systems, telecoils and the importance of hearing loss support organizations like HLAA in this trending video.

youtube.com/watch?v=0vf1q_HgLpw



TEDx
Oshkosh



Some of the best tech tips, support and advice takes place in HLAA Chapters across the country. Talking to others with the same issues is powerful.

Technology Saturation

Innovation, consumer demand, and often, legislation, spurs technology.

BY BARBARA KELLEY

In the 1980s, I was expecting a house guest. Let's see ... guest room ready, fresh towels and soaps, libations, what else? My visitor had a hearing loss so, wanting to make my home truly accommodating, I went in search of a closed captioning decoder box and a TDD. "What are those?" you might ask.

A captioned decoder box was a piece of equipment, about the size of a VCR player (remember those?). The decoder box was plugged into the old tube TVs to capture a caption signal so broadcasts would be captioned. Back then, you were lucky if a show or newscast was closed captioned, unless it was aired on PBS.

A TDD (Telecommunications Device for the Deaf) was plugged into a wall next to a landline phone. It had a keyboard, screen and two "cups" where you placed the phone's receiver when a call came in. If you didn't have a TDD and could hear, you would get a communications assistant (CA) announcing, "This is Maryland Relay and you have a call from someone using a TDD," then the CA would type what you said for the person on the TDD end to read on the screen. Somewhat cumbersome, but this brilliant invention was all we had.

I rented a caption decoder box from the National Captioning Institute and my guest brought her own TDD (on the plane!). Then, I rolled out the welcome mat.

Technology Works When Other Things Work

We see where technology is today—hearing aids that do more than amplify sound, improved and acceptance of cochlear and other implantable devices, ubiquitous captioning on phones and TV, apps, smartphones that regulate noise exposure, over-the-counter hearing aids, earbuds with noise cancellation, Bluetooth streaming, hearing loops, WiFi, artificial intelligence, virtual reality and more.

How did we get here? It wasn't one straight path or one thing. There were many forces coming together to create change for the better. First, there was demand from a community of people with hearing loss making their needs known, many through HLAA. Second, HLAA took those concerns down legislative and regulatory paths while educating everyone, including consumers, along the way.

Since our founding in 1979, HLAA has been part of nearly every piece of legislation that involves people with hearing loss getting access to communications or hearing health care.

For example, the Television Decoder Circuitry Act of 1990 was passed requiring televisions with screens 13 inches or larger to have built-in capability to display closed captions. The Federal Communications Commission (FCC) took it further with other requirements.

Many people use captioning today. A *Wall Street Journal* article (September 17, 2022) says it in the headline: "Why Do All These 20-Somethings Have Closed Captions Turned On?" It goes on to say, "As automatic captioning on TikTok and creative audio descriptions on Netflix go mainstream, so does accessibility."

The adage “build it and they will come” is true. It seems like when something is built for one disability, it proves valuable for everyone.

Have you been in a sports bar lately? The Americans with Disabilities Act (ADA) requires that the captions must be turned on if requested, for TVs that are accessible to the public. Very often, the captions are already on for everyone to read when it’s noisy. New Mexico currently has House Bill 89 introduced—the Closed Captioning Act—that would require TV sets in all public venues to have the captions turned on at all times, so no one has to make the request and wait around for it to happen. But pause and think about our friends with vision loss, who can’t see the captions but need to hear the announcers and enjoy the game along with the rest of us. That is where Bluetooth will come in handy for everyone to hear the sound through their own devices.

Captioning is only one example and there’s even more work to do there. HLAA supports new legislation such as the updates to the 21st Century Communications and Video Accessibility Act (CVAA)—called the Communications, Video and Technology Accessibility Act (CVTA)—which will cover internet-streamed content and more. Legislation and regulation have to keep up with new technology. You can count on HLAA to represent people with hearing loss when laws and regulations are passed. Innovation, consumer demand, and often, legislation, spurs technology.

What about hearing aids? A recent *New York Times* article (May 6, 2023) was headlined, “Hearing Aids Are Changing. Their Users Are, Too.” The article highlights a 26-year-old teacher with hearing aids, who often hears “My grandma has them, too” from her students. “But grandma’s hearing aids were never like this: Bluetooth-enabled and connected to her phone, they allow Ms. [Ayla] Wing to toggle with one touch between custom settings. She can shut out the world during a screeching subway ride, hear her friends in noisy bars

during a night out or even understand her students better by switching to a setting labeled ‘mumbly kids.’”

Here’s Proof

Look at these statistics from a survey conducted by HLAA and Cochlear of people with hearing loss during the Covid-19 pandemic:

- 68% of those with hearing loss increased their use of technology during the pandemic to communicate with others.
- 68% say pandemic-related increased use of technology has caused them to become more aware of their hearing loss.

Technology has saturated our lives. We hear words like “hearing enhancement” and “augmented sound” that are important to everyone, not just those with hearing loss. Technology is a boon, we’re immersed in it, but it has to be paired with the human reaction, understanding how to use it and willingness to try something new. Some of the best tech tips, support and advice for using technology take place in HLAA Chapters across the country. Talking to others with the same issues is powerful.

If you’re in the Phoenix area this June, stop in to explore the Exhibit Hall, which is free to the public. You can also register for the convention if you prefer to attend workshops, the Research Symposium and more. See hearingloss.org/convention for information.

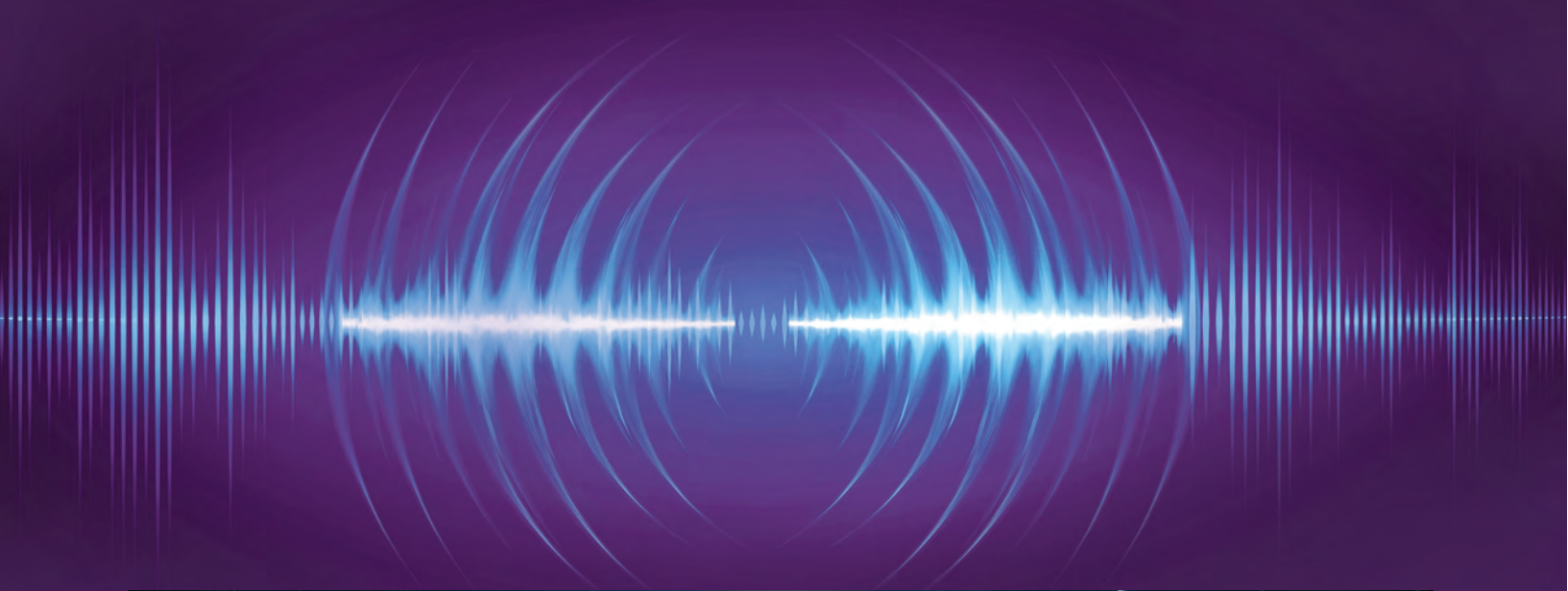
We are people first, who happen to have a hearing loss. And, luckily, we live in a time when we’re saturated with technology that can help us stay connected with the world around us. The choice is ours to make. **HL**

Barbara Kelley is executive director of the Hearing Loss Association of America. She can be reached at bkkelley@hearingloss.org. Follow her on X: [@Bkelley_HLAA](https://twitter.com/Bkelley_HLAA).

hearing life

would love to hear from you!

Many of the articles that appear in *Hearing Life* magazine are written by people with hearing loss, educators, professionals in the hearing health care field, or anyone who would like to help others on their hearing journey. Find guidelines at hearingloss.org/submit-an-article. Send submissions to magazine@hearingloss.org.



AI and Other Hearing Technology Advances

BY LINDA KOZMA-SPYTEK

Every year in January, thousands of people descend on Las Vegas for “the most powerful tech event in the world”—the Consumer Electronics Show (CES). And the Hearing Loss Association of America (HLAA) is there. For more than 10 years, HLAA has been attending CES as a guest of the Consumer Technology Association (CTA) Foundation, together with other consumer organizations representing people with disabilities. And in that time, accessibility has had a growing presence, increased prominence and more featured content at the show.

The theme of CES this year was “AI for All.” This catch phrase refers to efforts to ensure AI (artificial intelligence) is beneficial, inclusive and accessible for everyone. AI already is present and integrated to varying degrees in all kinds of technologies, including the most recent technology advancements driving hearing and communication access.

It is likely that you are not only familiar with but have used AI-powered features and applications on a device that many people consider essential—the smartphone.

If you have ever:

- said “Siri” or “Hey Google” to ask a question
- searched the internet using a picture
- responded to texts, email or made a note by speaking into your phone
- pointed your camera at a restaurant menu while traveling to translate the food options
- unlocked your phone by scanning your fingerprint

...then you have used technology powered by AI.

What is AI?

To provide an easy-to-understand definition, I went directly to OpenAI’s popular AI-powered platform, ChatGPT. When asked to define AI, this sophisticated chatbot replied:

“Artificial intelligence (AI) refers to the ability of computers or machines to perform tasks that

normally require human intelligence. This includes abilities such as learning from experience, understanding and responding to language, recognizing patterns, solving problems and making decisions.”

Why is AI gaining so much interest and attention now, after 50 years of development? Many believe that content creation, or generative AI, triggered the recent growth in public awareness, accompanied by increased concerns for its ethical and societal implications.

Examples of what generative AI can create:

- written text such as reports, stories and poems
- images, art and 3D models in wide-ranging styles
- music and sound from various genres
- human-like voice and speech
- short videos and animations
- computer code and simple software applications

Examples of how generative AI can improve access through content creation:

- recent advances in real-time speech-to-text transcription services for people with hearing loss
- virtual avatars that perform sign language interpretation
- AI-generated voices for people who have lost the ability to speak
- descriptions of images and video for people with vision loss

Advances in Hearing and Communication Access Technologies

What follows is a high-level overview of numerous advancements over the last decade in distinct, yet often overlapping, areas. Due to space limitations, this discussion is not comprehensive. For instance, biotechnologies, including regenerative and gene therapies aimed at improving hearing, represent a rapidly evolving field that should be addressed separately.

Sound Processing in Hearing Aids, Cochlear Implants and Other Applications

AI can play a role in how hearing aids and cochlear implants process sound to improve speech clarity. This includes the development of techniques to enhance sound quality and reduce noise in challenging environments. Yet, sophisticated sound processing can be power hungry. To address this, techniques have been developed to extend battery life and reduce charging times for rechargeable hearing devices.

Most consumers with hearing loss would also like improved speech clarity for media from movies to the radio, as background music and sound effects can make dialogue and commentary hard to understand. In the spring of 2023, Amazon introduced an AI-based sound processing feature called **Dialogue Boost** into their Prime Video service. The technology identifies segments within video content where the dialog may be obscured by other sounds and then improves the level of the dialog relative to the level of the background sounds. Smart TVs and the audio technology they employ can also provide some degree of dialogue enhancement through adjustable features often found in their audio or sound settings menus, or through accessories such as sound bars.

Device Connectivity via Bluetooth

Wireless communication enabled by Bluetooth technology has greatly improved connectivity for hearing and assistive listening devices. While Bluetooth is not an AI technology, they work together. In hearing aids, AI systems are starting to be used to track physical activity and health using sensors that capture the information, while Bluetooth technology sends it to an AI-powered smartphone app that analyzes, summarizes and displays the data.

Another breakthrough in this area is direct streaming of audio for phone calls, music and media from smartphones and other devices to hearing aids and cochlear implants. First introduced a decade ago by Apple, this capability is now integrated into most currently available hearing aids and smartphones. It's also being considered

for inclusion in new hearing aid compatibility rules by the Federal Communications Commission (FCC).

Until now, Bluetooth connectivity has required the one-to-one pairing of two devices, limiting its application to personal listening only. Access to audio information in public settings, like theaters, airports and lecture halls, has been provided by assistive listening systems using other forms of wireless communication, such as FM, infrared, **hearing loops** and Wi-Fi. However, a new Bluetooth capability called **Auracast** will enable audio to be broadcast wirelessly for easy reception by various consumer electronics products (e.g., earbuds and headphones) as well as hearing devices, all without the need for pairing.

At CES, several companies announced or showcased products that support Auracast:

- earbuds and TVs from Samsung
- headphones from Sennheiser
- hearing aids and a TV streamer from ReSound
- portable speakers from JBL
- assistive listening systems from Ampetronic and Listen Technologies

Personalization and Customization of Listening Experiences

Because AI can learn from experience, recognize patterns and make decisions, it can assist in automating the customization of your listening experiences by analyzing the choices you make over time under real-world conditions. For example, a hearing device may track specific adjustments to your hearing aid settings that you make to optimize listening in noisy versus quiet sound environments. After learning your behavior and recognizing the associated sound environments, the AI-powered hearing device can automatically and appropriately adjust your hearing aid settings for you.

Another important example is the new class of self-fitting, **over-the-counter (OTC) hearing aids**. Available since their approval by the FDA in 2022, many self-fitting OTC devices guide consumers through an app-based process that evaluates their hearing and fine tunes the settings without the involvement of a hearing health care professional.



Smart Devices with Native Accessibility Features

As smartphones have evolved, more accessibility features are being built in by manufacturers, reducing the need for third-party, downloadable applications. One benefit of these native accessibility features is that they usually continue to be supported by the manufacturer and receive scheduled updates through the phone's operating system. Typically found under the "Settings" menu and listed under "Accessibility," common features include:

- compatibility with a wide range of hearing aids and cochlear implants
- wireless Bluetooth connectivity to stream phone and video calls and audio content directly to compatible hearing devices
- automatically generated, real-time captions for phone and video calls and audio content
- customizable vibratory or visual notifications for environmental sounds like sirens, alarms and alerts that the phone learns using AI-supported sound recognition
- sound enhancements that provide a way to customize the phone's audio based on the user's hearing profile, to control background noise levels or for the phone to act as a remote microphone

Automatic Speech Recognition

Automatic speech recognition (ASR) as implemented today is an AI technology. At its most fundamental level, ASR uses computing systems and AI-based techniques to identify and process human speech. Over the last dozen years, ASR-powered virtual voice assistants like Apple Siri, Google Assistant and Amazon Alexa have been used on billions of computers, tablets and smart devices to understand and respond to voice commands. For people who are Deaf and rely on sign language rather than spoken language, devices that are only accessible using voice commands represent a real barrier. Automatic sign language recognition is actively in development, but still in its infancy compared to ASR.

Should I wait for technology to improve or get help now?

- If your hearing health is affecting your daily life, work, relationships or overall well-being, then get help now.
- Addressing hearing loss earlier can lead to better outcomes and lessen health risks from untreated or undertreated hearing loss.
- Most hearing devices and assistive listening technologies available today are effective and offer significant benefits; you can always upgrade in the future.

More recently, another primary use of ASR has been to convert spoken words into text, which has meant on-demand, real-time access to captions for people with hearing loss. ASR-based captions have widespread use for face-to-face conversation, telecommunications, live and prerecorded media, presentations and videoconferencing. Despite advancements, ASR caption performance can be quite variable because audio quality, environmental noise, diverse speech characteristics and other factors all impact accuracy to varying degrees.

Integration with Augmented Reality

One issue with current caption displays is that they may require the user to look away from their viewpoint of interest. If you're having a conversation but must look down to your phone to see captions of what the other person is saying, rather than looking at their face, the experience can feel odd for both parties and even interrupt conversational flow. Several startups (e.g., **XRAI**, **Xander**, and **Transcribe Glass**) are working to integrate automatically generated, real-time captions into glasses enabled by AI. The glasses allow captions to be overlaid onto whatever the person is looking at in the real world.



Hearing Assistive Technology Survey

Why don't more people with hearing loss use assistive technology? A recent survey released by the Committee for Communication Access in America (CCAA) sheds some light on this puzzling issue. More than 1,500 people with hearing loss or other hearing related conditions answered questions about their experience of various assistive listening systems (ALS), mandated in many public places by the Americans with Disabilities Act (ADA).

- 37–69% of respondents with a severe-to-profound hearing loss reported always using ALS when available.
- 80% used prescription hearing aids and 2% wore over-the-counter (OTC) hearing aids.
- HLAA was highly represented among the 42% affiliated with an organized hearing loss support group.

Find out more at bit.ly/3TCByXq or scan the QR code at right.



There is even work on delivering sign language interpretation through similar smart glass technology.

Teleaudiology—Remote Hearing Health Care

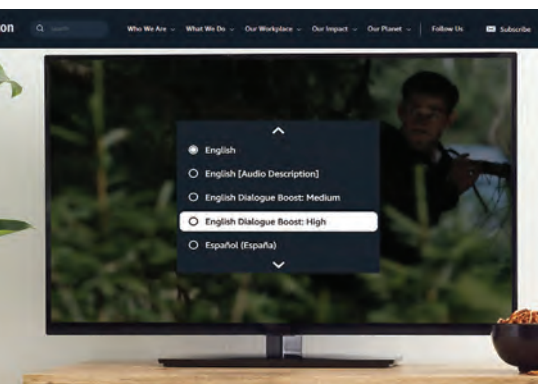
Remote programming of hearing devices, self-fitting hearing aids and hearing health monitoring through smart devices is changing the landscape of hearing health care delivery. Teleaudiology relies on the use of reliable internet and telecommunications technology such as specialized videoconferencing platforms, to provide convenient, easy access to hearing health care. Most of the major hearing device manufacturers offer some form of remote care, from consultation to programming adjustments. And there is a growing list of companies and platforms that offer telehealth services and direct-to-consumer hearing aid purchases. Remote care is necessarily limited because specialized equipment and in-person assessments may be required. It nevertheless can provide a level of access that people living in rural locations, in underserved communities and with transportation challenges would otherwise not have.

The Curb Cut Effect—Hearing and Communication Access Going Mainstream

“Technology is the great equalizer . . . [it] is constantly evolving to remove barriers.”

Dimitri Kanevsky, Ph.D.
Speech Research Scientist, Google
Lead Developer, Live Transcribe

Technology that removes barriers for people with disabilities often provides all users with benefits. This is known as the “curb cut effect,” after the most familiar and commonly cited accessibility feature that affords community-wide benefits. Among technologies developed for people with hearing loss, the best example of this is closed captioning of media, which was first developed in the 1970s to make television programming accessible. Today, captioned media is commonplace, from broadcast television to websites like YouTube that enable individual content creators to provide their own captions. And it is widely used by people with and without hearing loss.



The more mainstream the experience and expectations, the more likely market forces will help access move forward in terms of awareness and availability. Both in the U.K. and the U.S., studies have found that younger adults (Gen Z and Millennials), who are less likely to have hearing loss, use captions at much higher rates than older adults (Baby Boomers), who are more likely to have hearing loss. One explanation given for these results is that captions are the norm for younger people. They are used to experiencing media with captions, and they expect captions to be available.

For many people without hearing loss, captions are both a convenience and an enhancement, but not generally a necessity for access. This distinction between “nice to have” and “need to have” is important. Although broad market appeal for features and functionality in mainstream products and services that also provide accessibility helps to move access forward, it has yet to ensure access. While legislation is necessary, the rapid evolution of technology often outpaces regulation. Effective, sustained advocacy will continue to be key in achieving this goal for the foreseeable future.

Considerations as Technology Advances

Products and services need to deliver value and quality by reliably and effectively meeting consumers’ needs and expectations and solving real problems. In doing so, technology helps to remove barriers. However, many factors that accompany technological developments and their use need to be considered. Let’s look at a few:

- equity in access to new technology
- awareness and education on use of products and services
- availability of desirable feature and functionality across price points
- protections to address data privacy and security concerns

Considerations like these can’t be ignored, but safeguards are slow to keep up as technology development speeds forward and becomes even more pervasive in every aspect of our lives. There will be trade-offs and unintended consequences related to technology development, particularly around AI. Many are optimistic that more accessibility barriers will fall as technology advances, but they remain concerned about whether issues like equity, privacy and security will get the attention they deserve. As Aleksander Madry, a professor of computing at the Massachusetts Institute of Technology, told a Congressional panel in 2023, “we’re at an inflection point” with a lot of important, difficult, yet necessary, conversations that need to happen now. **HL**

Linda Kozma-Spytek, M.A., CCC-A, is a consultant and professional adviser on technology to HLAA. She also leads ICAAT: the Industry-Consumer Alliance for Accessible Technology, which is a development project of the Deaf/Hard of Hearing Technology Rehabilitation Engineering Research Center at Gallaudet University.

Advocating for the Future of Hearing Technology

As the leading voice for Americans with hearing loss for nearly 45 years, HLAA has been instrumental in **advocating for laws** to ensure that technology remains accessible for all—from the Americans with Disabilities Act (ADA) in 1990 to the current Communications, Video and Technology Accessibility Act (CVTA). We will continue our advocacy on behalf of the 50 million Americans with hearing loss, now and far into the future.



ICAAT—If you’d like to continue the conversation around AI and technology, join the Industry-Consumer Alliance for Accessible Technology (ICAAT) Tech Forum, where you can discuss your experiences, knowledge and ideas around a variety of technology topics. See Advocacy column on page 22 for more details.

The Future of Hearing Loss Technology: What's New? What's Next?

We asked some of our HLAA Hear for Life partners about their newest accessible hearing technologies and what may be coming up next. Here's what they had to say:

The Power of Technology

By Achin Bhowmik, Ph.D., Chief Technology Officer and Executive Vice President of Engineering, Starkey

"The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it." — Mark Weiser, original Internet of Things visionary

This quote perfectly captures Starkey's driving force for innovation—to develop multifunctional hearing aids that are so intertwined with our lives that we don't notice them.

What's New: Our Genesis AI hearing aids utilize artificial intelligence (AI) so advanced that it can mimic the sound processing capabilities of the brain while also streaming audio, monitoring health, detecting falls, translating languages, answering questions and more. The combination of deep neural network (DNN) models with AI enables us to solve problems more quickly through machine learning techniques, which train the network to recognize patterns within vast amounts of data. Its accelerated development in multifunctional devices provides an opportunity to advance society in unprecedented ways.

What's Next: Our prediction for the future of our industry is the development of hearing technology that becomes such an integral part of our everyday routine that we can't imagine life without it. We've already seen how multifunctional devices can be woven into our everyday lives with the internet, computers and smartphones. Our goal is to accomplish this within hearing health care to advance how we communicate and utilize information through hearing devices. For example, creating in-ear technology that acts as a two-way audio communication device to access the world of information. The hearing aid could be listening to the user and the outside world, understanding voice commands and translating them into actions—all while enhancing sound.

For more information, visit [Starkey.com](https://www.starkey.com)



Hearing Life Matters

By Natasha McDougald, Director Product Marketing,
Cochlear Americas

“My son received his first cochlear implant at 10 months of age, and the pace of innovation and access to hearing has been astonishing. In my role at Cochlear Americas, I have the pleasure of seeing innovation from the seat of both a parent and a professional.” –Natasha McDougald

What’s New: Cochlear implant systems are designed to mimic the functions of the human ear using an external sound processor portion and a surgically placed implant. A life-changing innovation, they work by translating sound into digital signals to the hearing nerve. Over time, they have evolved dramatically, from a bulky body-worn processor to Cochlear’s latest tiny sound processor, which is almost the same size as a high-powered hearing aid. Our Cochlear™ Nucleus® 8 Sound Processor is the first to support the newest connectivity standard, Bluetooth Auracast™ and Bluetooth® LE Audio—allowing recipients to connect with airports, conference centers and theaters in ways never imagined 20 years ago.

What’s Next: Innovation to make it easier and more accessible for all patients to get the care they need to hear their best is emerging. One of the biggest challenges for our patients has been getting access to critical hearing care where and when they need it. Many of today’s Cochlear hearing implant recipients can have their audiology appointment from the comfort of their couch or in a meeting room at work with their smartphone and Cochlear Remote Assist. This connected care ecosystem will only grow; allowing patients to benefit from home or work-based care, empowered self-device tuning and driving their best hearing in every listening situation.

For more information, visit Cochlear.com



Making Hearing Solutions Even More Effective

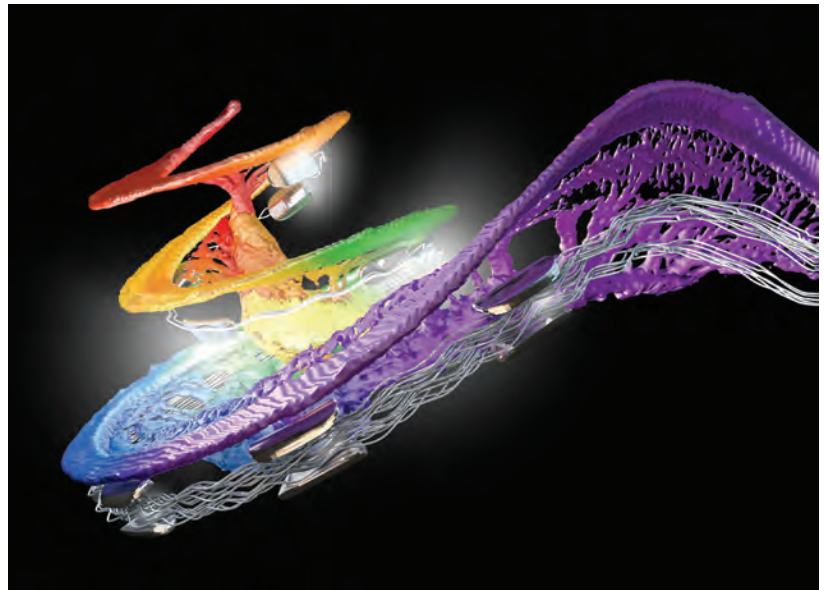


By Rebekah Jolly, Content Marketing Copywriter, MED-EL Corporation, USA

What's New: Just as one would not settle for a one-size-fits-all shoe, individuals should not settle for a one-size-fits-all cochlear implant. At MED-EL, we are committed to individualized cochlear implants so that each patient experiences optimal hearing. With our advanced surgical planning software, OTOPLAN, hearing implant professionals can visualize their patients' unique cochleae for preoperative MED-EL electrode selection and postoperative electrode status (e.g., angular insertion depth and tonotopic electrode contact location). MED-EL also offers the widest electrode array portfolio of gentle, flexible options to adapt to the cochlea's unique contours. When it comes to patient outcomes, speech understanding scores are only part of the picture. As architects in personalized hearing implants and electrode design, we strive for closest to natural hearing and improving patient outcomes.

What's Next: The future of cochlear implants holds groundbreaking advancements that may transform the auditory technology landscape. We envision totally implantable cochlear implants, making external components obsolete and creating an invisible, yet functional system. We foresee robotic cochlear implant surgery potentially revolutionizing procedures with precision and minimal invasion. Telemedicine gains prominence by extending rehabilitation and audiological services remotely, which will be especially beneficial in the post-COVID-19 climate and for rural populations. To further improve hearing experiences, audio processors continue to advance and seamlessly connect to devices. Finally, OTOPLAN, a surgical planning software, allows for personalized cochlear implant solutions that aim for closest to natural hearing. Despite these exciting prospects, experts advise against delaying cochlear implantation, because early intervention results in better outcomes. The push to develop cochlear implant technology is not over, and MED-EL's research and development teams strive to make hearing solutions even more effective.

For more information, visit **MedEl.com**



Audio Improvements and Cognitive Health

ReSound GN

By Laurel Christensen, Ph.D., Chief Audiology Officer, GN Hearing

What's New: The industry is buzzing about the introduction of Bluetooth Low Energy Audio (BTLEA) and Auracast broadcast audio. Over time, BTLEA will replace the classic Bluetooth that many of us use now in our daily lives—it provides better sound quality, uses less battery power and has lower transmission latency, making it ideal for use in hearing aids that connect to devices, like smartphones and computers.

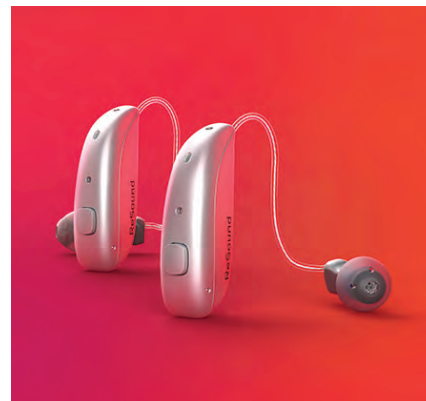
This will benefit people with hearing loss on videoconference calls. Using Auracast-ready hearing aids like ReSound Nexia, people will be able to connect to public audio transmitters to hear broadcast audio in schools, theaters, airports, museums or stadiums using a smartphone app or by scanning a QR code. It is projected that 2.5 million places will be using Auracast by 2030. In addition, through a collaboration between GN and Microsoft, ReSound Nexia is on track to become the first hearing aid compatible with new Windows PCs that support BTLEA.

What's Next: The **ACHIEVE Study** from Johns Hopkins inspired BrainWorks, a GN initiative promoting the role of hearing care as one preventative strategy against cognitive decline. We're exploring this fascinating relationship between hearing health and brain health and conducting clinical trials in conjunction with hearing care professionals, scientific experts and leaders in the health care, academic and advocacy spheres. We're also working with leading partners to develop new technologies that can be incorporated into hearing aids, like digital voice biomarkers, which may help detect subtle changes in speech that can indicate early stages of cognitive decline. While these efforts are still in their early stages, the potential they hold for the field of hearing and cognitive health is immense.

For more information, visit ReSound.com **HL**



Auracast at airport gate



ReSound Nexia



Must-Have Workplace Tech for Hearing Loss

Workplace technology has the potential to level the playing field for people with hearing loss. This curated selection of essential workplace tools, emerging technologies and resources can help you on the job.

Top recommended workplace technologies

1. Hearing aids and/or cochlear implants with Bluetooth or MFi (Made for iPhone) connectivity that allows audio from the phone or laptop to stream directly into the hearing device(s)
2. Captioning, including smartphone voice-to-text apps (e.g., Otter.ai, Live Transcribe, Nagish, Ava, etc.), built-in automatic captions on videoconferencing platforms such as Zoom and Microsoft Teams and in-person or remote communication access real-time translation (CART) services as a requested accommodation from your employer.
3. Noise cancellation headsets or earbuds (e.g., Bose, AirPods Pro 2nd generation, etc.) used with SonicCloud personalized hearing technology
4. Remote wireless microphones (e.g., Phonak Roger accessories, Cochlear Mini Mic 2+, etc.) to hear better in noise and when speakers are far away
5. Telecoil technology to connect with ADA-mandated assistive listening systems such as hearing loops; for more information, visit hearingloss.org/GITHL

Top emerging technologies to watch

1. Auracast broadcast audio/Bluetooth LE Audio—the next generation of Bluetooth
2. Artificial intelligence (AI) to analyze and enhance speech and sounds, provided captioning anytime/anywhere and summarize meetings
3. Smart glasses that project captions with AI-based augmented reality

Resources for workplace technologies

1. Hearing assistive technology information: hearingloss.org/HAT
2. Job Accommodation Network: askjan.org
3. See Hear Communication Matters: tinachildressaud.com
4. Catalogs of accessible devices: Diglo.com and Bellman.com
5. *Hearing Health & Technology Matters* online magazine: hearinghealthmatters.org

Our recent webinar, **Hearing Loss at Work: Technologies to Enhance Effectiveness**, which includes a panel discussion of the resources referenced in this article, is available to view at youtu.be/xFW8FfzqjgU **HL**

By Lisa Yuan and David Baldrige, Ph.D., with contributions from HLAA Task Force for Accessible, Inclusive Employment members. For more information, email David.Baldrige@OregonState.edu.

Former HLAA Intern Works to Increase Digital Accessibility for Students

As a freshman majoring in public health studies at Johns Hopkins University, Alexandra “Zandy” Wong noticed students with disabilities had trouble accessing digital classes. Zandy found, for example, educational videos without captioning that were inaccessible to people with hearing loss, missing alternative (alt) text descriptions that kept students with vision loss from understanding images and low color contrast that made some text indiscernible to anyone with color blindness.

This inspired the Rhodes Scholar and former HLAA advocacy intern to create the NextGen Accessibility Initiative (NGAI) in 2021 to improve content access for students with disabilities. The mission of this youth-led organization based in Baltimore is educating youth and educators about the importance of digital accessibility and how to make spaces more accessible for all.

Partnering with educational and advocacy organizations led by Gen Z youth, Zandy has led workshops and consulted with founders and members to teach them how to make their digital educational content conform with international standards known as Web Content Accessibility Guidelines (WCAG).

One example is Engineering Tomorrow, which introduces underrepresented students to engineering careers. NGAI collaborated with curriculum teams composed of engineers, educators and undergraduate engineering students to create accessible hands-on hybrid labs and digital accessibility resources. Through such partnerships, NGAI has helped more than 200,000 students from all 50 states and 119 countries gain access to accessible digital content. **HL**



Alexandra Wong, who has severe hearing loss and wears a Cochlear Baha implant, interned for HLAA in 2021. She was named a 2023 U.S. Rhodes Scholar for her disability advocacy work and will begin her studies at Oxford University in the U.K. later this year with the goal of becoming an academic physician.



Are you a veteran living with hearing loss, tinnitus or other auditory issue?



HLAA stands ready to help our nation's veterans live successfully with hearing loss and related issues. Veterans can get free registration as a first-time attendee at an HLAA Convention and are encouraged to participate in the HLAA Veterans Across America Virtual Chapter.

The mission of the HLAA Veterans Across America Virtual Chapter is to provide education, be an advocate for veterans with hearing loss and to provide a support system to help them return to civilian life.

For more information, go to hearingloss.org/veterans or email chapters@hearingloss.org.





ICAAT's mission is to inspire more accessible, innovative and responsive products from the ground up that meet the needs of these consumers. It offers lots of opportunities for consumers and industry to share and engage with one another.

You Can Help Make Technology More Accessible for People with Hearing Loss

BY LISE HAMLIN

People with hearing loss often have a love/hate relationship with technology. When it works, it is wonderful! But when it doesn't, it makes the world that much more inaccessible.

Developers of technology may or may not know how to build accessible technology. But even those who do may not fully understand the everyday problems, large and small, faced by people with hearing loss: the seminar you'd love to attend but doesn't provide a listening system or captions; the remote control for the television that does not have a button for closed captioning; the telehealth appointment that doesn't have captions, with your doctor who has a heavy accent you can't understand.

Enter the Industry-Consumer Alliance for Accessible Technology (ICAAT). ICAAT is the first of its kind, bringing together people with hearing loss and tech developers. ICAAT helps in answering the question: How can we make the world more accessible for people with hearing loss?

ICAAT's mission is to inspire more accessible, innovative and responsive products from the ground up that meet the needs of these consumers. It offers lots of opportunities for consumers and industry to share and engage with one another, including:

Tech Forum

An online community for consumers and industry to share resources and information, post events and have discussions with other members in groups organized by topic.

User Stories

Short narratives contributed by consumers that document their everyday experiences and can be used by industry to inform, inspire and jump-start creative solutions to the problems that consumers face.

Co-Design Connect

A marketplace where consumers can find product research opportunities, and industry can recruit consumers to participate in product testing, product reviews, market research and design research. Consultations with hearing loss experts may also be requested by industry.

Co-Design Essentials

A collection of practical information for consumers and industry collaborations:

- Understanding product design, development and testing, effective product reviews, privacy and data usage considerations for consumers.

- Understanding identity, communication preferences, personal hearing technology use and best practices for communication access for industry.

ICAAT is a convenient place to exchange ideas, share information and resources and talk to other consumers. You can provide direct feedback to technology developers and find out about new technology.

Joining ICAAT is an easy way to help change the world by making it more accessible to people with hearing loss. But that won't happen without your involvement. Join today!

JOIN TODAY



An online community of consumers and industry inspiring more accessible, innovative and responsive technologies that meet the needs of people with hearing loss.



For more information and to sign up, visit allianceforaccess.org

Lise Hamlin retired in February 2024 as HLAA's director of public policy, after serving on our national staff for 16 years. Our new director of public policy is Neil Snyder. He can be reached at nsnyder@hearingloss.org.

ICAAT is funded by a grant from the National Institutes on Disability, Independent Living, and Rehabilitation Research—NIDILRR (grant #90REGE0013) under the Department of Health and Human Services.

By joining ICAAT, you have access to:

- A tech forum to share experiences, knowledge, and ideas
- Market research and product testing opportunities
- Stories about technology and hearing loss in the real world
- Practical information for consumers and industry working together



ICAAT is funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90REGE0013). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS).



Coming Soon! HLAA is busy designing a new website to better serve the increasing number of people turning to us for information and support. Stay tuned for our new site launch later in 2024!

Tech Tips

from the hearing loss community

We invited people with hearing loss in our HLAA community and beyond to share their favorite technology solutions, from devices to apps. Here's a roundup of the top tips they shared with us!

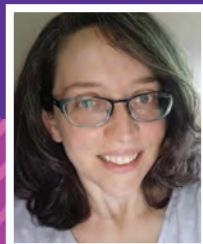
"My Apple iPad and iPhone are equally amazing. Their built-in Live Captions feature captions for phone and FaceTime calls as they are received or made. I'm now able to use my phone every day as I did before I completely lost my hearing. Find it under Accessibility settings."

— Alice Adams, retired founder of CI Hear, Rio Rancho, New Mexico



"My technology must-haves: Shake Awake alarm clock, vibration setting on watch and smartphone for text messages, strobe alert for cellphone calls, Live Listen app for on-the-go captions, Bluetooth streaming for audio/video content, movies and television subtitles, videoconferencing with auto captions and Otter.ai to transcribe work meetings. I also love pre-ordering food through vendor apps to avoid conversing with a server."

— Suzanne Yoder, audiologist with bilateral cochlear implants



"I am unable to decipher speech over the phone, so I use the CaptionCall app to caption my calls. In the past, when relay calls were transcribed by humans, there was a significant lag time with numerous errors. Captioning is now done automatically by AI—almost instantaneously and mostly accurate. In addition, the captioned conversations are recorded as well as voicemail. This has been life-changing for me."

— Judy Davis-Fagan, Poland, Ohio



Single-Sided Hearing Loss Tech Hacks



"The free Live Transcribe speech-to-text app captions conversations on the go and can alert you to specific sounds (Android and Apple). Xrai Glass captions live conversations via a smartphone app or integrated into augmented reality (AR) glasses. Bone conduction headphones sit slightly above the ears against your temple and send sound vibrations through the skull to the ear, which is super comfortable. My bone conduction headset allows me to respond to staff questions while I handle a business call at work. Earplugs and noise canceling headphones are excellent tools to protect hearing in a loud environment and reduce sound sensitivity (hyperacusis) or listening fatigue. Lastly, a vibrating and flashing baby monitor alerts me to my baby crying, day or night."

bit.ly/4ab1gYB

– Emily Truell, blogger and Baha wearer, single-sided deaf from an acoustic neuroma, Marquette County, Wisconsin

"From text messaging to apps such as InnoCaption that subtitle phone conversations to iPhone's built-in live captions, smartphones are a game changer for all of us with hearing loss. Apps like GalaPro help theatergoers enjoy the arts and people with

cochlear implants or digital hearing aids can control them from an app on their phone."

– Mary Grace Whalen, author and adjunct professor, Scarsdale, New York



"My go-to technology is the Roger Mic, which streams directly into my hearing devices (a cochlear implant and a hearing aid). I've used it in social situations, at the theater, watching TV, while working with children as a reading specialist and during medical appointments—especially helpful when health care providers wear a mask. Many people don't realize that there is a

special app called MyRogerMic that is dedicated to controlling the mic positions and can also mute surrounding environments to focus on the source you want."

– Ena Brown, Tempe, Arizona



HLAA is Reaching More People—Join Us!

HLAA's nationwide community of support is growing and it's easier than ever to be a part of it.

Membership is now simpler and includes all our valued supporters. Everyone who gives is an HLAA member, helping to amplify our voice and fulfill our important mission — together!

- Any type of gift now includes membership to HLAA
- You'll get the same access to information, webinars and publications
- All current memberships are good through December 2024
- Be among the first to experience our brand-new website, coming soon

Share this link with others who'd like to join the HLAA community of support: **hearingloss.org/membership**



Get the Facts About Over-the-Counter Hearing Aids from HLAA's Webinar Series

Survey and webinar series address confusion around new devices
recently made available directly to consumers

HLAA's OTC 101—Ask the Experts series features leaders in OTC products including regulators, doctors, researchers and manufacturers in four Q&A style webinars from fall 2023 through spring 2024.

Share New Resources

Even if you're not a candidate for OTC hearing aids, all of us in the HLAA community are hearing loss influencers. We can encourage friends and family to pay attention to their hearing health and learn what treatment options are available.

Get all the OTC resources at hearingloss.org/otc

View recordings of our OTC webinars, take our Hearing Health Survey and learn more at hearingloss.org/OTC or scan the QR Code here.



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Don't Miss HLAA's First Resort-Style Convention

We've traded the usual big-city experience for a beautiful southwest oasis at the Sheraton Grand at Wild Horse Pass in Phoenix. The HLAA Convention is the largest hearing accessible event of its kind, connecting hundreds of people with hearing loss, professionals and industry leaders from across the U.S., to learn, grow and be empowered—together!

- Learn about the latest hearing accessible technology to stay connected
- Experience the HLAA nationwide community of support firsthand
- Connect and be inspired by hundreds of others who are living well with hearing loss
- Explore the rich indigenous culture of the Gila River Indian community
- Relax at the luxurious spa or on two championship golf courses
- Enjoy authentic Native American cuisine at KAI, Arizona's only AAA Five Diamond and Forbes Five Star restaurant

Sheraton Grand at Wild Horse Pass



Convention Highlights Include:

Our 30th annual Research Symposium on Friday morning, June 28, will focus on *The Emotional Side of Hearing Loss*. Hear from a panel of mental health and psychology experts discussing the powerful emotions of hearing loss, how they impact our behaviors and how we can harness them to be happier and more successful.

General Session keynote speaker Shanna Adamic will discuss *The Power of Audacious Optimism* and her personal experiences dealing with hearing loss.

Parents of Children with Hearing Loss is a special track on Friday, June 28, including workshops to help parents empower their kids, be their best advocate and guide them to independent and full lives with hearing loss.

The Exhibit Hall has more than 15,000 square feet to explore, experience and learn about the latest hearing loss technology from industry experts. Admission is free to the public.

*Shanna Adamic,
Keynote Speaker*



Resort and Area Attractions:

- Watersports on the sprawling Gila River including paddleboards, kayaks, riverboats
- Four resort pools with waterfalls and a 111-foot waterslide
- Horseback riding at the Koli Equestrian Center
- On-site club activities for kids
- Nearby resort casino with shuttle access
- Complimentary parking for convention attendees
- Nearby Phoenix Zoo, outlet shopping
- Just 11 miles from Phoenix Sky Harbor International Airport (PHX)

Special rates are available for couples, students, first-time veterans and one-day attendees. Online registration is open through May 26 at hearingloss.org/convention.



Walk4Hearing is Growing—Join Us This Spring!



It's time to get excited about Walk4Hearing again! With a brand-new website and fund-raising platform, plus a new Walk in St. Paul, Minnesota, the HLAA Walk4Hearing is bringing awareness, empowerment and hope to even more people with hearing loss in 2024.

You can sign up with an existing team or start your own in one of 21 locations around the U.S. Take the first step and join the movement to support, inspire and empower our community of support in action!



Find a Walk and register today at walk4hearing.org or scan this QR code.



Abby's HEARoes Team

When Chicago mom Maureen Evans first learned that her daughter Abby had severe hearing loss, she didn't know where to turn. Then she found HLAA, the resources she needed to advocate for Abby's treatment and a community of support that welcomed them with open arms. Last October, the family brought four busloads of supporters to the Chicago Walk4Hearing for Team Abby's HEARoes. Read their story online at hearingloss.org/seeking-answers-finding-hope



2024 Walk4Hearing Schedule

SPRING WALKS

May 18	Milford, MI
May 19	Alameda, CA
	Mamaroneck, NY
June 2	St. Paul, MN NEW
June 8	Long Beach, CA
June 9	Milwaukee, WI
June 22	Nashville, TN
June 23	Hartford, CT

FALL WALKS

September 15	New York, NY
September 21	Buffalo, NY
September 22	Louisville, KY
September 29	Chicago, IL
October 6	Boston, MA
October 13	West Windsor, NJ
	Cary, NC
October 19	Houston, TX
October 20	Philadelphia, PA
October 26	San Diego, CA
November 3	Tampa, FL
To Be Determined	Mesa, AZ
	Washington, DC



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FEDERAL LAW PROHIBITS ANYONE BUT REGISTERED USERS WITH HEARING LOSS FROM USING INTERNET PROTOCOL (IP) CAPTIONED TELEPHONES WITH THE CAPTIONS TURNED ON. Advanced speech recognition software is used to process calls, and, in certain circumstances, a live communications assistant may be included on the call. There is a cost for each minute of captions generated, paid from a federally administered fund. No cost is passed on to the CapTel user for using the service. CapTel captioning service is intended exclusively for individuals with hearing loss. Requires: hearing loss, high-speed Internet, and, in some cases, dial-tone telephone service. CapTel® is a registered trademark of Ultratec, Inc.