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Audiology PRACTICES

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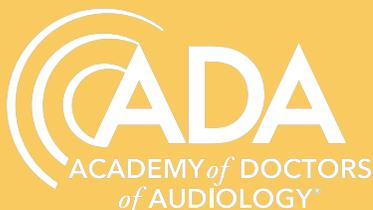
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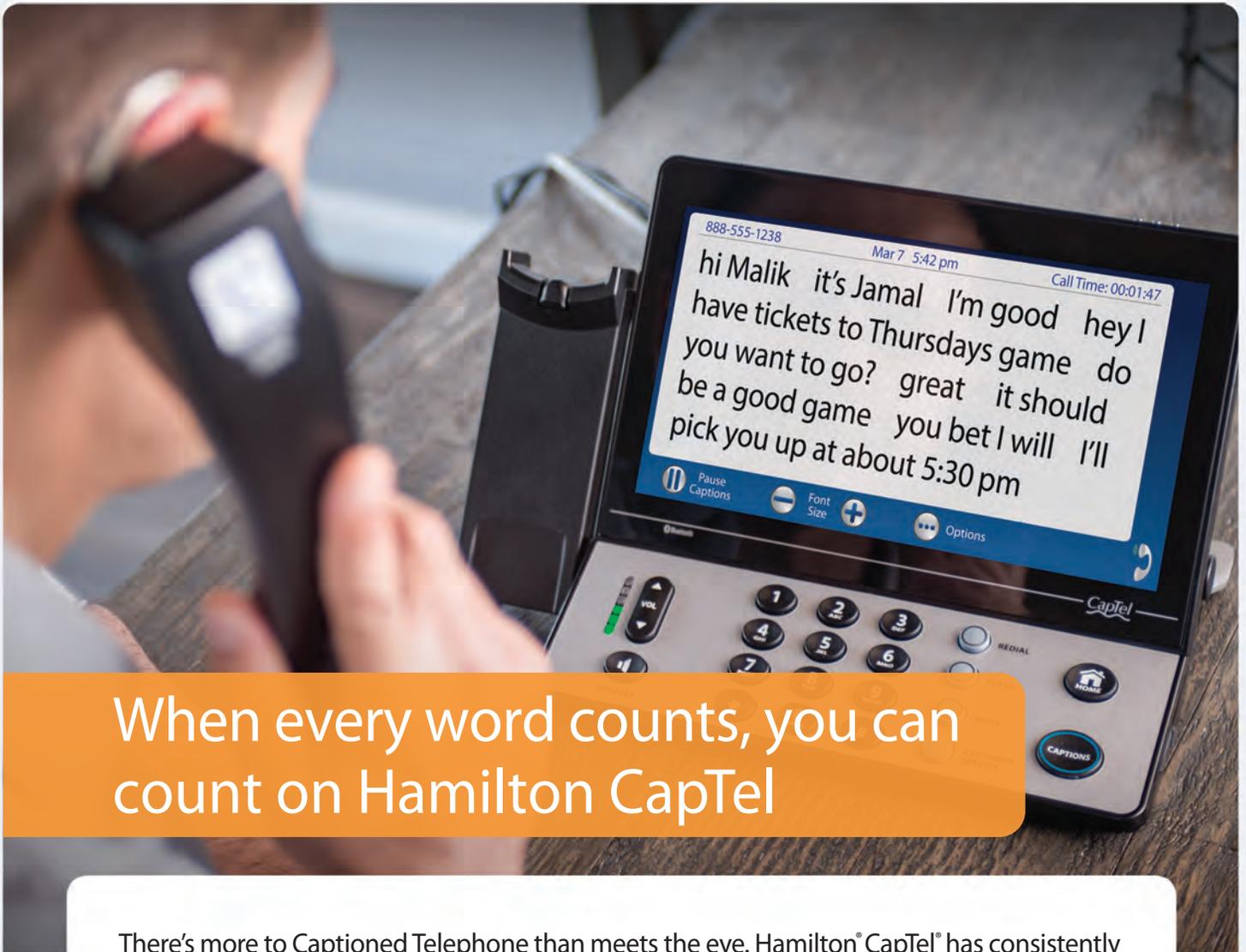
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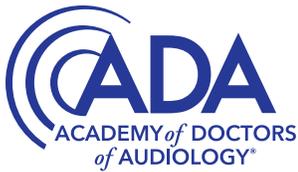
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The Academy of Doctors of Audiology is dedicated to leadership in advancing practitioner excellence, high ethical standards, professional autonomy, and sound business practices in the provision of quality audiological care.

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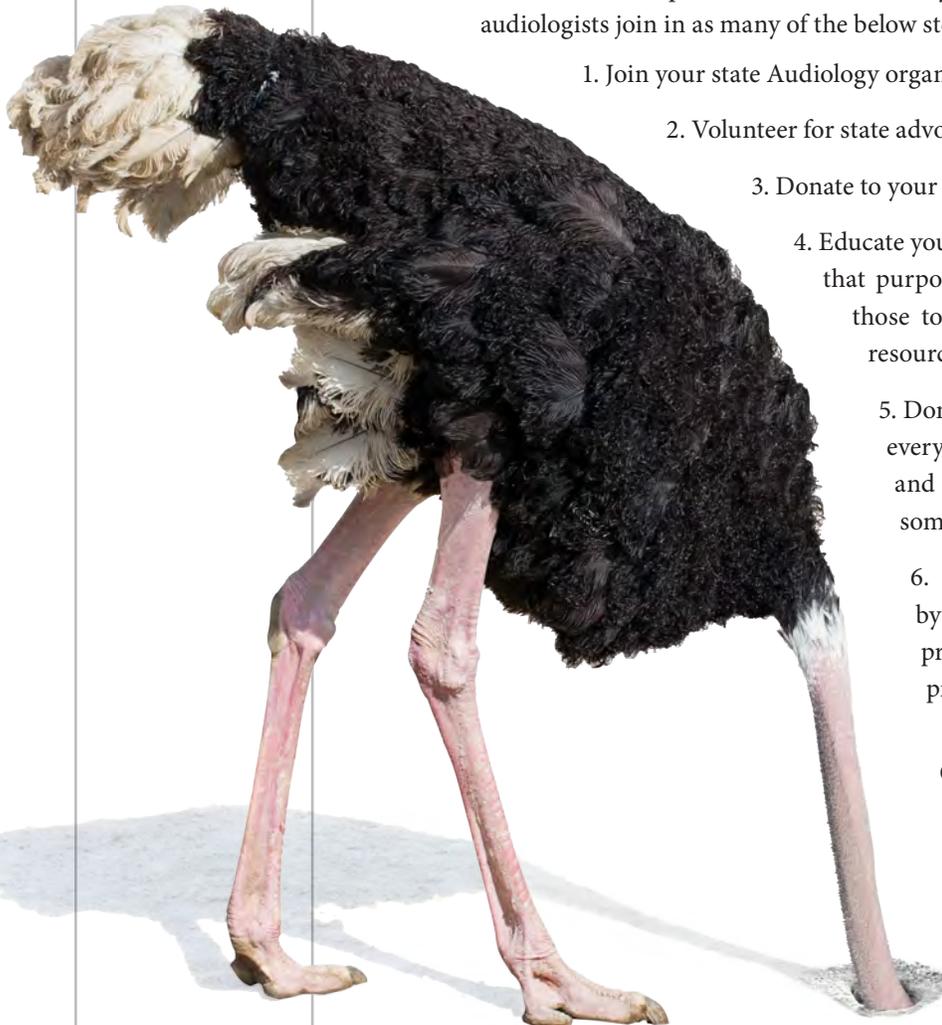
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Will you be an Ostrich ... or an Eagle?

Many audiologists I have spoken with recently, feel like the earth is shifting beneath them; significant change like we haven't seen in many years is upon us! Fear and anxiety are often associated with significant change. Uncertainty can paralyze. We can stick our heads in the sand and stick with the status quo, or we can try to engage and advocate with our peers for the freedom a true clinical doctoring profession deserves.

I believe that each of us has the ability to choose to donate time and money, as no amount of either is too small to secure better access to hearing healthcare for the public, and to unequivocally establish audiologists as the primary contact for hearing and balance healthcare. The FDA final rule on OTC should be our last wake up call. It is time for every audiologist to act! I humbly request that all audiologists join in as many of the below steps as possible:



1. Join your state Audiology organization.
2. Volunteer for state advocacy efforts.
3. Donate to your state association.
4. Educate yourselves on audiology issues and organizations that purport to represent audiologists – Choose wisely those to which you donate your time and financial resources.
5. Donate to the Eric N. Hagberg Advocacy Fund — every dollar makes a difference, and every member and every audiologist NEEDS to participate at some level.
6. Take advantage of your ADA membership by attending AuDacity this year to future-proof your practice and join in preparing our profession for the changes ahead.

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“Yes, we carry OTC, and we do it better than anyone.”

The title of this editorial should be the mantra of every clinical audiologist in America. After all, there are several important reasons to champion the arrival of over-the-counter hearing aids. One, they provide an option for the 90%-plus of patients with mild hearing loss who do not currently own hearing aids – many who are unlikely to make an appointment to see an audiologist but nevertheless struggle communicating in challenging social and workplace situations. Two, research from the past decade clearly indicates that even mild untreated hearing loss is associated with several other serious medical conditions, and as mild hearing loss gradually declines, it tends to make people more disconnected from others as well as less socially active and less mentally sharp. Three, the ability to purchase hearing aids over the counter has the potential to mitigate these effects because, as early data show, it lowers the age of first-time amplification use by about 15 years.¹ Simply stated, more people wearing *regulated* hearing aids, regardless of how they purchased them, is good for society and good for the profession.

Answering Three Patient Questions

Even though we can agree OTC hearing aids are likely to have broad appeal for those individuals who wouldn't find their way to your clinic, let's not fool ourselves into thinking that the status quo won't change. It will and we need to have a plan. Persons who buy OTC hearing aids, or who, by chance, visit the clinic asking about them, will benefit from the expertise of an audiologist in at least three ways, and are likely to ask audiologists three questions.

1. **“What's best for me?”** In this scenario, during an in-person, routine assessment, a patient asks about the availability of OTC. When this occurs, the job of the audiologist is to educate the patient about the advantages and limitations of an unbundled, pay-as-you-go model compared to comprehensive service packages bundled with the sale of a pair of prescriptive devices. Chances are good, when effectively educated on the differences, patients who ask this question will select a bundled service package, even though those packages cost more up front compared to the pay-as-you-go OTC devices.
2. **“Is this right for me?”** In this second scenario, the patient has already purchased OTC devices, perhaps as a gift from family, and after extensive trial and error, they can't get the devices to function properly. Now they are in your office, possibly frustrated, annoyed, and even agitated, willing to spend a little extra money to get their nominal investment to operate correctly. The job of the audiologist is to identify the root of their problem, conduct some quality control measures (2 cc coupler and real-ear measures) and provide a personalized plan for successful use.

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BECOME A MEMBER!

Welcome to the Academy of Doctors of Audiology (ADA), the only national membership association focused on ownership of the audiology profession through autonomous practice and practitioner excellence as its primary purposes. ADA is the premier network and resource for audiologists interested in private practice.

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Advocacy briefings at the Academy of Doctors of Audiology (ADA) Member Business Meeting and the State Advocacy Workshop will provide valuable information resources that audiologists can apply right away to advance and protect the profession of audiology and patient care.

ADA is Community

ADA is much more than a professional society; it is your professional home! When we convene together at AuDacity, our community of autonomous audiologists is strengthened through fellowship, networking, and mentoring. We leave refreshed, empowered, and prepared. AuDacity is infused with networking opportunities that will make the most of your time away from your practice!

During Sunday's State Advocacy Workshop, we will present model state statute updates.

Thank you to the 2022 ADA AuDacity Education Committee

AuDacity couldn't happen without the dedicated efforts of volunteers. We are so grateful for their efforts!

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Get ready for a fantastic, fun-filled program—see you in Dallas! ■

CONSUMER AND PROVIDER FACTORS

that Influence Readiness to Hearing Care Treatment



By Aryn M. Amlani, PhD

Author's Note: Positions of this paper were adapted from Amlani (in press).

Introduction

The consequences of untreated hearing loss in older consumers include a poorer quality of life (QoL) and loss of autonomy (Gopinath et al, 2012; Davis et al, 2016), and is associated with negative health conditions such as social isolation, depression, and reduced cognitive function (Livingston et al, 2017). For adults with hearing loss, hearing aids are the most common audiological rehabilitation intervention, improving the individual's psychological, social, and emotional well-being (Laplante-Lévesque et al, 2010). Despite the benefits of hearing aids, uptake is often delayed, averaging between 7 and 10 years after the time that hearing difficulties were first revealed (Simpson et al, 2018). A by-product of this delay in seeking treatment is an increase in the average age of first-time hearing aid users to upwards of 70 years (Henshaw et al, 2012). Furthermore, consumers who receive treatment struggle with consistent daily use and long-term adherence (McCormack & Fortnum, 2013).

The ability to predict consumer readiness and acceptance towards treatment outcomes in hearing care has been evasive. Historically, health behavior models (e.g., Transtheoretical Model, Health Belief Model) have been used to quantify the psychosocial aspects of behaviors and attitudes related to hearing aid uptake and adherence. Recent research shows that these models lack sensitivity in quantifying intrinsic (e.g., attitudes, beliefs, intentions) and extrinsic (e.g., social, economic, environmental) factors that can affect perceptions towards hearing health (for a review, see Amlani, 2016, and Couslon et al, 2016). This paper provides the reader with an overview of various individual factors that have the potential to influence treatment readiness and acceptance from both the consumer and provider perspective.

Consumer Readiness

For consumers, readiness, or motivational engagement, is the concept of accepting a treatment intervention option with enthusiasm, optimism, and motivation (Erdman, 2000). Factors that influence the consumer's perspective of readiness include:

- Self-perceived hearing loss
- Stigma
- Personality
- Health Literacy

Self-Perceived Hearing Loss

Self-perceived hearing loss is a factor that influences readiness towards treatment. In a retrospective study of >5000 responses reviewed from the US National Health and Nutrition Examination Survey (NHANES), roughly 1 in 4 respondents was found to have measurable hearing loss (Angara et al, 2021). Of this subgroup of respondents, only 1 in 6 (i) correctly identified their hearing status, and (ii) adopted hearing aids. In addition, results from MarkeTrak 10 indicate that self-perceived hearing loss increases as a function of severity of loss (Carr, 2020). Specifically, only 14% of individuals with self-reported mild hearing loss adopted traditional hearing aids, with adoption rates increasing to 37% and 58% for moderate and severe hearing losses, respectively.

Clinically, audiometric threshold results are neither predictive of consumer self-perceived hearing handicap nor their readiness in obtaining amplification. Palmer and colleagues (2009) found that asking consumers the question, "How would you rate your overall hearing ability?" was a better predictor of assessing readiness towards amplification than hearing status. As seen in **Figure 1**, ratings between 1 and 5 have a high probability (i.e., > 70%) of predicting readiness towards hearing aid adoption, while scores of between 7 and 10 resulted in a slim probability (i.e., ≤ 20%) of patient readiness towards hearing care services. Note that a rating of 6 has a near-chance probability (i.e., 58%) that the consumer is receiving help in overcoming their hearing difficulties.



Figure 1

Patient Rating of Hearing Ability (#1 = Worst, #10 = Best)	Predicted Probability of Hearing Aid Purchase
1	98%
2	96%
3	92%
4	83%
5	73%
6	58%
7	7%
8	20%
9	10%
10	6%

Source: From Palmer et. al., 2009.

Figure 1. Self-rating of hearing ability as a function of probability of patient readiness towards hearing aid purchase.



Stigma

Stigma is the devaluation or discrimination towards an individual based on a distinguishing characteristic (Heatherton et al, 2000). In hearing care, stigma and agism are associated with wearing a hearing aid, and not necessarily the hearing loss itself. This perception, called *the hearing aid effect*, was first coined by Blood and colleagues (1978). With the increased use of consumer electronic products, such as Bluetooth receivers, earbuds, and earphones, one would presume a decline in the hearing aid effect. Rauterkus and Palmer (2013) evaluated the influence of various types of devices worn by young men and found no significant stigma associated with hearing aid use as perceived by non-hearing-aid-wearing young adults. However, there is little evidence, to date, on the diminished perception of the hearing aid effect towards consumer electronic products by neither those with self-perceived hearing loss seeking amplification strategies nor current users of hearing aid technology.

Personality

Personality is the characteristic pattern of thoughts, feelings, and behaviors that are unique to everyone. Hearing loss— independent of severity—is known to influence psychological and social issues, with emotional and societal consequences (Cox et al, 2005). Gatehouse (1990), for example, found that factors such as personality and intelligence did not predict performance with hearing aids, but did predict self-perceived hearing difficulties.

A study conducted in Sweden evaluated several variables in a sample of 400 individuals aged 80-98 years over a six-year period. Of the variables tested—which included physical, mental, social, cognitive, and personality measures— individuals with hearing loss were found to have reduced extraversion (i.e., outgoing, optimistic personality) leading to increased social isolation (Berg & Johansson, 2013). These authors found that the lack of social interaction led to a change in personality through increased depression (i.e., neuroticism personality), with little or no changes in emotional stability.

Cox and colleagues (2005) evaluated the personalities of individuals pursuing hearing aids to determine whether pursuers' personalities varied from the general population. Self-reported data were obtained from 230 older adults using a cross-sectional survey. Findings revealed:

- Individuals with neuroticism (i.e., having dispositions of anger, emotional instability, depression) were unlikely to seek hearing aids, a behavior consistent with a perception of devaluation (i.e., stigma).
- Individuals who were willing to learn new things tended not to seek hearing aids (i.e., openness personality type). Instead, these individuals were more inclined to rely on environmental variables to overcome their hearing difficulties.
- Individuals who are skeptical and suspicious (i.e., showing lack of agreeableness) were more inclined not to seek help in overcoming their hearing difficulties. For this personality, it is important that providers apply best practices that demonstrate value proposition in improving hearing health outcomes.



Individuals who were willing to learn new things tended not to seek hearing aids.

Health Literacy

Health literacy is defined as the degree to which an individual has the capacity to obtain, communicate, process, and understand health information and services to make appropriate health decisions (Somers & Mahadevan). There are examples of health literacy in hearing care. Wells and colleagues (2020) explored the characteristics associated with health literacy (i.e., limited versus adequate), medical costs, and medical gaps in a sample of 19,223 adults aged ≥ 65 years who completed a health survey. Health literacy, hearing loss, and hearing aid use were assessed through self-reports. Results revealed that limited health literacy was associated with older age, male gender, lower income, poorer health conditions, and those with hearing loss who did not use hearing aids. Similarly, Tran et al (2020) assessed the association between health literacy and (i) degree of hearing loss, and (ii) hearing aid adoption in a sample of 1,376 consumers against demographic factors (e.g., age, gender, employment status, race, language) and insurance coverage. Findings revealed that consumers with low health literacy had an increased likelihood of presenting with higher degrees of hearing loss. Interestingly, those with lower health literacy were no less likely to obtain hearing aids compared to consumers with adequate health literacy.

Recent research has also assessed the consumer's ability to manage a self-fit hearing aid through written instructions. Convery and colleagues (2017) asked participants and their partners—recruited from culturally diverse and linguistic backgrounds—to assemble a pair of self-fit hearing aids using culturally and literacy appropriate written instructions and illustrations. Results revealed that study participants could manage the self-fitting hearing-aid assembly successfully. In another study, Convery et al (2017) evaluated the ability of a group of adult participants—without and with hearing aid experience—to setup a pair of self-fitting hearings for their own use. Participants were provided the product's accompanying written and illustrated instructions to complete the task, with optional assistance from a lay partner. Results revealed that just over 50% of participants—*independent of their experience with hearing aids*—were able to perform the self-fitting procedure successfully. These authors conclude that participants' performance, in part, could have been influenced by the instruction set and physical design of the self-fit hearing aid, both of which would benefit from refinement.

Provider Readiness

Provider readiness is the extent to which supply-side stakeholders provide services and products that meet consumers' needs. Factors that influence provider readiness include:

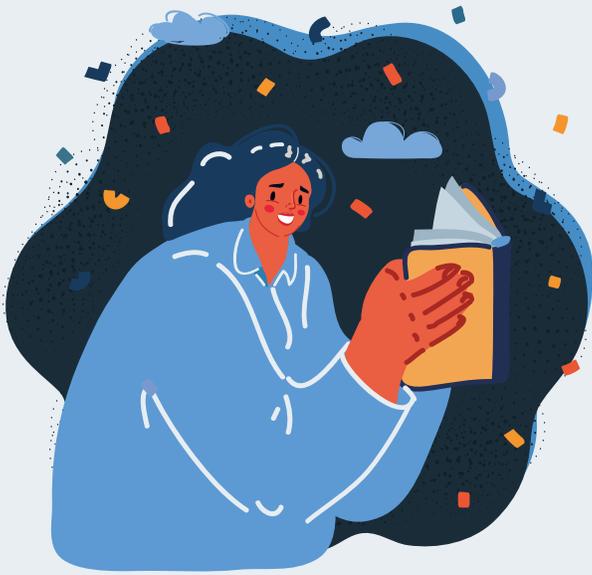
- Clinical Bias
- Patient-Centered Care

Clinical Bias

Glaser and Traynor (2017) report that provider readiness is often biased and partial to the characteristics of hearing loss, audiometric test results, and an assumption of how hearing loss is impacting the consumer. As a result, providers fail to meet consumer expectations. This finding was recently confirmed by Amlani (2020), who found that service delivery expectations for an in-person hearing evaluation and possible rehabilitative treatment intervention were unmet post-appointment on several dimensions (e.g., trust, empathy, shared decision-making, communication) for consumers with untreated, self-perceived hearing loss.

Consumers with low health literacy had an increased likelihood of presenting with higher degrees of hearing loss.





Another supply-side consideration that influences consumer readiness is the stereotype that Baby Boomers' hearing sensitivity is more severe than individuals from the Silent generation because of recreational noise exposure. Research, in fact, indicates the reverse, where Baby Boomers hearing difficulties are less severe than anticipated because of improvements in occupational standards and nutrition compared to individuals from the Silent generation (Kochkin, 2012; Pacala & Yueh, 2012). In addition, patient readiness is hindered, in part, by clinical nomenclature such as *mild* and *hearing loss*, which negatively impacts consumer behavior towards hearing healthcare services (Alcock, 2014). Clearly, provider knowledge toward various service delivery offerings and their interactions with consumers markedly influence delivery and acceptance of hearing care services and products.

Patient-Centered Care

Patient-centered care (PCC) is defined as the provision of care that is respectful of, and responsive to, an individual's preference, needs, and values, and ensures that consumer values guide clinical decisions (Institute of Medicine, 2001). The literature indicates that most hearing care providers have not fully embraced PCC in their daily clinical interactions, as evidenced by (1) an absence of relationship-building with their patients (Grenness et al, 2015) (2) a lack of empathy when patients present psychosocial concerns expressed with a negative emotional stance (Grenness et al, 2015; Ekberg et al, 2014), (3) failing to include family member input as part of the treatment and management process of patient healthcare (Ekberg et al, 2015), (4) failing to acknowledge consumer's emotional responses during the decision-making process with respect to hearing aid cost options (Ekberg et al, 2017), and (5) not promoting an equal opportunity for consumers to participate actively in their own treatment and management of their hearing impairment (Grenness et al, 2015).

Conclusion

Readiness is and will continue to be a key factor to improving hearing care service delivery, especially in the face of the consumer self-care segment. Providers must move beyond the use of audiometric threshold results when predicting hearing handicap and consumer readiness, as traditional clinical measures fail to highlight factors that adversely affect a consumer's decision towards treatment intervention. As consumer readiness increases, so will hearing care service and product consumption.

In addition, demand towards hearing care treatment is correlated with stigma and personality. Specifically, there is a clear need by providers to understand the thoughts, feelings, and behaviors of consumers as they evaluate whether to pursue hearing care interventions. While the author is unaware of a single clinical inventory to assess consumer personality in impaired listeners, research is underway in the area of ambivalence—defined as a psychological conflict between opposing alternatives—and personal style. The objective of this research is to sensitize the provider to the consumer's behavior and provide appropriate counselling strategies that have the potential to lessen barriers to treatment (Citron et al, 2022).

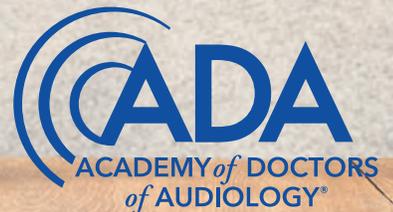
Lastly, health literacy—another aspect of readiness—will play an important role in whether demand increases, especially for alternative service models. Providers must be diligent in the creation of instructions and illustrations for self-directed services and self-fit products by ensuring that information is educationally and culturally appropriate for the intended user. For services provided either in person or virtually, providers should refrain from using professional and technical jargon, instead delivering evidence-based information, in lay terms, that promotes how a treatment has the potential to improve QoL. ■

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Contact Your Legislators!

Urge them to support the **Medicare Audiologist Access and Services Act** (H.R. 1587 and S. 1731)



The Medicare Audiologist Access and Services Act of 2021 (H.R. 1587 and S. 1731) will remove unnecessary barriers, allowing patients to receive appropriate, timely, and cost-effective audiologic care. This legislation can improve outcomes for beneficiaries by allowing direct access to audiologic services and streamlining Medicare coverage policies so that audiologists can provide the full range of Medicare-covered diagnostic and treatment services that

correspond to their scope of practice. The legislation would also reclassify audiologists as practitioners, which is consistent with the way Medicare recognizes other non-physician providers, such as clinical psychologists, clinical social workers, and advanced practice registered nurses.

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HEALTHY CONNECTIONS:

An Educational Grassroots Marketing Odyssey

Bruce Essman

It goes without saying that audiologists are subject matter experts on all things hearing loss and hearing aid related. It is difficult, however, to put that expertise into action by systematically educating patients and the broader community of the value of health and wellness. This tutorial, as told through the odyssey of one practice, demonstrates how the core belief that educationally empowering patients with trusted advice is an ethical way to achieve business outcomes.

A Career Changing Epiphany

When growing up in a rural area, Janet Williams struggled to talk with her grandfather. Far too often, due to his severe hearing loss, conversational attempts were extremely frustrating. While suffering from vision loss and diabetes, he did enjoy tidbits of family dialogue that could be understood. Over the years, to her dismay, heartfelt talks and meaningful engagement became scarce. While his declining communication ability and quality of life difficulties were sad to see, it ultimately inspired her to select audiology as a career. She decided that being of service to those with chronic hearing challenges would be her professional mission.

Throughout her academic training, technical skills were paramount and with intellectual curiosity, she learned rapidly. During this rigorous process, she often thought about her hometown's family physician who had strongly encouraged her grandfather to see a "hearing doctor" in the big city one hundred miles away, and how that compassionate audiologist brought precious sounds to life in his golden years. In retrospect, it was those clinicians' combined expertise that empowered Grandpa Dave to actively participate in family celebrations that now were just fond memories.

Following formal training, Janet joined a busy ENT practice in the nearby big city. Although the reputable hearing doctor had retired, aggressive retail outlets now marketed what each claimed were the best hearing aids for the lowest prices. Finding the plethora of cost-focused ads confusing, she could not imagine how wary consumers could parse through contradictory claims. While being in a medical practice felt somewhat insulated from bewildering advertisements, in contrast, she observed the valuable continuity of her MD colleagues' referral relationships with local primary care physicians. While *Whole-person care* concepts were often mentioned, seeing them in practice presented valuable lessons.

While clinical duties were rewarding, she was enamored with community outreach. Given their practice's steady patient flow, while difficult to take on this pivotal role, she was motivated to bridge the interdisciplinary gap with current and prospective collaborators. With many primary care doctors as referral sources, she was surprised to ascertain, after so many years, few specialists knew about their ENT service lines, especially audiology. Encountering this awareness deficit, she was determined to more effectively spread the word about why and how *Better Hearing is Better Healthcare*.

In preparation to optimize external initiatives, she assessed baseline efficacy of the internal referral process between her ENT and Audiology colleagues. This was frequently a contentious point, as many patients requiring comprehensive evaluations were, despite challenges, hearing and understanding surgical instructions, either not recognized as needing help or sent to a Big-box store. While this delicate issue was raised during quarterly practice meetings, it never achieved priority status and systemic change was minimal. From Janet's perspective, in contrast to their practice's oft-expressed guiding principles, this underutilization of their collective expertise negatively impacted standards of care. By analogy, despite the *diagnosis* of these concerns being consistently validated, there was no dedicated team effort to successfully *treat* internal referral protocols. In contemplating opportunities to lead by positive example, she pondered what action steps actualize prosperity.

Facing internal barriers, she renewed external efforts to represent their practice. Lacking formal training in community outreach, intuition was her constant guide, including intent focus on raising awareness about how hearing loss related to not only aging, but various medical conditions such as dementia, the risk of falls, ototoxicity, diabetes, depression, and tinnitus. To her surprise, few healthcare collaborators knew about these comorbidities, as amid time-pressed schedules, discussion of them was outside their usual scope of practice. Despite real world concerns, she felt a sense of urgency to spread the word.

When seeking counsel from highly regarded audiologists nationally, a consistent theme was to intently study peer-reviewed literature on health literacy concepts, constructive challenges, and educational imperatives. In diligent research, this definition from the World Health Organization came to light:

"Health literacy implies the achievement of a level of knowledge, personal skills, and confidence to take action to improve personal and community health by changing personal lifestyles and living conditions. Thus, health literacy means more than being able to read pamphlets and make appointments. By improving people's access to health information, and their capacity to use it effectively, health literacy is critical to empowerment."

Further, *"Meeting the health literacy needs of the most disadvantaged and marginalized societies will particularly accelerate progress in reducing inequities in health and beyond. Efforts to raise health literacy will be crucial in whether the social, economic, and environmental ambitions of the 2030 Agenda for Sustainable Development are fully realized."*²¹

Striking her as a career-changing epiphany, she felt highly motivated to accomplish patient-centric goals and less alone in her viewpoint.

...being of service to those with chronic hearing challenges would be her professional mission.



Bumps in the Road

For the next year, Janet adeptly managed growth in her patient census and community outreach initiatives, applying educational acumen with both vital endeavors. As she tried sharing reputable information which emboldened patients to make better, more informed decisions, the inherent hurdles of achieving comorbidity awareness goals became clear. While, as a consumer, she saw retail stores cross-merchandise items with natural adjacencies, like computers and accessories or wine and cheese, busy healthcare providers did not methodically integrate cross-educational goals into clinical protocols. If you cannot improve what is not measured, what metrics would motivate and reward subject matter experts striving to demonstrate whole person care leadership?

As with many attempted innovations, momentum resembled an emotional roller coaster. Her lows were dominated by resistance within her own practice, along with many primary care clinics she visited. Internally, her colleagues, fully occupied by diagnostic testing loads, resented community outreach focus, thinking scarce time was being wasted. Although demonstrating little interest in developing relationships with potential referral sources, they collectively voiced skepticism about the worth of her initiatives. Notably, as external referrals increased, her fellow audiologists appeared surprised as to their origins. While disappointing on multiple levels, Janet learned invention required tenacity.

Many physicians expected a sales pitch, not medical discussions about hearing-related quality of life goals.

In community, while genuinely advocating for patient-centrism, rude awakenings were constant. Being well-prepared for each primary care office visit was her fervent discipline. Even with the power of a positive attitude, those she encountered expected a sales pitch, not medical discussions about hearing-related quality of life goals. After numerous uncomfortable interactions, she contemplated how to, within a few moments, distinguish her interdisciplinary education role from that of pharmaceutical reps “talking product”. With health literacy goals near and dear, she was eager to *tell* them something, not *sell* them something.

Her highs were meeting like-minded professionals with an affinity for comorbidity education, who avidly sought peer-reviewed research relevant to patients entrusted in their care. One success story was of a devoted physician’s assistant, who enthusiastically engaged. Playing a key role in a bustling primary care practice where comorbidity diagnoses were prevalent, she recognized hearing loss related to many of them. Further, in the course of observing clinical dialogue, she was acutely aware of patients unable to comprehend verbal instructions. Prompted by her collaborative spirit, Janet shared a fascinating article on “The impact of health literacy on patient understanding of counseling and education materials.”

In part it read, “All world health organizations would likely agree that access to information starts with being able to hear it, ask questions and understand the responses. In this regard, hearing-impaired patients are at a disadvantage. Clear communication is critical to hearing-impaired patients’ overall healthcare, making it even more important that hearing-impaired patients can easily access direct counseling and supplemental information. Clear communication via functioning amplification and utilization of good listening strategies can provide better access to information from all healthcare professionals. Without clear communication, it is likely that hearing-impaired patients will not become successful users of the healthcare system. It is eminent that audiologists communicate with their patients about their hearing healthcare because not only does it increase the likelihood, they will both be more satisfied with their hearing healthcare and more satisfied with their overall healthcare. In this regard, audiologists are a critical link to World Health Organization’s (WHO) goal of improving health literacy for patients.”²



As patient-centered discussions with the physician's assistant flourished, they spoke about specific cases such as an elderly gentleman, who reminded Janet of her grandfather. Sadly, like Grandpa Dave, he struggled to see well, with advanced glaucoma having taken its toll. In addition, heart disease limited stamina and balance issues were apparent. Amid a recent visit, the physician's assistant observed his frustration with inability to converse effectively. With that behavioral prompt, she referred to Janet, who, based on thorough evaluation, fit, and trained him on advanced hearing aids, along with suggesting using a pocket talker at his doctor's appointments. Joys of hearing were rediscovered, and he was all smiles at a family wedding celebration. During those emotional moments, his pleasure spoke volumes and at a subsequent follow-up appointment, memorable pictures were happily shared.

A Welcome Spirit Arrives

As time went by, Janet diligently honed her skills at the ENT practice, although the lack of bona fide support for her educationally focused outreach initiatives persisted. Being intensely loyal, she grappled with clear disconnects between her aspirations and those of colleagues, at later career stages, who were contentedly set in their ways. Daily cues indicated that, from a career perspective, this position was not ideally fit, and as with her patients' decisions about quality-of-life issues, she recognized crucial choices were inevitable. Enduring constant deterrents, she was unsure where pathways forward might lead.

Fortuitously, she received a call from her hometown family physician whom she had not spoken with for many years. Dr. Carter was an admired medical leader in their local community, now a rapidly growing retirement destination. Case in point, the regional hospital's expansion persuaded more primary care providers and specialists to establish practices, gratifying residents seeking expert care nearby. As the census increased, particularly among seniors, so did demand for interdisciplinary healthcare services.

Dr. Carter explained how a strategic alliance was formed between the hospital, local healthcare leaders and numerous senior living communities to promote her beloved hometown as an appealing choice for medical professionals seeking big city alternatives. At a recent meeting, assessments of current and prospective supply/demand status for various medical specialists were reported. The intention was to identify service gaps and make connections with trusted providers who might be interested in relocating. Remarkably they realized that, in order to take care of their expanding elder population there were geriatricians, ophthalmologists, neurologists, physical therapists and psychologists, but no audiologists, either at the hospital or in private practice. As discussions evolved about potential action steps, multiple participants advocated on Janet's behalf, knowing of, in addition to hometown roots, her extensive training, stellar reputation and passion for interdisciplinary collaboration. Dr. Carter asked Janet if she had considered moving back home and starting her own practice, to which the answer was no. They agreed to speak again soon, as understandably, there were many implications, personally and professionally.

In the following weeks, Janet's due diligence accelerated. Her parents were active seniors in their 70's, and while fully supportive of whatever decision was made, were elated about her potential relocation. They were proud of her early career achievements and confident her compassionate style would delight many of their good neighbors. In poignant conversations, they talked about how Grandpa Dave inspired her exploring rewarding pathways in a clinical field now so near and dear.

At the ENT practice, status quo prevailed. Curiously, during community outreach visits, she began wondering how qualitatively better things might be if representing her own practice, in a place truly called home. Weighing the alternatives, Janet got back to basics in rediscovering *The Why* in her passion for audiology-focused community outreach. With a steady flow of reputable

evidence about how hearing loss relates to many medical conditions, it was continually alarming to realize how few were aware. While diagnosing and treating patients daily, and motivating their healthy choices, Janet felt refreshed ambition to play an influential role in elevating the profession. With educational needs chronic, these responsibilities were imperative. Who would actively inform more healthcare providers, patients, and families to be “in the know” ...?

To put a finer point on it, perhaps triggered by the COVID19 epidemic, the term *comorbidity*, seemed better understood in both clinical and layperson dialogue. From a health literacy vantage point, this familiarity trend was now more of a tailwind than headwind. While public health policy had effectively conveyed the link between smoking and lung cancer, for example, what percentage of residents at senior living communities understood how hearing loss related to dementia, vision loss or the risk of falls? In her opinion, far too few, negatively impacting their quality of life, while substantially increasing systemic medical costs. As she counseled her patients on the benefits of healthy hearing, Janet concluded her career trajectory could reach new heights if, driven by the highest integrity standards, progressive visions could be actualized. With vigor, a follow-up call was scheduled with Dr. Carter, reviving a level of enthusiasm which, evidently, had been on extended leave. She sensed lifechanging decisions loomed large.

With great anticipation, their pivotal call took place. As expected, they talked in depth about career crossroads, specific opportunities, and prospective action steps. Dr. Carter was generous with advice and welcoming in spirit, constructively challenging Janet about her commitment to major changes. In that moment, she began realizing what a beneficial catalyst it would be to go from intense frustration with current circumstances to a new scenario characterized by a greater internal locus of control. Her destiny was her choice and when she said “Yes,” their mutual thrill was profound.

Creating the Plan

In a decisive manner, Janet gathered thoughts and documented plans. She immediately advised the ENT practice of her move, ensuring adequate time for necessary transitions. Trusted colleagues recommended that, particularly as they impacted patient care, sensitive changes be proactively and professionally coordinated. On a parallel track, with valuable support from Dr. Carter and the medical alliance’s support team, her new practice, Hometown Audiology, would open

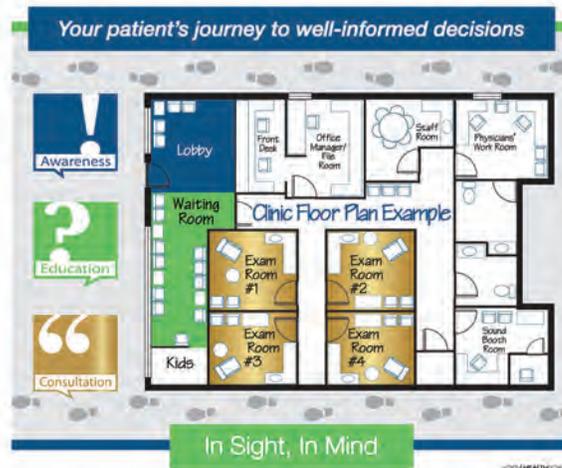
mid-November, just in time for the holiday season’s *Gifts of Hearing*. Beyond financial and administrative mechanics of clinic establishment, she avidly pursued networking opportunities with other medical providers associated with hospital systems. To facilitate this introductory phase, she was invited to join the monthly Doctors’ meeting over which Dr. Carter presided. With dozens in attendance, their warm welcome was an exhilarating experience that highlighted collaborative potential and allayed near term fears. She was not alone, which was incredibly gratifying.

In talking to leading audiologists who had opened new practices elsewhere, she inquired about their grassroots educational marketing strategies and tactics. Broadly speaking, they advised logically mapping out patients’ journeys to well-informed decisions and a targeted trio focused on:

- In Practice
- In Community
- Online



Regarding *In Practice* factors, she was encouraged to first investigate outside of healthcare, at an Apple store and regional shopping mall, to immerse her mindset in the look and feel of their consumer merchandising. Aesthetics, visual clarity and streamlined flow were hallmarks. After all, a lot of high-priced talent and expertise was on display to study. Next, she got inside views of various practices within their local medical system. Contrasts were dramatic as some clinics appeared impressive, informative, and engaging, while others were less than stellar. Throughout this brainstorming process, she also received pictures and videos from industry colleagues who shared attractive layouts and this conceptual reference:



The patient journey

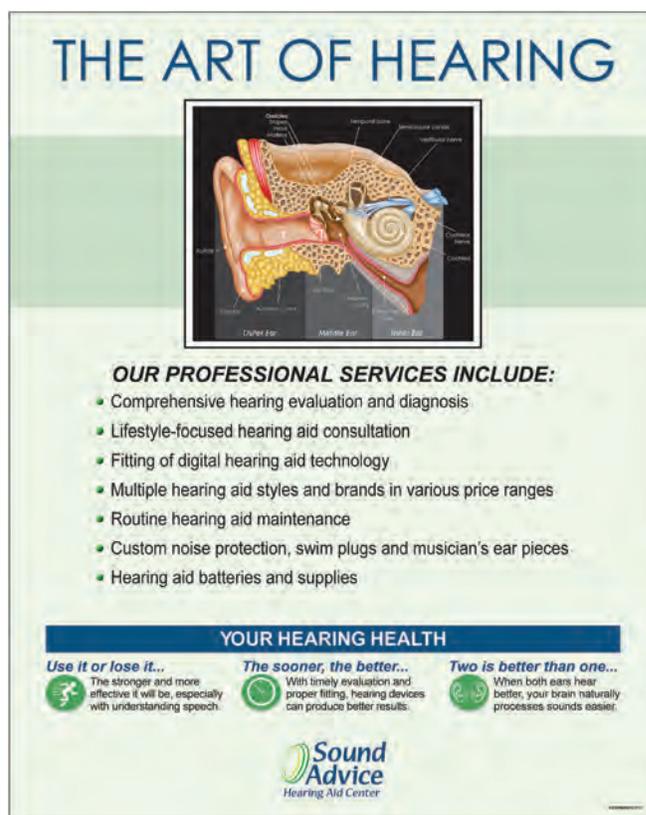
With valuable inputs, a detailed floorplan and new branding, Janet's display plans began taking shape. With comorbidity awareness as a primary goal, she discovered a strategic concept known as *Educate Well Monthly*. With this framework, topics were aligned with national health observances such as, in addition to May being Better Hearing & Speech Month, this calendar:

EDUCATE WELL MONTHLY		
JANUARY Vision Loss	FEBRUARY Heart Disease	MARCH Kidney Disease
APRIL Ototoxicity	MAY Better Hearing & Speech	JUNE Dementia
JULY Noise-Induced Hearing Loss	AUGUST Cognitive Decline	SEPTEMBER Risk of Falls
OCTOBER Depression	NOVEMBER Diabetes	DECEMBER Tinnitus

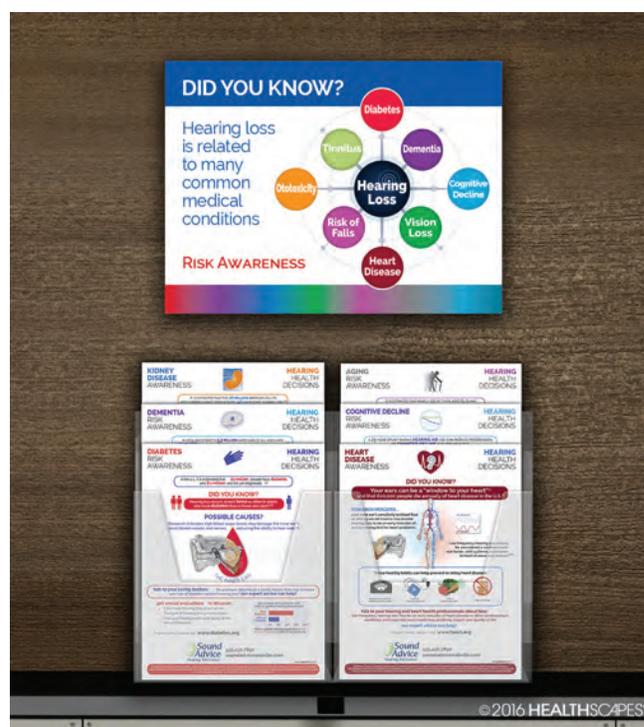
An example of the Educate Well Monthly calendar

With various tasks to juggle related to her practice's launch, this structured approach became the core of her *Better Hearing is Better Healthcare* educational initiatives. Instead of constant anguish about what to do next, systemic methods consistent with her high integrity guiding principles would lead the way. With this mission and vision, she walked through her clinical space, challenging herself to see and experience it from the patients' view. From reception to testing and consult to checkout, she aimed to reverse engineer visual triggers and verbal communication processes. What was *In Sight* would be *In Mind*.

Her proprietary designs would emphasize research-based content which was patient friendly, and practice branded. In reception area, an upscale *Art of Hearing*™ canvas artwork design would proactively convey scope of practice. With various service lines to expertly provide, this eye-catcher would boost awareness and prompt evaluative inquiries. Nearby, a *Hearing Health Education Center* would be strategically placed.



The Art of Hearing artwork



An example of the Hearing Health Education Center

When patients checked in, informative handouts would make relevant learning readily accessible. With intuitively paired backs, appealing documents would practically drive messages home, facilitating retention and discussion with loved ones. In addition, patients could become educational advocates with others in their circle of life, such as those challenged by hearing and vision loss who struggled with activities of daily living.

An example of vision and hearing loss educational materials

As patients journeyed through their clinical experience, other professional-looking designs would be viewed. From what Janet heard, this *Did You Know?* canvas artwork design was ideally placed in a consult location. With daily use in mind, this *Talk Triad* setting made sense. In Practice, *Wellness Referrals* mattered.

True to her *Whole Person Care* passions and with networking effect goals integral, *In Community* was a foundational growth strategy. To plan accordingly, the medical system provided a contact list segmented by:

- Generalists – primary care, internal medicine, and geriatricians
- Specialists including ENT, ophthalmologists, optometrists, cardiologists, nephrologists, oncologists, neurologists, physical therapists, psychologists, and endocrinologists



The Talk Triad

With the benefit of these profiles, she could easily “connect the dots” between *Educate Well Monthly* topics and specific care providers whose patient census had related medical conditions. This targeting construct was particularly useful:

The targeting matrix is a grid with 10 columns representing comorbidities: Diabetes, Dementia, Ototoxicity, Vision Loss, Heart Disease, Risk of Falls, Cognitive Decline, and Aging. The rows list referring specialists: Family Physicians, Internal Medicine, Geriatricians, Physical Medicine, Neurologists, Cardiologists, Ophthalmologists & Optometrists, Psychiatrists, Endocrinologists, Podiatrists, and Oncologists. Each cell contains a colored checkmark indicating relevance: red for Diabetes, purple for Dementia, yellow for Ototoxicity, blue for Vision Loss, red for Heart Disease, pink for Risk of Falls, purple for Cognitive Decline, and grey for Aging.

The Targeting Matrix reminds us who to target with our educational marketing content.

Looking ahead to the new year, January’s focus was Vision Loss, aligned with Glaucoma Awareness Month. As Janet knew through her networking efforts, too few of her colleagues were aware of vision loss prevalence and the proactive testing necessary to detect the early stages of it.³

By reviewing the medical system’s list and asking her own patients who provided their vision care, Janet identified multiple Ophthalmologists and Optometrists in close proximity. Just as helping people experience joys of hearing was near and dear to her, restoring sight was precious to her, too. From her ENT experience, it was clear that community outreach must seek to serve other healthcare professionals and their patients. By practicing The Golden Rule, favorable perceptions on the ethical continuum would be fostered. As the \$alesy vs. Educational Ruler reminds us, it is imperative for the clinician to strive to focus on educating our patients on the benefits of treating hearing loss. That is, the sale of our treatment occurs after we have thoroughly educated patients on their condition and why it should be treated.

With a disciplined routine, she scheduled weekly times for in-person visits, often calling ahead. To boost first impressions, customized presentation folders and practice brochures would complement educational handouts. As introductory interactions were envisioned and talking points documented, she assertively prepared to discuss mutually beneficial relationships. Amid meticulous planning for January’s dual sensory loss focus, pragmatic modeling took shape for subsequent months. Step by step, change for the better.

To capitalize upon *In Practice* and *In Community* programs, *Online* initiatives would promote Hometown Audiology’s brand, easy access, and culture. A feature-rich website would showcase her unique practice story, service lines and educational content. Monthly E-Newsletters would efficiently stay in touch with patient database, keeping comorbidity awareness top of mind and eliciting valuable response data. From what she heard, there were nifty ways to utilize this engagement tracking for outbound microtargeting purposes. In the social realm, her Facebook page prepared to feature *Wellness Wednesdays*, syncing with monthly topics, starting with this Vision Loss quartet:

On purpose, Hometown Audiology’s Omni-Channel comorbidity education platform would showcase audiology’s vital role in accomplishing Whole Person Care objectives. At the October medical system meeting when Janet updated peers on launch plans, feedback was exceedingly positive, including inquiries about arranging meetings to discuss ideal referral processes. With opening day imminent, Dr. Carter congratulated Janet, saying he was sure they had made an excellent decision.

Executing the Plan

Hometown Audiology’s long-awaited grand opening was festive with uplifting support from family, friends, healthcare colleagues and eager patients. While the entrepreneurial roller coaster was challenging, this high point delighted. As guests toured her clinical space, it was evident that patients’ journeys would be educationally focused on pathways to making well-informed decisions. Intuitive in nature, eye-catching canvas artwork and informative handouts were



the \$alesy – Educational Ruler

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clearly seen as indispensable tools in encouraging explanatory dialogue. As expected, dozens of attendees expressed surprise at realizing hearing loss related to so many common medical conditions, clearly indicative of community awareness needs. In a significant development, multiple physicians invited her to visit their practice and discuss collaborative presentations at upcoming health fairs.

With Thanksgiving and the holiday season coming soon, her appointment schedule filled rapidly. After extensive time invested in designing her thoughtful clinical flow, it was exciting to see patients experience it and stimulate engaging quality of life conversations. Caring was sharing and research-based educational content was the center of attention, not technical jargon. With subject matter expertise gaining confidence, treatment plan discussions were naturally easier and more effective.

As clinical visits and time management challenges grew, Janet diligently blocked out time for weekly physician visits. In preparation, by reviewing their websites, useful insights were readily accessible. From contact names and areas of clinical interest, practice insights were gleaned. From experience, she knew initial engagement in a high-integrity manner was decisive, whether with receptionist, practice administrator, clinical staff or doctors themselves. Focal points included:

- Convenient patient access
- Research-based comorbidity education
- Expert care with personalized solutions
- Easy referral process
- Thorough and timely patient reports

Also important, albeit more subtle, was discussing health literacy goals and disparities, especially that patients with improved hearing acuity could communicate more effectively with all medical providers.

Janet's presentation folders featured educational information tailored for recipients. As examples, diabetes handouts for endocrinologists, dual sensory loss for ophthalmologists, dementia for geriatricians and ototoxicity for oncologists. When conversations delved into research-based educational content, her distinguished practice philosophy was apparent. Since there had not been a trusted audiologist to refer to locally, she perceived many patients' needs had gone unmet or they reported back unpleasant feedback from salesy encounters with the big city's aggressive outlets. Many healthcare colleagues who tried to cope with hearing challenged folks in their care, were relieved to refer those in need.

Being respectful of time invested, at the conclusion of initial visits, collectively useful action steps were decided. From follow up meetings with staff, educational material provision or community health events, cooperative pathways were detailed and documented. While somewhat apprehensive prior to interactions, it was rewarding to know whole person care guiding principles were a healthy impetus and conversational tailwind. With autonomy to be responsive, innovative ideas could be acted on in days or weeks, not months or years. In preparation for the holiday season, Janet co-hosted a Super Seniors "Sights and Sounds" educational event with a popular optometric practice. Together, they recognized the importance of raising awareness those not seeing or hearing their best often struggled with activities of daily living. The healthy reactions to engaging presentations were noteworthy as attendees welcomed learning about dual sensory loss topics simultaneously. Quality of life chords were struck, and a valuable community education model took shape, one which would be applicable to various medical disciplines.

The holiday season flew by quickly, as Janet's patients delighted in the Joys of Hearing. She cherished Hometown Audiology's strong start and all those who supported her professional growth, from formal training to ENT practice, along with influential colleagues, family, and friends. As a wise mentor advised, when people believe in you, do all you can to prove them right and then, do your best to empower others with similar goals.

With 2023 an exciting destination, Janet conscientiously got strategic thoughts on paper. In doing so, she considered processes involved in guiding her trusting patients to make healthy decisions which led to positively reinforcing cycles. With analogies useful, how should grassroots educational marketing plans be "Diagnosed and Treated" in terms of identifiable steps, ideally sequenced. After introspection and iterative series of sketches, the visual, Success Cycles Matters was created to illustrate how the entire educational marketing strategy fits together.



The Success Cycle of Medical Referrals

Throughout her first full year, practice growth trends exceeded expectations. *In Practice*, wellness referrals flourished as educated patients advocated with others in their circle of life. *In Community*, one trusting relationship led to another as local healthcare providers embraced her expertise, appreciated her personalized reports, and consistently listened to enthusiastic testimonials from those entrusted in her care. *Online*, Hometown Audiology’s social media presence expanded. As her patient database grew, an Educate Well Monthly E-Newsletters was launched. With an informative mix of content, engagement measures were exceptionally high, delivering valuable response data to thoughtfully segment for timely nurturing. With rapidly expanding numbers of views and clicks, this was a logical way to grow her practice from the inside out and friendly phone calls were pleasant surprises.

As audiology colleagues inquired about Janet’s entrepreneurial journey, there was keen interest in methods to so deftly navigate her successful career transition. Looking back, although explaining her practice development sequence sounded logical, she stressed how necessary it had been to not let pursuit of perfection get in the way of progress. When counseling others considering starting their own practices, she candidly described typical challenges, growth opportunities and bedrock guiding principles. Chief among them was the core belief that educationally empowering patients with trusted advice was an ethical way to achieve best outcomes. While intuitively known that wellness and physician referrals were essential growth drivers, in reality, virtuous cycles resulted when folks who were happy to hear spread praise with family, friends, and other healthcare providers. She was a subject matter expert on the public health benefits of interdisciplinary care, who constantly boosted her knowledge on hearing-related comorbidities.

One day, after receiving heartwarming feedback from patients whose lives were changed for good, Janet treasured a reflective moment. Deep down, she knew Grandpa Dave would be proud of how, in trustworthy ways, she was doing her part to *Elevate the Profession*. With the utmost humility, as an educational curator, she had seized the day and hopefully others would be inspired to do so as well. *Carpe’ Diem!* ■

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Telecoils:

Discussion of key research findings regarding the recommendation and demonstration of hearing loops

By Justin R. Burwinkel, Au.D.,
Maddie Olson, Au.D., and
Lori Rakita, Au.D.

Background

It is well documented that as hearing loss worsens, the signal-to-noise ratio (SNR) required to accurately recognize speech also increases (Killion et al., 2004). This difficulty may contribute to listening fatigue and the avoidance of difficult listening situations like group meetings, lectures, religious services, and theater. Even with carefully fit amplification and directional microphones, patients may still have difficulty understanding speech in these types of complex listening environments. There are numerous wireless assistive listening technologies available which help to effectively improve the SNR for the patient. Hearing aids and cochlear

implants can be wirelessly connected to remote microphones using various types of wireless technologies, including infrared systems, FM systems, 2.4GHz wireless protocols, and induction hearing loops via a telecoil setting. It is important for clinicians to not only understand the realistic and relative efficacy of these systems (Rodemerck & Galster, 2015), but also factors that impact their patients' awareness and utilization of these systems.

Hearing loops, which have been used as public assistive listening systems for decades, have been trumpeted by many as "the preferred assistive listening technology" for their convenience, reliability, cosmetic discretion, and ease of use (Kaufmann et al., 2015). The quality of hearing loop installations has greatly improved since adoption of the IEC-60118-4 standard, which added controls for ensuring low magnetic background noise, a calibrated field strength level, and uniform coverage within each venue.

Most public venues are now required by law to make hearing assistive technology (HAT) available. These laws also require options for hearing aid and cochlear implant compatibility by using either hearing loop installations or neck loop adapters for systems that otherwise offer handheld receivers. When compared to listening devices with headphones or earbuds, hearing aid compatibility provides HAT users with direct-audio-input amplification that has been fine-tuned for each user's own unique ranges of hearing ability through the use of their own hearing aids in conjunction with the assistive listening system (Kaufmann et al., 2015).

Recently-published best practices guidelines for the management of patients with severe and profound hearing loss also implore that, "Unless contraindicated, the hearing care professional should activate the [telecoil function for the patient]...and arrange for the client to experience a good working inductive loop, as this remains the most widespread and effective way to hear well in public spaces" (Turton et al., 2020). However, clinicians may still have questions about how to integrate the various assistive listening technologies into their patients' treatment plans and counseling.

We conducted a series of studies to assess the degree of patient benefit when using a remote microphone or the telecoil function of their hearing aids, as well as the efficacy of different counseling approaches related to the use of telecoils with hearing loops. For our studies, we recruited a total of 28 participants representing a wide range of hearing impairment; 14 individuals evaluated the Starkey Evolv AI Power Plus BTE 13 with embedded telecoils and another 14 individuals evaluated the Evolv AI wireless CIC that could use

the telecoil input function of Starkey's Remote Microphone + 2.4GHz wireless accessory. The studies included lab-based speech recognition tests as well as a field trial. The field trial culminated in a simulated movie theater and auditorium listening experience where the researchers observed the behavior of participants in addition to collecting their feedback.

Here's what we learned:

1. Patients can enjoy dramatic improvement from using hearing assistive technology

By moving the microphone closer to the target speaker, HAT can greatly improve the SNR for the patient. To measure the maximal degree of potential benefit of remote microphones and a telecoil setting with hearing loops, we designed a laboratory study where we expected performance to be poor using the hearing aid microphone alone. AzBio sentences were presented to the participants at 65 dBA, with a +10dB SNR. However, the participants were seated 3 meters from the talking mannikin, in a reverberant room that had a critical distance of only 1.5 meters.

For both the BTE Group (n=14) and CIC Group (n=14), we found statistically significant improvements ($P < 0.001$) in aided speech recognition in noise scores, while using the remote microphone and telecoil settings, when compared to the standard hearing aid microphone condition (**Figure 1**). There were no statistical differences between the remote microphone and the telecoil conditions, for either group.

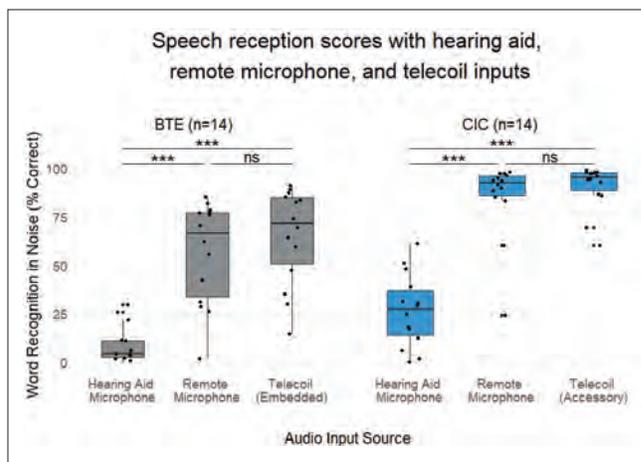
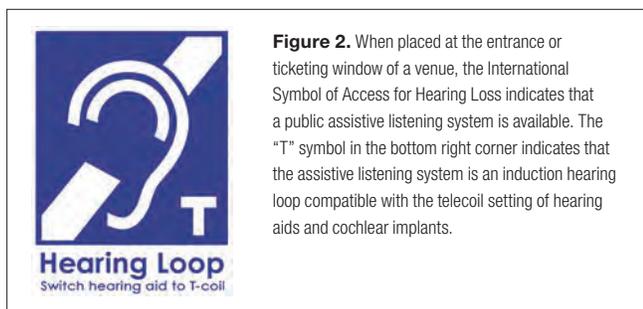


Figure 1. Wireless assistive listening technology significantly improved ($P < 0.001$) word recognition in noise for both BTE and CIC users. BTE microphones were set to directional mode, while CIC microphones were omnidirectional. The remote microphone device and the hearing loop microphone were placed 6 inches and 4 inches, respectively, from the mouthpiece of a talking mannikin. Post-hoc analysis revealed no significant difference between the remote microphone and telecoil audio source inputs.

2. Counseling on telecoil use does not need to be extensive to be effective

In their step-by-step guide to looping a community, Lopez & Caccavo (2014) strongly urged hearing healthcare professionals to provide patients and their companions with demonstrations of a hearing loop during office visits. We were curious how different levels of professional intervention affect hearing aid users' understanding, awareness, and use of telecoils with hearing loops, when available.

To test these effects, we split our BTE Group (n=14) into two, randomly selected subgroups: Demo Group (n=7) and No Demo Group (n=7). Both the Demo Group and No Demo Group were provided a dedicated telecoil setting. At the time of their initial hearing aid fittings, the No Demo Group received informational counseling regarding the telecoil setting and were shown the hearing accessibility signage (Figure 2) found in public venues where they may want to use the telecoil setting. The Demo Group, in addition to informational counseling, was also provided a brief, interactive demonstration of the telecoil functionality. The demonstration allowed the participants to practice accessing the hearing loop with their telecoil setting and then listen to a short video clip that was otherwise silent to others in the room. Participants in the Demo Group were also given a list of local venues with permanently installed hearing loops and were encouraged to experience listening in one of the hearing loops on their own.



When the participants returned one month later, the researchers interviewed each participant to assess their knowledge retention regarding the purpose of the telecoil setting that they were provided with and how they would access it. Even after just one month, we observed notable differences in knowledge retention between the two groups (Figure 3); only 29 percent of the No Demo Group participants correctly recalled the purpose of their telecoil setting compared to the unanimous (100 percent) recall among the Demo Group participants.

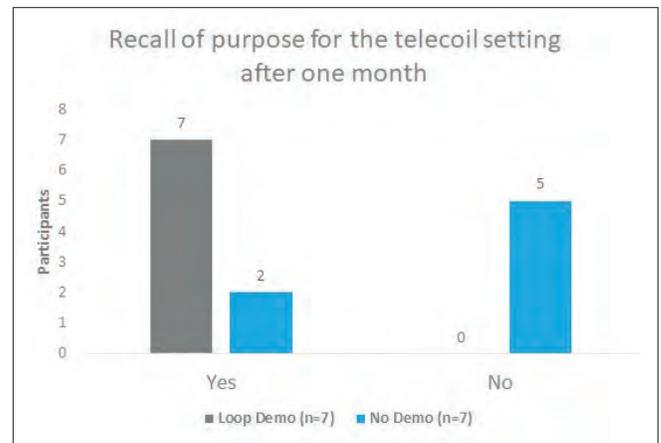


Figure 3. Participants were asked to recall the purpose of the telecoil setting. The group that received an initial demonstration of accessing a hearing loop with a telecoil showed better recall after one month than the group of participants who were only informed about the telecoil verbally.

At the two-month mark, participants were asked to return for a simulated movie theater event hosted in Starkey's professionally sound-designed Austin Theatre. This auditorium has a permanent hearing loop with the International Symbol of Access for Hearing Loss signage (Figure 2) clearly visible outside its entrance doors. For the simulated movie theater event, participants were instructed to use the hearing aid settings they felt would allow them to hear their best, but they were not specifically reminded to consider switching to the telecoil setting.

For the first five minutes of the film presentation, each participant was observed by a researcher to monitor and document the participants' self-selected hearing aid settings. During this user-behavior observation period, we found that only three of the 14 BTE users (16.5 percent) utilized their telecoil setting unprompted (Figure 4). While we found more participants from the Demo Group self-selecting the telecoil setting than from the No Demo Group, this difference was negligible.

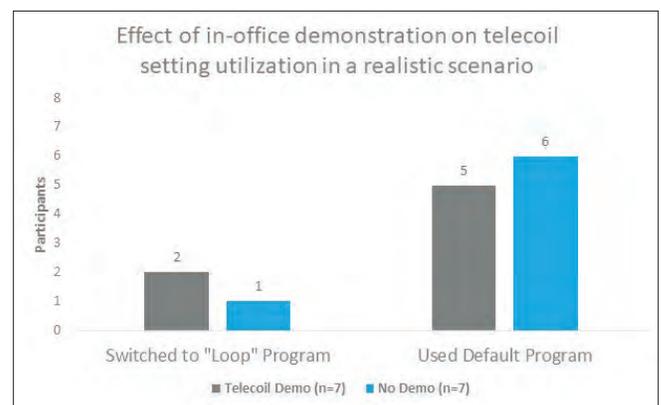


Figure 4. During a simulated movie theater experience, participants were observed for self-initiated use of their hearing aids' telecoil setting. Observations were made during the presentation of realistic clips of "movie previews" and several minutes of the film.

Interestingly, despite not showing significant differences in telecoil utilization, we did observe persisting disparities in information retention about the telecoil function and awareness of the hearing accessibility signage outside the entrance of the room. When the movie was stopped, following the five-minute user-behavior observation period, participants were, again, shown an image of hearing accessibility signage indicating telecoil compatibility with the sound system. The participants were then individually surveyed to assess their confidence in whether or not this type of signage was present when they had entered the simulated theater (Figure 5). The participants were also given the option to indicate that they did not remember looking for that type of signage.

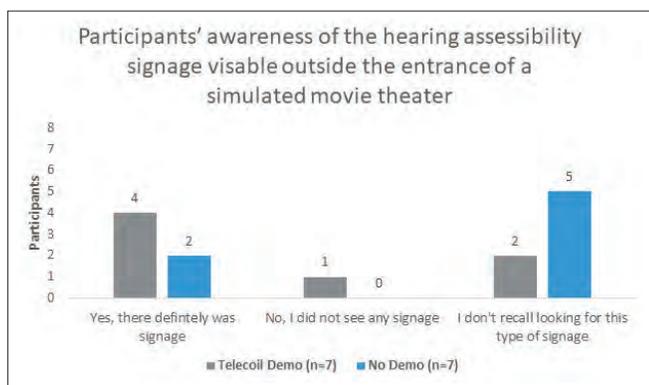


Figure 5. During a simulated movie theater experience, participants were shown an example of the International Symbol of Access for Hearing Loss signage and were then asked to report their recollection regarding the presence of this type of hearing accessibility signage being visible as they had entered the auditorium.

Participants from the No Demo Group more frequently reported not having looked for the hearing accessibility signage than the participants in the Demo Group, but a larger sample size would be needed to determine whether the difference between groups was statistically significant. Nevertheless, results of this survey provide useful insights regarding in-office demonstrations and counseling regarding use of wireless assistive listening technology. In our sample, the participants' apparent awareness of hearing accessibility signage at the entrance of the simulated theatre did not translate into improved telecoil utilization in this realistic listening scenario.

It is worth noting that, throughout the rest of the two-hour movie theater and auditorium listening event, we had participants conduct paired-comparison ratings of their microphone and telecoil user settings in response to numerous stimuli, including a live-speech narration of a passage and movie clip dialogue. Subjective ratings from both

BTE and CIC hearing aid users (Figure 6) showed a clear preference for the telecoil setting. In addition, a preference assessment (Figure 7) indicated that most of the hearing aid users in our study desired to use hearing loops, on their own, after the study. Interpreting these results, we believe greater exposure to comparative listening experiences may be necessary for patients to appreciate their personal benefit from using the telecoil and to ultimately lead to lasting behavior change.

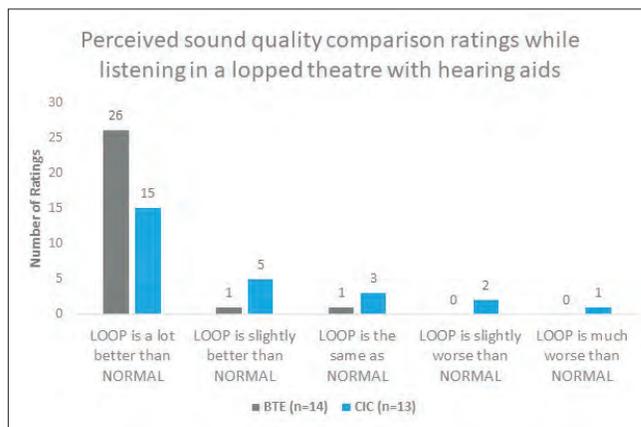


Figure 6. Cumulative count of paired-comparison preference ratings of "Sound Quality" in response to a live-speech recital of *The Grandfather Passage* and a dialogue clip from the *Jersey Boys* film.

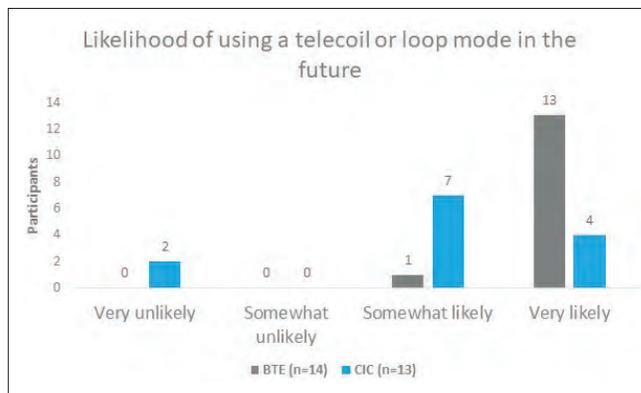


Figure 7. Questionnaire responses relating to participants' (n=27) likelihood of using a telecoil function in the future, following listening comparisons experienced during the simulated theater event.

To those ends, we recommend providing patients with a hearing loop demonstration that yields an appreciably-different listening experience between the standard microphone setting and the telecoil setting. When selecting content for your demonstrations, consider that a post-hoc analysis of our data revealed the greatest differences in self-assessed speech intelligibility were when the participants watched clips from a British film. Similar to the waiting area of a typical clinic, these results were obtained in a

situation where the room acoustics were favorable and other distractions were minimal. However, speech that is presented in an accent that is unfamiliar to the listener will inherently increase cognitive load and allow subtle SNR improvements to yield more appreciable differences in listening effort (Van Engen & Peelle, 2014).

We also suggest challenging your patients to compare their telecoil setting to their standard microphone setting, in realistic situations that are relevant to them. Ding et al. (2015) previously reported that individuals with sensory handicaps found assistive technology demonstrations with clinicians to be beneficial for “learning the basics,” but were limited in allowing the patient to experiment thoroughly in a range of scenarios they deemed important. We conducted our study in the midst of the COVID-19 pandemic, so many of our participants did not attempt to use the telecoil setting on their own, as it would have required them to visit public places they otherwise would not have visited during that time.

We believe that this likely explains why the participants who had retained knowledge of the telecoil function and were aware of the hearing accessibility signage still failed to switch their hearing aids into the telecoil setting. Even though they were listening in a scenario where they apparently could have benefited from doing so, they were not motivated by awareness alone. After two hours of experience, comparing the telecoil setting to the standard microphone setting during the simulated movie theater event, participants began to appreciate the differences and, consequently, indicated a likelihood to request and use hearing aids with telecoils in the future.

3. Candidacy for HAT is wider than expected

The current consensus practice guidelines include the recommendation that clinicians activate telecoil functions for patients with severe and profound hearing loss as hearing loops remain “the most widespread and effective way to hear well in public spaces” (Turton et al., 2020). However, there has been some ongoing debate about the appropriateness of activating telecoils for patients with mild and moderate degrees of hearing loss, where the patients’ SNR impairments may be less severe and the overall benefit of the telecoil input could be diminished by using larger vent sizes.

We were interested in developing a better understanding of the candidacy criteria for not only telecoils, but all forms of assistive listening technology. We designed a variety of experiments to compare the relative performance

of hearing aid users listening with a standard hearing aid microphone input, a telecoil input, and a remote microphone input. The wireless functionality of the Evolv AI CIC allows them to be wirelessly paired with the multi-function Remote Microphone + 2.4GHz accessory, which has a selectable audio input option that can provide access to hearing loops in addition to operating as a traditional remote microphone device. For all our testing, the ear coupling and amplification settings were the same as what the participants used during extended field evaluation of the devices, between study sessions.

We conducted a Pearson correlation analysis to determine whether any single audiologic test was associated with the degree of perceived speech intelligibility improvement, while using a telecoil function, during the two-hours of paired-comparison listening that was conducted in the sound treated auditorium. Neither pure-tone average (PTA) nor high-frequency pure-tone average (HF-PTA) were significantly associated with the participants’ degree of self-reported speech intelligibility improvement. There was also not a significant relationship with results of cognitive screening using the Montreal Cognitive Assessment (MoCA) tool. Nevertheless, we did observe a significant, strong association with the participants’ SNR Loss, as measured with the QuickSIN ($r=0.589$, 95% CI 0.269 to 0.792, $P=.001$), and a significant moderate negative association with better ear speech recognition in quiet scores ($r=-0.438$, 95% CI -0.701 to -0.069, $P=.022$).

At the end of the two hours of paired comparison listening that we conducted in the sound treated auditorium, we surveyed the participants ($n=27$) regarding their likelihood of purchasing hearing aids with telecoil functionality and using hearing loops on their own in the future. Results of the survey are shown in Figure 7. Notably, 92.9 percent of the participants in the BTE group indicated that they would be ‘Very likely’ to use hearing loops in the future, while 84.6 percent of the participants in the CIC group indicated that they were either ‘Somewhat likely’ or ‘Very likely’ to do so.

Based on our findings, we believe the candidacy for both telecoils and remote microphone accessories is greater than what many clinicians previously thought. Inevitably, some patients will find greater benefit from using HAT than others, but there does not appear to be a clear correlation with the standard audiometric test battery; therefore, we strongly encourage trial of HAT for patients with either a measured SNR loss or a perceived hearing handicap that would be great enough to warrant the use of hearing aids.

Discussion

In our studies, we found that use of remote microphones and hearing loops each significantly improved distant speech recognition in noise when compared to hearing aids alone. Our participants, who used either CIC or Power Plus BTE style hearing aids, strongly preferred the telecoil function in combination with a hearing loop over listening with the standard hearing aid microphone setting for various types of audio, even in an auditorium with professional sound design. These observations validate the recommendation of assistive listening systems for hearing aids, even for individuals with more mild degrees of hearing loss.

We also found that even brief in-office demonstrations and counseling regarding use of HATs with hearing aids appeared to have improved participant awareness and information retention, but greater exposure to comparative listening experiences may be necessary to motivate routine use. These results underscore the importance of counseling and in-office demonstrations of how to utilize these systems with hearing aids. Encouraging patients to make their own paired-comparison evaluations, in realistic scenarios, may improve perceived benefit of using HATs and lead to lasting behavior changes. ■

Authors' Note: A portion of these results was presented at the annual meeting of the American Academy of Audiology held from 30 March to 2 April 2022 in St. Louis, MO and the annual convention of the Hearing Loss Association of America held from 23 to 25 June 2022 in Tampa, FL. A portion of the results will also be presented at the 66th International Congress of Hearing Aid Acousticians held from 12 to 14 October 2022 in Hanover, Germany.

Justin R. Burwinkel, Au.D is a Senior Research Audiologist at Starkey. Dr. Burwinkel's research has investigated the perceptual effects of increased audio processing delay in adverse listening conditions, which has helped to guide the development of emerging noise reduction and speech enhancement techniques, as well as the deployment of wireless assistive listening technology. In addition, he has filed numerous patents for inventions relating to hearing aid connectivity, artificial intelligence, and fall risk management.

Maddie Olson, Au.D joined Starkey Hearing Technologies as a Research Audiologist in 2021. She organizes product validation efforts to evaluate hearing technologies prior to market release, ensuring patients' needs are being met. Additionally, Dr. Olson evaluates device efficacy over the lifetime of hearing aids, allowing for longitudinal assessment of patient benefit, through post-market studies. She is particularly interested in areas of research that help to investigate long-term, positive patient outcomes for hearing aid users.

Lori Rakita joined Starkey Hearing Technologies in 2021 as the Director of Clinical Research and was responsible for the output of the Research Department and organizing efforts related to product and feature development, validation, and studies that answer key audiological questions. Prior to Starkey, Dr. Rakita led teams in industry and medical settings in research efforts related to hearing aid performance, the effectiveness of signal processing, and the needs of individuals with hearing loss.

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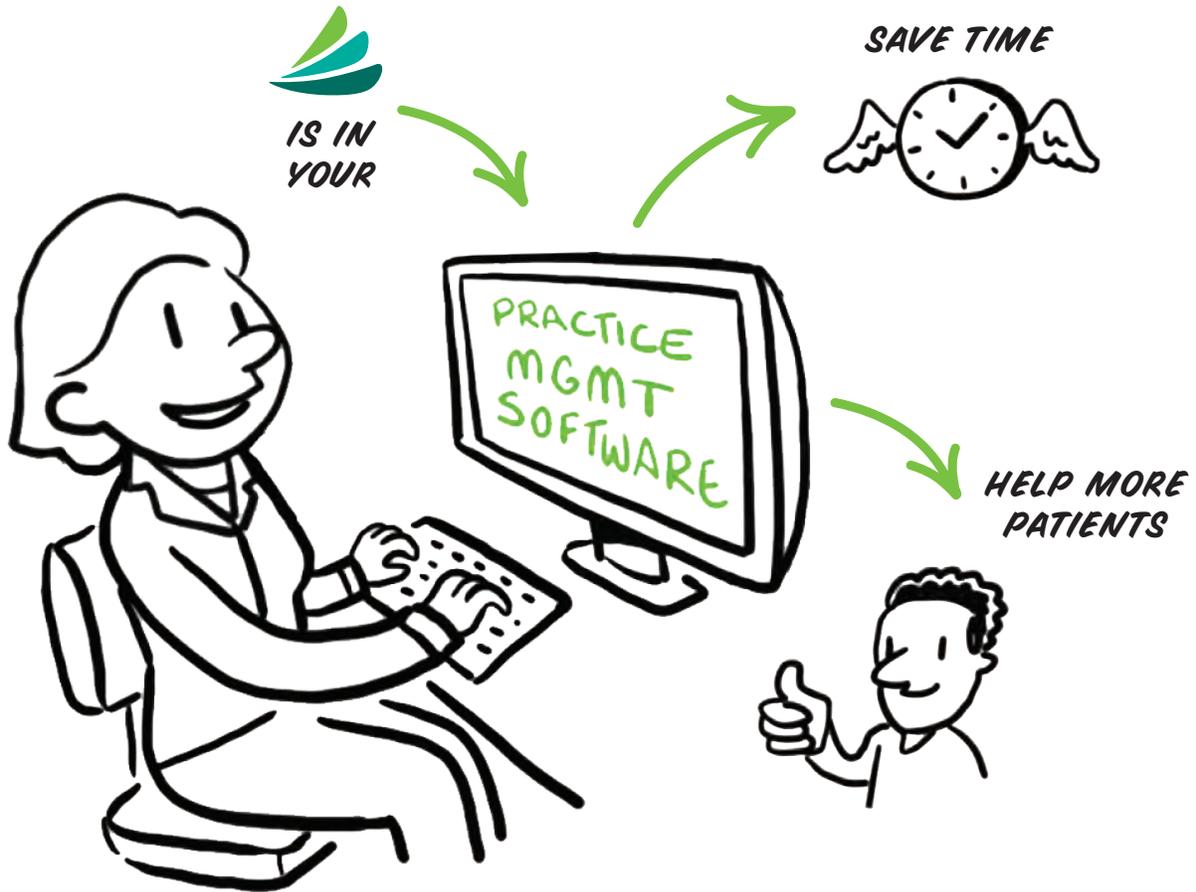
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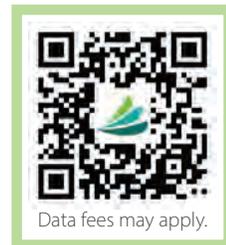


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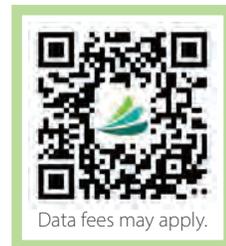


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The Evolving Nature of Private Practice:

Catching Up with Meg Wetta and Sandra Miller

Brian Taylor, Au.D.

Dr. Sandra Miller and Dr. Meg Wetta were featured in a 2014 issue of *Audiology Practices*. At that time, they had recently opened their practice, not knowing exactly what to expect or where things would go. Now, some eight years later, after experiencing the turmoil of COVID-19, the rise of managed care and the advent of OTC, we catch up with them again.

BT: It's been 7-8 years since AP last caught up with you. Tell us what's new in your practice?

MW and SM: Hi! We, Dr. Meg Wetta & Dr. Sandra Miller, continue to own Complete Hearing. We moved, purchased a building 6 years ago, added three full time Doctors of Audiology and just recently renovated the remaining 1000 square feet of our building to add a co-working space. Our first tenant is an ENT Physician that we both worked with before purchasing our practice 11 years ago!

BT: Impressive! Have you added anything else?

SM: Yes. We have added Cognivue, vestibular neurodiagnostic evaluations, ear piercing and are partnering with many other specialists to provide a holistic approach to care. So, we are broadening our array of services.

BT: How are you practicing differently since COVID-19 struck in 2020?

MW: We continue to hold true to our values of supporting our team both professionally and personally; encouraging and supporting them both inside and outside of work. We are better at telling them to stay home when ill and trying to practice this ourselves! COVID-19 also helped us in realizing we need to continue to push and go for our goals now, thinking outside the box and reinventing ways to best serve our patients. No complacency here. We have goals and want to crush them!

BT: Tell us how your marketing strategy has changed since the last time we talked with you?

SM: If only we had a magic wand for marketing! In years past we used direct mail, printing a lot of pieces on our own (in-house) or sent to a local printer in town. We now work with Bluewing, Chicago based company to ensure we are producing timely, target specific pieces with a long-term commitment that allows for more consistency in reaching prospects and keeping our database engaged. Social media and email blasts are also an addition for us. We feel the most important thing is that your messaging is not generic. We have fun, professional pictures taken annually. We design our own, practice-specific pieces that feature our brand and our staff. We also believe strongly in physicians marketing and community outreach.

BT: What are your thoughts on how OTC will change your practice?

MW: We believe there is space and a need for OTC, so we look to it as an addition to our practice, not something harmful. It is not only another piece we can add for a rehabilitative solution, but also serve those who may choose to purchase OTC elsewhere.

We don't care what the patient bought or where they bought it, we will service it, answer their questions and be there when they need us.

BT: How about managed care? What kind of an effect has it had on your practice?

SM: Managed care... not our favorite! But a serious and necessary piece when you are in a market where two of the largest employers in your city have these types of plans. Two years ago, we signed a contract with one of the managed care plans. It has proven to frustrate us and, at times, the patients, too. Developing a streamlined protocol so you know what to expect lessens the frustration. What keeps us in the game is knowing we are participating for the right reasons – to bring the best care to the patients and allowing them to file for the benefit they are expecting.

BT: Staffing appears to be a challenge in many practices around the country. What advice would you give an audiologist who is trying to find and keep good employees?

SM: First, know the vision, mission, and values of your practice. Lead with this, always! Hire to your values. Use assessments upfront so you can determine personality type and the applicant's working style. Include what personality or work skills someone has done previously in the job description. Direct them to your social media and websites. Hire someone who likes doing the tasks you don't – then let them shine in their role without micromanaging! (It's hard, but it works). Ultimately, love your staff hard – support them in and out of the office. Create a culture that is fun, team oriented and empowering. We have quarterly team coaching and monthly individual coaching for each team member. We complete quarterly challenges together (book clubs/walking/activity) then reward each challenge with a group outing somewhere. We have a group chat that is active daily with some work items, but mostly fun messaging amongst the team. Love them like they are your family. At CH we feel like we are family.

BT: Thanks for your time today. Any other advice for practice owners or those aspiring to be in your position?

MW: We believe in showing up. Opening a practice is overwhelming but also soooo fun and rewarding! It's easy to be engaged in the beginning. It's when the tasks become mundane or repetitive that you may lose energy. Stay the course and find ways to light your passion. Add services, go to CEU events multiple times a year (especially those out of state), network with other providers, send staff on events, plan events outside the office and/or do things together on the spur of the moment. It is so important to have a professional team to support you. Hire a CPA, financial advisor, business coach, attorney, and insurance agent locally. Don't be afraid to change if your first pick isn't your favorite. Finally, block schedule and stick to it. You will feel less stressed, more organized and have energy at the end of your day. Go home, hang with your family, or read a book!

BT: That is helpful and worthwhile advice. Thanks for your time today and congratulations on all your success. On behalf of Audiology Practices and ADA, I wish you the best. How can people reach you?

MW and SM: Besides all the major social media outlines, you can find us at <https://www.complete-hearing.com/our-doctors/> where you can send us a note. We'd love to hear from you! ■



We have goals and want to crush them!



Meg Wetta, Au.D. and Sandra Miller, Au.D. are co-owners of Complete Hearing in Lincoln, Nebraska.

Go Figure

How Big a Problem is Background Noise?

Brian Taylor, Au.D.

To state the obvious, everyone struggles from time to time with communication in background noise. Even young healthy people with completely normal hearing find it incredibly challenging to converse in bust social situations. Our patients, of course, because of the consequences of both hearing loss and age find background noise to be even more problematic. How common and detrimental is the problem?

Data from two different studies illustrate just how often we experience high levels of noise when socially gathering outside the home, and additionally, just how challenging successfully communicating in these busy places, such as cafes, bars and restaurants tend to be.

What's the deal with all that noise?

Thirty popular restaurants in Orlando, Florida had their sound levels measured. Equipped with a sound level meter, researchers took 10 to 15 measures during either lunch or dinner times when the restaurants were at least one-half full of diners. The results of these sound level measures are shown in Figure 1

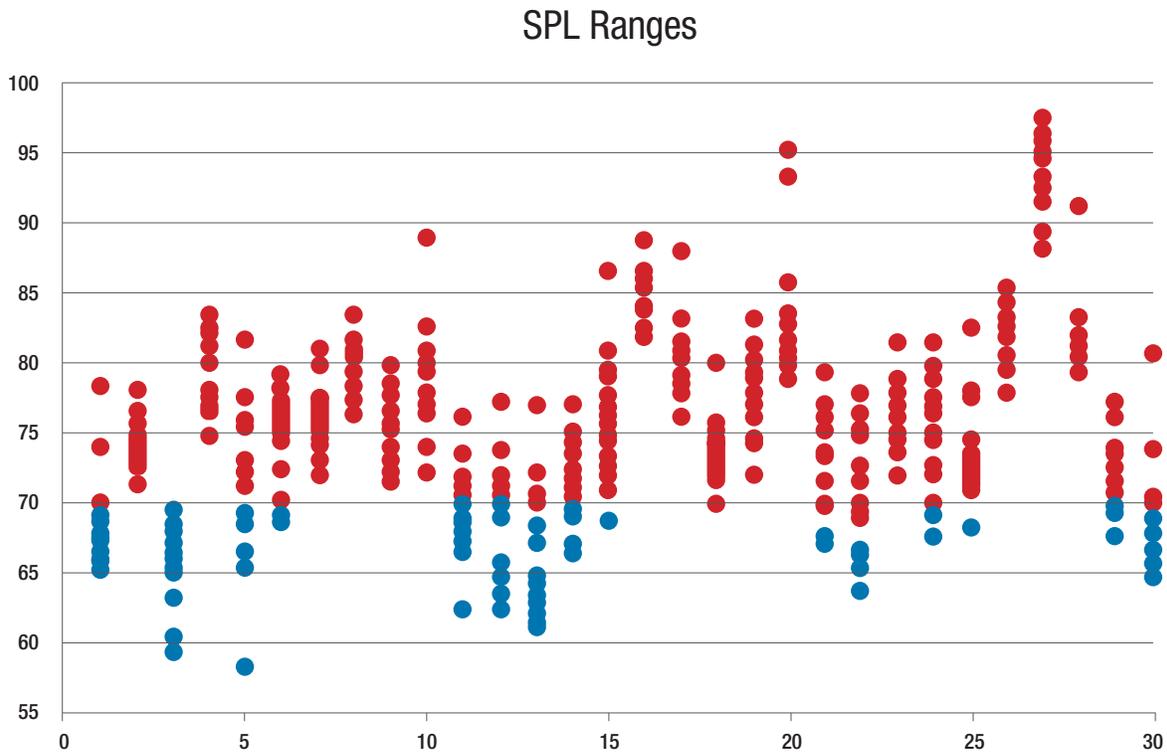


Figure 1. Each dot represents an individual sound level meter recording during popular dining hours at 30 different restaurants in Orlando, FL. Note the y-axis is the dBA scale. Adopted from Rusnock & McCauley Bush, 2012.



Successfully communicating in busy places, such as cafes, bars and restaurants can be a challenge.

The x-axis in Figure 1 represents the 30 restaurants, while the y-axis represents the A-weighted decibel level of the sound level meter recordings. Note that for each restaurant there were between 10 and 15 recordings made, each recording is represented by a dot in Figure 1. Although there is considerable variability in intensity levels across the 30 restaurants, approximately 75% of the recordings captured noise levels greater than 70 dBA. Notice the red dots at or above 70 dB A. About two-thirds of indide social situations are above that level. Recall from your hearing science course (yes, that might have been a long time ago) that when the noise level is about 70 dB SPL or higher, the signal to noise ratio (SNR) tends to be 0 dB or worse.

Now, consider that persons with normal hearing need a SNR of about +5 dB to converse with relative ease with the person across the table and that many persons with hearing loss need a SNR of +10 or greater to accomplish the same task, and you realize most social gatherings are highly problematic for most of our patients. Finally, the struggles in noise illustrated in Figure 1 should remind us that a primary task of any pair of well-fitted hearing aids is to provide aggressive SNR improvements in these commonly encountered adverse listening situations — devices that are unlikely to be purchased over-the-counter.

Serenity Now!

Figure 1 illustrates the high intensity levels experienced in crowded social gatherings. Perhaps an even more consequential problem, is the listener's *reaction* during these busy occasions. Bottalico, Piper and Legner (2022) surveyed 31 older adults on their reaction to background noise. Specifically, they divided these 31 older adults into three groups, striated by degree of hearing loss. They evaluated their perception of disturbance in communication and their willingness to spend time and money in a restaurant, as a function of the varying levels of background noise.

Their results indicated that background noise levels lower than 50 dBA enable older adults to minimize their vocal effort and to maximize their understanding of conversations, even for those with moderate to severe hearing loss. Of course, if the previously cited Orlando data in Figure 1 is characteristic of typical busy social gatherings, it is probably impossible to find a public indoor dining area where the noise level is 50 dBA.

Figure 2 shows the relationship between background noise level (x-axis) and respondents' ratings along three variables: 1.) Disturbance in communication, 2.) Willingness to spend time, and 3.) Willingness to spend money (all on the y-axis). Across the three sub-groups, we can draw the following conclusions when noise levels exceed 65 dBA: 1.) Disturbance: On a 0 to 100 scale, with 100 being a very high rate of disturbance, an average rating of 75% was achieved, 2.) Willingness to spend time: With 100% being "a long time," participants were willing to spend 25% or less of their allotted time when noise exceeded this level, and 3.) Willingness to spend money: Participants only were willing to spend 25% or less of their allotted dining budget when noise levels exceeded this level. Given the intensity levels of restaurants during popular

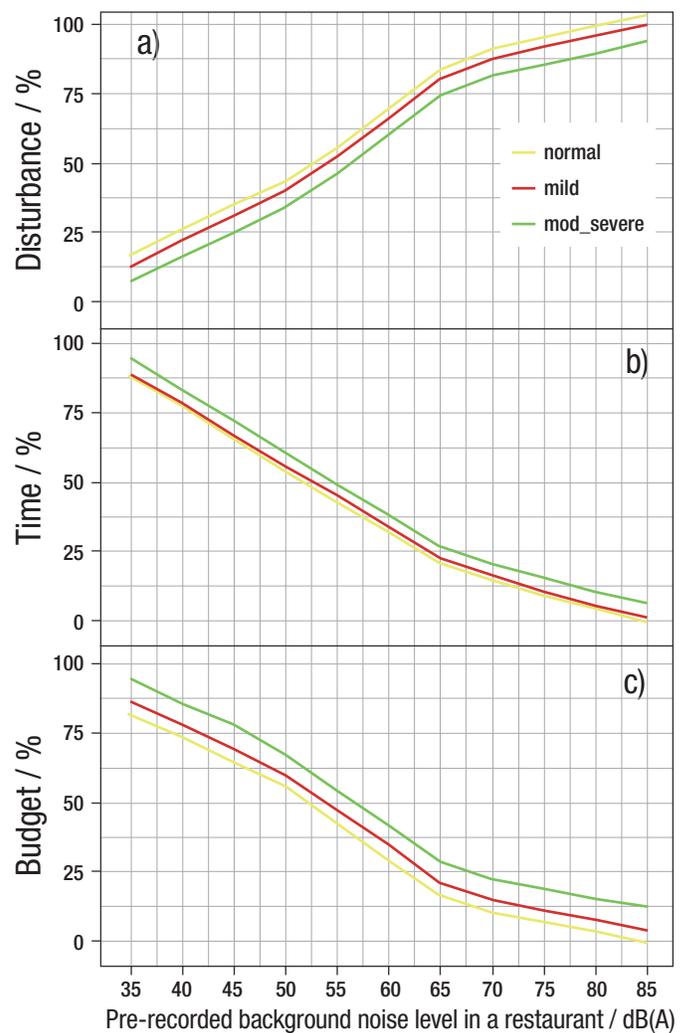


Figure 2. Relationship between the pre-recorded background noise level in a restaurant in dB(A) and self-reported communication disturbance (a), willingness to spend time (b), and willingness to spend money (c), for the three subgroups where the error bands indicate the standard error. Vertical dashed lines mark the change points. Adopted from Bottalico, Piper and Legner (2022).

dining times, not only is communication seriously compromised but older adults, regardless of degree of hearing, do not want to spend much time or money on them.

Given that virtually every indoor social gathering exceeds 65 dBA (see Figure 1) and that when the noise level reaches or exceeds about 65 dBA, the typical listener finds it bothersome, and moreover, is likely to be unwilling to spend much time or money there (see Figure 2), it is unsurprising that most persons with hearing loss are severely challenged in these situations — perhaps more than many audiologists realize.

How to apply these findings in clinic practice

1. Provide all patients with detailed information about what they can do to improve communication in acoustically challenging social situations. All patients, regardless of treatment approach, need to be reminded of two overarching principles that improve the probability of successful communication in these places. Part of any holistic approach to counseling patients must include guidance on these two principles:
 - Be Assertive: ask for clarification, ask for talkers to speak up and clearly enunciate, ask the talker to move closer to you, ask to be seated in the quietest part of the room.
 - Be Aware: Avoid the noisiest parts of the room, get adequate rest prior to a busy social gathering to minimize problems with fatigue, rely on lip reading, facial expressions and knowledge of linguistic context to fill in the blanks of conversation that is masked by background noise and reverberation, learn how to use special functions on hearing aids in these situations (remote mic, streaming, dedicated program for noise, etc.) to optimize performance.
2. Use the Quick SIN to measure each person's unaided SNR loss. This provides the signal to noise ratio in which communication in noise begins to breakdown. Conducted under earphones during a routine hearing assessment the SNR loss of the individual provides valuable insight on the functional communication status of the individual. The higher the SNR loss, the more aggressive and sophisticated the noise reduction technology.
3. Since most acoustic-challenged social situations have an SNR value of 0 or worse, be sure to recommend and fit hearing aids that have the ability to optimize performance in noise.
 - Ensure that the primary path of sound is through the hearing aid, rather than the open ear. This is accomplished by fitting a more closed coupling system and verifying it is closed by gathering a real-ear occluding response (REOR) with your probe microphone equipment.
 - Match a validated prescriptive target (NAL-NL2 or DSL v5) and verify with probe microphone measures to ensure audibility is optimized.
 - Provide a manual override of automatic steering algorithms to ensure patients always have the ability to switch into a manual program that aggressively reduces background noise. ■

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The FDA Final Rule Establishing OTC Hearing Aids

BY KIM CAVITT, Au.D.

From the 1960s, until now, there has not been, officially, over the counter (OTC) hearing aids. There have been personal sound amplification products (PSAP), or Food and Drug Administration (FDA) registered legacy, air-conduction and wireless class hearing aids dispensed in person, through a licensed provider, via a direct to consumer (DTC) channel, with engagement from a licensed provider, or over the counter (mail order, online/internet, or retail), without provider engagement.

The FDA requirements were limited to air-conduction hearing aids:

1. manufacturing requirements for Class I or Class II medical devices,
2. labeling requirements,
3. medical clearance for anyone under the age of 18,
4. medical clearance or medical waiver for anyone 18 years of age or older, and
5. dissemination of a user brochure.

The FDA did not require a hearing test, a prescription, return for credit privileges, or a trial period. The States created these additional regulations decades ago. There has been little-to-no enforcement, for decades, of FDA requirements when the devices are delivered OTC or DTC, which makes this all the more confusing. This is one reason why implementation of the Final FDA OTC Rule will be valuable to consumers and providers.

Beginning October 17, 2022, there will be an FDA class of OTC hearing aids, with specific manufacturing and labeling requirements and an FDA class of prescription hearing aids (which include legacy, air-conduction, bone-conduction, wireless and self-fitting devices), with specific manufacturing and labeling requirements.

On October 18 and beyond, no State can legally put restrictions on the retail sale of the **OTC category**, outside of what has been required by the FDA. For example, there are no requirements for evaluation, return for credit or trial periods with the OTC class. Now, States CAN create regulations for **licensed providers** in the fitting of ANY class of hearing aid where the FDA provides no regulation. Per the FDA Final Rule: *“For example, a State may require a license for a hearing aid fitter, because “fitting” is not listed among the activities in section 709(b)(4) of FDARA, and we do not interpret any of the listed*

activities to include fitting. A person could not be a fitter in that State, even for OTC hearing aids, without a license. However, the State could not require a hearing aid fitting prior to a user purchasing an OTC hearing aid because that would restrict or interfere with commercial activity involving OTC hearing aids”.

As it pertains to prescription class devices, the FDA defines this category as “a device that is:

1. either in the possession of a person, or his agents or employees, regularly and lawfully engaged in the manufacture, transportation, storage, or wholesale or retail distribution of such device or in the possession of a practitioner, such as physicians, dentists, and veterinarians, licensed by law to use or order the use of such device and
2. is to be sold only to or on the prescription or other order of such practitioner for use in the course of his professional practice”.

Per the FDA, the prescription class will “be sold only to or on the prescription or other order of a practitioner licensed by law to use or order the use of (prescribe) the devices”. States may continue to regulate the hearing aids, that now fall within the prescription class, as they have for many years. The States will again determine the evaluation, prescription, return for credit, trial period and dispensing provisions of this class of device. I suspect consumers do not want it to be harder to get prescription hearing aids than it is today.

Audiologists in each state will need to define what a “prescription for a hearing aid” entails and who can provide such prescription. Our best correlate of this would be the Federal Trade Commission’s (FTC) Eyeglass Rule: <https://www.ecfr.gov/current/title-16/chapter-I/subchapter-D/part-456>. Some considerations are the type and level of evaluation or testing required,

the assistive technology required, the style and features required of recommended technology and how this prescription is supplied to the user. For example, a state might consider an evaluation that consists of pure-tone air conduction testing, bone-conduction testing or the Consumer Ear Disease Risk Assessment (CEDRA; <https://sites.northwestern.edu/cedra/>), speech/digits in noise testing. The recommendation might include binaural receiver in canal hearing aids, with a minimum of 10 channels, multiple program options that can be accessed from their cellular phone, noise suppression/compression, directional microphones, a telecoil, Bluetooth connectivity and rechargeability.

It is important that audiologists ENGAGE at the State level, through State association membership and volunteer activities, to make these decisions for prescriptions and provider delivered care in their state. Every State hearing aid dispensing law will need to be addressed to account for these FDA regulatory changes. ■



Dr. Kim Cavitt was a clinical audiologist and preceptor at The Ohio State University and Northwestern University for the first ten years of her career. Since 2001, Dr. Cavitt has operated her own Audiology consulting firm, Audiology Resources, Inc. She currently serves on the State of Illinois Speech Pathology and Audiology Licensure Board. She also serves on committees through AAA and ASHA and is an Adjunct Lecturer at Northwestern University.



HAVE YOU HEARD?

ADA Board of Directors Election Results: Drs. Leyendecker and Huch Elected to Serve

The Academy of Doctors of Audiology (ADA) is pleased to announce that Jason Leyendecker, Au.D. has been elected to serve as ADA's president-elect for the 2023 program year.

Dr. Leyendecker is the owner of a private practice in Minnesota with seven locations, including metro and rural locations, and a tinnitus clinic. He serves as a volunteer for several audiology associations and currently serves as the President of the Minnesota Academy of Audiology and Secretary of the Minnesota Sight and Hearing Association. Dr. Leyendecker earned a Bachelor of Science degree from Minnesota State University Moorhead and an Au.D. from A.T. Still University.

Judy Huch, Au.D., has been elected to serve as a director-at-large on the ADA Board of Directors. Dr. Judy Huch owns a private practice in Tucson, Arizona. She currently serves on the ADA Advocacy and Public Policy Committee. She was awarded membership in the National Academy of Practitioners and is a current Board Member for Entheos Audiology Cooperative. Her other awards include a fellowship with the Op-ed Project in 2017, Humanitarian of the Year from A.T. Still University Alumni in 2019, Woman of Influence for Community Service in Tucson and Woman of Impact of Southern AZ, both in 2019, The Leo Doerfler Award from ADA for outstanding clinical services within her community in 2021, Non-profit of the Year (Grace Hearing Center) in 2021 with the Greater Oro Valley Chamber of Commerce and BBB Torch Award for Ethics for small non-profit in 2022. She holds an Au.D. from A.T. Still University.

Dr. Huch lives in Tucson AZ with her architect husband (who builds a mean sound booth). She is enjoying time as an “empty nester” as she celebrates watching her sons, one as a U.S. Marine and one crushing it at college in NY, grow into fantastic young men.



Dr. Leyendecker



Judy Huch, Au.D.

Drs. Leyendecker and Huch will begin their terms on January 1, 2023. Continuing in service on the ADA Board of Directors will be Drs. Kristin Davis (Immediate Past President), Dawn Heiman (President), along with Drs. Amyn Amlani, Audra Branham, and Liz Rogers. Ending their terms on the ADA Board of Directors are Drs. Victor Bray and Stephanie Sjoblad. ADA is grateful for their service.

ADA 2022 Student Business Plan Competition Finalists to Square-Off at AuDacity

The ADA 2022 Business Plan Competition finalists have been selected—and final plans are underway for the live, in-person competition, to be held during the AuDacity Conference Business Plan Luncheon on Saturday, October 22, 2022 at the Gaylord Texan Resort and Convention Center in Dallas, Texas.

Finalists include the following:

Jasmin Rodriguez is a fourth-year Au.D. student at California State University Northridge (CSUN). She has been involved in local and national student organizations including President of her local Student Academy of Audiology (SAA) chapter and Member at Large for National SAA. These experiences inspired her to embrace another leadership role in SADA. Currently, she is completing her externship at Audiology Concepts in Minnesota. Her ambitions are to open a private practice that specializes in tinnitus with an emphasis that serves the Hispanic population.

Autumn Barron is a fourth-year Au.D. student at the University of Memphis and a current extern at Hearing & Balance Centers of West Tennessee in Memphis, TN. She is a member of the Student Academy of Audiology (SAA) subcommittee for students with hearing loss.

Kristen Moore is a fourth-year Au.D. student from the University of Illinois Urbana-Champaign. She received her B.S. in Speech, Language, and Hearing Sciences and a minor in Human Development and Family Studies from Purdue University. Kristen is an Au.D. extern at the American Institute of Balance. Her primary interests include diagnosis and treatment of vestibular and balance disorders and electrophysiological assessment of the audiovestibular system.

Rachael Price is a fourth-year student from the University of Illinois Urbana-Champaign. She received her B.S. in the Habilitation for the Deaf and Hard of Hearing, from Texas Christian University. Currently, Rachael is an Au.D. extern at Yale New Haven Children's Hospital. Her primary interests include diagnostics and treatment options for pediatric populations. Rachael's ambition is to work as a pediatric audiologist specializing in special populations and family-centered care.

Camden Orologio, Au.D. is a 2022 graduate. He received a doctorate degree from the Long Island Audiology Consortium, completing clinical rotations in both private practice and hospital settings. His desire to pursue a degree in Audiology stems from the ability to integrate state of the art technology into healthcare. His clinical expertise includes diagnostic testing as well as hearing aid selection and fitting. With an in-depth understanding of the most up-to-date hearing aid technology, he is able to match patients with devices specifically catered for their lifestyles. As a long-time native of Long Island, he enjoys helping the community and providing solutions to hearing challenges.

Pallavi S. Sobun, Au.D. is a 2022 graduate of the Long Island Consortium (St. John's University, Adelphi University, and Hofstra University). She is a native Mauritian who provides comprehensive care for patients with hearing and balance issues.

ADA would like to thank CounselEAR and CQ Partners for their sponsorship of the 2022 Student Business Plan Competition. Please visit www.audiologist.org for more information.



Jasmin Rodriguez



Rachael Price



Autumn Barron



Camden Orologio, Au.D.



Kristen Moore



Pallavi S. Sobun, Au.D.

Conference Agenda

THURSDAY, OCTOBER 20, 2022

8:00 AM - 2:15 PM	PRE-CONFERENCE COURSE: Mobile Audiology
10:00 AM - 2:00 PM	Starkey Student Session
1:00 PM - 2:15 PM	Communicating in Noisy Social Situations: Putting Divergent Signal Processing Strategies to Work in Your Practice: Dana Helmink, Au.D., Brian Taylor, Au.D.
2:30 PM - 3:30 PM	Leading with Innovation: How to Future-Proof Yourself, Fearlessly Innovate, and Succeed Despite Disruption: Scott Steinberg
3:30 PM - 3:40 PM	Break
3:40 PM - 4:40 PM	Keynote Presentation: The Impact of “Chaotic Innovation” on Audiology - The Good News: Nick Webb
4:40 PM - 4:50 PM	Break
4:50 PM - 6:15 PM	Financial Management and Forecasting for Audiology Practices: The Must-Know Figures, Formulas, and Factors: Alicia Amlani, Aryn Amlani, Ph.D.
6:15 PM - 8:00 PM	Opening Reception in the Exhibit Hall

FRIDAY, OCTOBER 21, 2022

7:00 AM - 8:00 AM	Breakfast in the Exhibit Hall			
8:00 AM - 8:45 AM	President’s Address: Kristin Davis, Au.D.			
8:45 AM - 9:30 AM	Keynote Presentation: Fix This Next: Kasey Compton, M.Ed., LPCC-S			
9:30 AM - 10:00 AM	Break in the Exhibit Hall			
10:00 AM - 11:30 AM	Fix This Next: Diagnose and Treat the Problems in Your Practice for Better Outcomes: Moderator: Kasey Compton, M.Ed., LPCC-S; Panelists: Timothy Steele, Ph.D., Stacey Baldwin, Au.D., Ernest Paolini, Jon Romano			
11:30 AM - 1:00 PM	Lunch in the Exhibit Hall			
1:00 PM - 2:30 PM	Price Modeling for Your Practice Kim Cavitt, Au.D., Jason Leyendecker, Au.D., Stephanie Sjoblad, Au.D.	Provider Referral Development and Promotional Strategies Stacy O’Brien, Au.D., Brad Stewart, Au.D., Bob Tysoe	Analysis and Models for Staffing, Scheduling, and Service Delivery Brandi McKee, Tonya Muncy, BC-HIS., Maggie Robertson, Au.D., Liz Rogers, Au.D.	Service Selection and Implementation: Analyzing Opportunities Establishing New Services in Your Practice Dawn Heiman, Au.D., Kathleen Wallace, Au.D., Gail Whitelaw, Au.D.
2:30 PM - 3:00 PM	Break in the Exhibit Hall			
3:00 PM - 4:30 PM	Price Modeling for Your Practice Kim Cavitt, Au.D., Jason Leyendecker, Au.D., Stephanie Sjoblad, Au.D.	Provider Referral Development and Promotional Strategies Stacy O’Brien, Au.D., Brad Stewart, Au.D., Bob Tysoe	Analysis and Models for Staffing, Scheduling, and Service Delivery Brandi McKee, Tonya Muncy, BC-HIS., Maggie Robertson, Au.D., Liz Rogers, Au.D.	Service Selection and Implementation: Analyzing Opportunities Establishing New Services in Your Practice Dawn Heiman, Au.D., Kathleen Wallace, Au.D., Gail Whitelaw, Au.D.
4:30 PM - 5:30 PM	Reception in the Exhibit Hall			
5:30 PM - 7:00 PM	Member Meeting and Happy Hour			

SATURDAY, OCTOBER 22, 2022

7:30 AM - 8:00 AM	Breakfast in Session Room
8:00 AM - 9:30 AM	Closing the Gap: Outsourcing for Improved Outcomes: Audra Branham, Au.D., Josiah Dykstra, Ph.D., Brandon Pauley, Esq., Sam Vaught, Au.D.
9:30 AM - 9:45 AM	Break

SATURDAY, OCTOBER 22, 2022 (continued)				
9:45 AM - 11:15 AM	Amplification Amplified Jill Davis, Au.D., Ram Nileshwar, Au.D., Abby Ryan, Au.D.	The Business of Balance Rachel Garcia, HIS., Marilyn Hinrichs, Au.D., Craig Kasper, Au.D., Angeline Naro, Au.D., Brian Naro, Au.D.	The ABC's of APD Matt Barker, Au.D., Mary Anne Larkin, Au.D., Gail Whitelaw, Au.D.	A Ringing Endorsement for Tinnitus Services Jason Leyendecker, Au.D., Maria Morrison, Au.D., Ben Thompson, Au.D.
11:15 AM - 12:45 PM	Business Plan Competition Lunch			
12:45 PM - 2:15 PM	Amplification Amplified Jill Davis, Au.D., Ram Nileshwar, Au.D., Abby Ryan, Au.D.	The Business of Balance Rachel Garcia, HIS., Marilyn Hinrichs, Au.D., Craig Kasper, Au.D., Angeline Naro, Au.D., Brian Naro, Au.D.	The ABC's of APD Matt Barker, Au.D., Mary Anne Larkin, Au.D., Gail Whitelaw, Au.D.	A Ringing Endorsement for Tinnitus Services Jason Leyendecker, Au.D., Maria Morrison, Au.D., Ben Thompson, Au.D.
2:15 PM - 2:30 PM	Break			
2:30 PM - 4:00 PM	Your Independent Practice: Creating Your Personal Road Map for Success: Kristin Davis, Au.D.			
4:00 PM - 5:00 PM	Fired Up for the Future of Independent Practice: Networking Reception			
SUNDAY, OCTOBER 23, 2022				
8:00 AM - 11:30 AM	State Advocacy Workshop on OTC and Prescription Hearing Aids			
	Clinical APD Workshop: Matt Barker, Au.D., Tricia Nechodom, Au.D., PASC, Courtney Stone, Au.D.			
	Clinical Tinnitus Workshop: Jason Leyendecker, Au.D., Ben Thompson, Au.D.			

Visit audiologist.org/2022 for the most up-to-date agenda.

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PRESIDENT'S MESSAGE

Continued from page 3

7. Attend the ADA State Advocacy workshop at AuDacity on Sunday Oct 23rd. Take home strategies to address these issues in your state. EVERY state licensure law will have to be examined in 2023 in light of the “new” prescription class of hearing aids. If your state doesn't have a strong audiology organization, ADA is here to help you with coalition development and resources for your state.

In conclusion, our ACTIONS in the next several months will reveal our true “collective group” mindset. My hope and belief is audiologists will choose to be eagles and act in an intentional and deliberate manner in executing the above steps to reach our professional goals. With each other we can elevate our profession for future audiologists, our peers, and our practices! ■

EDITOR'S MESSAGE

Continued from page 5

Of course, the audiologist's verdict might be, “You need to upgrade to prescriptive devices, and we have those here.” Like the answer to the first question, after patients are thoroughly educated on their options, many will likely opt for the more comprehensive service package albeit at a higher price point. When patients ask this second question, audiologists need to have a menu of services they provide (along with accompanying fees) that will answer this question.

3. **“How do I get the most from this, now and next year?”** The third scenario involves patients who are more proactive about their hearing health and are willing to spend some extra time and money squeezing more benefit from their existing OTC device purchase. Individuals who ask this question are likely to benefit from extended warranties and annual service packages that include occasional clean and check appointments.

Patients who fall into this third category are probably satisfied with the “good enough” benefit of their OTC purchase, but want some added peace of mind, and are willing to pay a little extra for that. Down the road, maybe in a couple of years, these patients could purchase a pair of prescription hearing aids. In this scenario, OTC was an effective entry into hearing care, likely at a younger age, compared to the traditional prescriptive model of care.

Preparing for OTC, Next Steps

If you think OTC is a good idea and you are willing to tell your community, “Yes, we carry OTC, and we do it better than anyone,” these three tasks can get you one step closer to leveraging OTC as an opportunity to grow your business and help more people:

1. Create educational materials that compare pay-as-you-go OTC to your existing good-better-best service/device packages. These materials need to clearly illustrate to patients that emerging data² suggests there are several barriers to existing OTC device satisfaction and benefit, including cosmetic concerns, physical discomfort, lower than expected speech understanding in noise and a general lack of perceived benefit associated with OTC use. These barriers are more likely to be successfully addressed when an audiologist is involved early on in the buying experience.
2. Conduct a time vs. cost analysis of your practice. This serves as the foundation of how much you will charge for services and for the types of services you will be charging for. The result of this process is a menu of services, allotted in 30-minute increments, with a corresponding fee for each service. Examples of these service options, listed on a menu, could include:
 - Clean and check: 30 minutes
 - 2 cc coupler measures only: 30 minutes
 - Real ear and 2 cc coupler measures, including counseling: 60 minutes

- Personal adjustment counseling: 30 minutes
 - Device assessment (troubleshooting): 30 minutes
 - Annual hearing assessment: 30 minutes
3. Develop a patient profile of individuals who are more likely to require prescription hearing aids. This third step will be particularly effective during an in-person appointment when patients are wondering if they can save some money by purchasing OTC devices. Perhaps the best way to educate patients is with a checklist like the one shown below. The checklist covers many important considerations that help patients navigate the differences between OTC and prescriptive treatment approaches. Armed with this checklist, the audiologist sits down with the patient and discusses each of these points:
- Hearing Profile: Do you have more than a mild hearing loss or a medical condition?
 - Non-hearing variables: What are your hand capabilities, cognitive functioning?
 - Listening needs (goals) and device features: What hearing aids features do you need based on your daily activity levels?
 - Cost: Is cost your number 1 priority?
 - Perceived handicap: What affect does hearing loss have on social abilities and emotions?
 - Tech Savviness: Are you a regular smartphone user who likes to use apps?
 - Personality and motivation: Are you willing to work on your own to learn new skills? Are you positively motivated to try hearing aids on your own?
 - Expectations: Do you have high expectations about how hearing aids will work?
 - History of hearing aid use: Have you ever worn hearing aids?
 - Attitude toward hearing loss and getting treatment: Do you have a generally positive attitude about seeking treatment and/or using hearing aids?
 - Willingness to work with provider: Are you willing to follow the guidance of a professional or do you wish to work on your own without professional help? How willing are you to seek the services of a professional if something goes wrong or you have a question?

With some careful planning and execution, any audiologist can stand out from the OTC crowd and say with confidence, “Yes, we carry OTC, and we do it better than anyone. But first, let’s see what might be best for you.” ■

Footnotes

¹ <https://hearinghealthmatters.org/thisweek/2022/otc-hearing-aids-manufacturer-opinion/>

² Auriemma, C. , Wu & Ricketts. Examining the barriers to satisfaction in adults receiving OTC hearing aids. Poster presented at the 2022 American Auditory Society meeting, Scottsdale, AZ



The Tools You Need to Run Your Practice.

ADA's Practice Resource Library offers a comprehensive collection of off-the-shelf forms, documents, and guidance materials. These resources will assist audiologists and their staff with practice operations, compliance, and patient management.

- Adult Case History
- Business Associate Agreement
- Employee Manual
- Hearing Aid Bill of Sale/Purchase Agreement
- Hearing Aid Insurance Waiver
- Hearing Aid Loaner Agreement
- Hearing Aid Orientation Checklist
- Hearing Aid Upgrade Notice
- HIPAA Security Policy Template
- Insurance Verification Form
- Notice of Non-Coverage
- Office and Financial Policies
- Patient Registration Form
- Policies and Procedures Manual
- Price Quote Form

ADA members receive a discounted rate when purchasing any of the above forms. Visit audiologist.org/forms for details!



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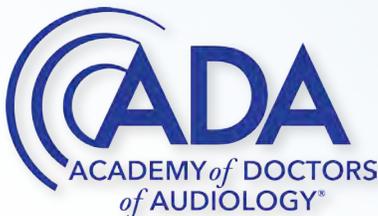
The purpose of the **ADA Student Academy of Doctors of Audiology (SADA)** is to serve the varied needs and concerns of student and emerging graduated members of ADA. SADA members have access to exclusive student resources, ADA's mentoring program, eligibility to participate in the Student Business Plan competition at the annual AuDacity Conference, and can help set the direction of ADA student initiatives.

Get involved today! Visit audiologist.org/sada for more information.

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2 - Get \$750 Signup Bonus in statement credits when you spend \$10,000 or more in the first 4 months after account creation. This includes the \$115 ADA dues for the first year. Your Card account must not be canceled or in default at the time of fulfillment of any offers. After the 4 months, Rewards points will be credited to your account if you have met the threshold amount. If we in our sole discretion determine that you have engaged in abuse, misuse, or gaming in connection with the welcome offer in any way or that you intend to do so, we may not credit Rewards points, we may freeze Rewards points credited, or we may take away Rewards points from your account. We may also cancel this Card account and other Card accounts you may have with us.

3 - The ADA dues of \$115 are paid every year when you spend \$25,000 or more in every subsequent calendar year after the first year. Annual value of \$115 per practice. You still have to pay your dues as normal. We will simply credit you back the \$115 value in the form of a statement credit. Your Card account must not be canceled or in default at the time of fulfillment of any offers. If we in our sole discretion determine that you have engaged in abuse, misuse, or gaming in connection with the welcome offer in any way or that you intend to do so, we may not credit Rewards points, we may freeze Rewards points credited, or we may take away Rewards points from your account. We may also cancel this Card account and other Card accounts you may have with us.