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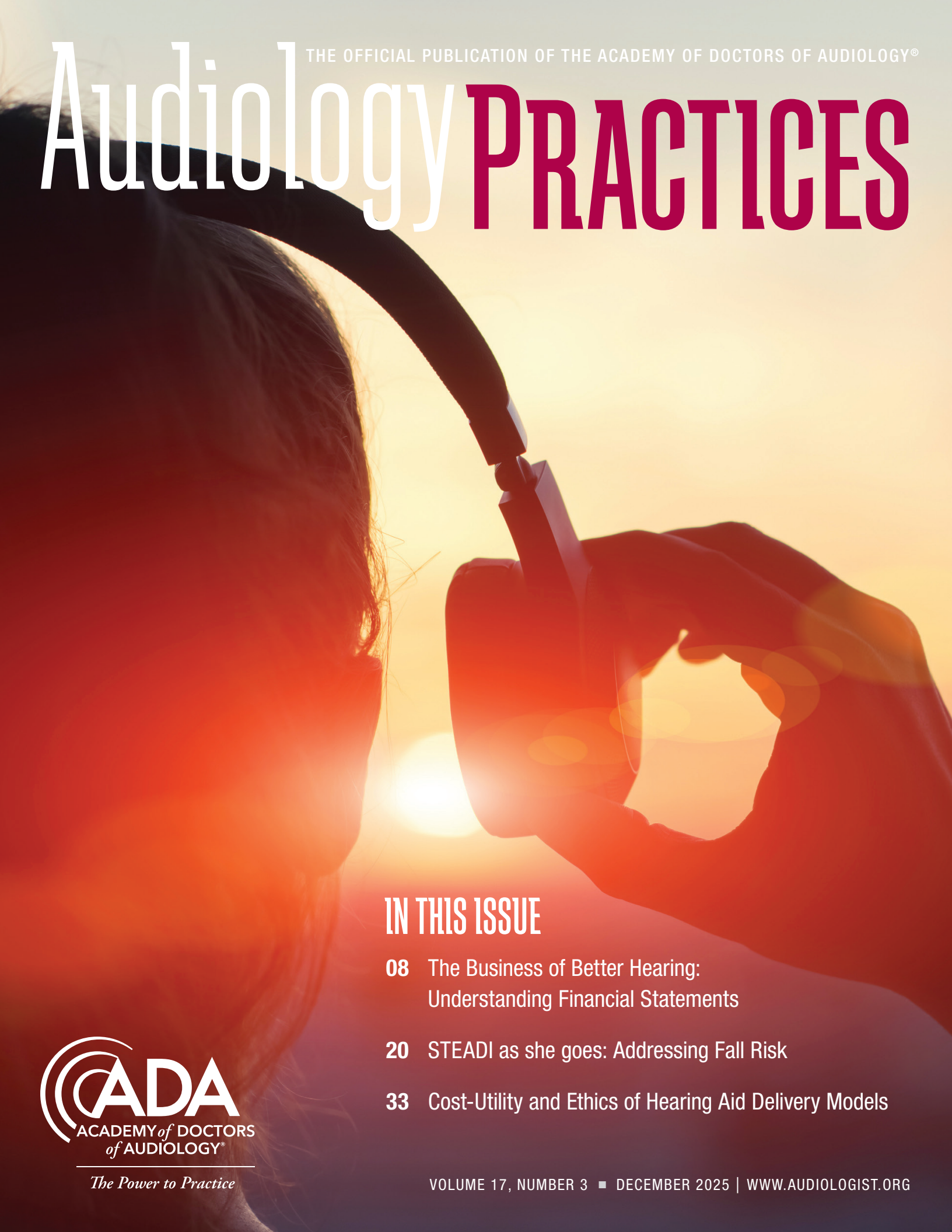

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The Power to Practice

VOLUME 17, NUMBER 3 ■ DECEMBER 2025 | WWW.AUDIOLOGIST.ORG

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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.

Audiology Practices (USPS 025-476) ISSN (21645248) is published quarterly by the Academy of Doctors of Audiology, 1024 Capital Center Drive, Suite 205, Frankfort, KY 40601. Periodicals Postage Paid at Lexington KY and at additional mailing offices. Subscriptions are $25 as part of membership dues. POSTMASTER: Send address changes to *Audiology Practices*, 1024 Capital Center Drive, Suite 205, Frankfort, KY 40601.

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Amyn Amlani, Ph.D.

Professional Autonomy: Completing the Vision for Audiology

VIDEO PLAYS:

[Voiceover]

Good morning, colleagues, friends, and advocates. It's my privilege to welcome you into this virtual clinic—a space where advocacy has reshaped how hearing and balance care are delivered.

Having been granted the opportunity to serve in a leadership role has been both humbling and transformative.

It has given me not only the privilege of representing our profession, but also a clear view of its greatest strengths and the possibilities that lie ahead if we choose to act.

Video shows:

[-Extender care model; -Radiographic imaging; -Prescribing rights; -Lifestyle Medicine]

[Voiceover]

What you've just seen is a glimpse of possibility—a profession stepping fully into its potential.

Each advancement opens more than policy — it opens possibility, expanding how we serve patients and shape the future of hearing and balance care.

IN PERSON:

Good morning. The video you just watched highlights the profession we can build together—and it starts with the choices we make now.

For me, it's a tremendous honor to stand here as part of a team dedicated to advancing that future. But with that distinction comes **responsibility—responsibility** to be candid about where audiology stands today, and where it must go if we are to secure our rightful place in healthcare.

This isn't theory. This is about the future we will either choose to build… or allow to slip away.

When the Doctor of Audiology degree became the entry-level standard, it felt **monumental**—the moment we '*arrived*.' We declared to the world: *Audiologists are ready to lead.*

It was transformative. We moved from a two-year master's to a four-year doctorate, aligning ourselves with other healthcare doctorates and strengthening our foundation in diagnosis, evidence-based care, and prevention.

Continued on page 60

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ACADEMY of DOCTORS of AUDIOLOGY

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.

Is ADA right for you? The answer is yes if:

- You want to belong to a professional organization that provides valuable practice management resources you can use in your business, right now, today.
- You want to have access to expert reimbursement consulting advice.
- You want to help advance advocacy efforts that will ensure patient access to audiologic healthcare and professional parity for audiologists with other doctoring professionals.

Visit audiologist.org/membership to learn more!

Brian Taylor, Au.D.

The Ethics and Un-Scalability of Best-Practice Care

The gap between *knowing* the details about how to do something and actually *doing* it can be immense. It's a chasm that reminds me of that classic Seinfeld scene where it's easy for Jerry to make a car rental reservation but much tougher for him to keep it. The same conundrum holds true in the clinic: Most audiologists know the details of best-practice hearing care standards, but according to survey data, few actually routinely implement these standards in their daily practice.

Probe-microphone measures, of course, are an essential component of this best-practice care, yet only about one-third of all clinicians are routinely performing them. Even Consumer Reports concluded in 2009 that two-thirds of all hearing aid fittings are done incorrectly, and that probe-microphone testing is a "must have" procedure for every person who acquires hearing aids. Although we have organizations today that create and promote best-practice standards, it is apparent that most audiologists don't routinely follow these standards in their own clinics – just spend some time on Audiology Happy Hour at Facebook and you will likely come to the same conclusion!

Look no further than Amyn Amlani's article in this issue of *Audiology Practices* to appreciate how much of a difference best-practice hearing aid delivery outpaces the wily-nilly of relying on the hearing aid manufacturer's first-fit. Something Amyn refers to in his article as non-best-practice (NBP) fittings. In this study, with important policy and clinical implications, he retrospectively collected the anonymized chart notes of 638 hearing aid wearers from seven clinics. He divided those wearers into three groups: non-best practice fittings (NBP), best-practice (BP) fittings and self-fittings (SF) a/k/a OTC wearers. He then analyzed and compared outcomes as well the economic impact for each of the three groups.

Not only did he find that the BP and SF groups had better outcomes than the NBP group, but he also found that the SF group attracted patients at a younger age so that these individuals could experience the benefits of treatment sooner. All told, both BP and SF delivery modes yielded significant patient benefit and better economic value compared to the NBP mode of delivery.

In addition to these illuminating findings, Amyn's work shows that SF and BP modes of delivery complement each other. His findings support a tiered approach to hearing aid fitting: Self-fitting hearing aids, acquired over-the-counter serve as a scalable and cost-effective entry point while best-practice (BP) care provides optimal outcomes when desired by the patient. He makes a strong case that both BP and SF are ethical approaches to patient care, while NBP, because of its poor consistency, is ineffective, and yes, unethical.

Several years ago, at an annual American Academy of Audiology meeting, Catherine Palmer, caused a stir when she suggested the failure to use probe microphone measures in the fitting of hearing aids was unethical. Thanks to Amyn's efforts, as well as a few others he cites in his article, we have data that supports Catherine's controversial point from 15 years ago which now should be considered conventional wisdom. ■


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Accrediting the Future: ADA's Audiology Practice Accreditation Program Advances Audiology 2050

Shifting healthcare delivery models, workforce constraints, technological advancements including artificial intelligence, and changing consumer expectations are reshaping how hearing and balance care is delivered. ADA has been intentional about not only responding to these changes, but helping lead them. One of the most important ways we are doing so is through Audiology 2050. And one of the most important ways we are advancing Audiology 2050 is through the ADA Audiology Practice Accreditation Program.

This program offers more than the opportunity for recognition. It is a strategic investment in the future of audiology and a cornerstone of the Audiology 2050 vision where audiologists are essential, accessible, autonomous clinical doctoring professionals delivering high-value, evidence-based, patient-centered audiology services.

Why Practice Accreditation, why now?

For decades, audiology has focused heavily on individual credentials, licensure, and continuing education. Increasingly, however, the value of healthcare is assessed more holistically at the practice level, through how care is delivered, how patients experience that care, how outcomes are measured, and how practices integrate evidence-based clinical *and* business standards into daily operations.

The ADA Audiology Practice Accreditation Program was designed to meet this moment. It establishes a rigorous, audiology-specific framework that defines excellence across clinical care, practice operations, patient engagement, ethics, and continuous quality improvement. Accreditation signals to patients, payers, policymakers, and partners that an audiology practice meets nationally recognized standards and is committed to accountability, transparency, and continuous improvement.

Aligning with Audiology 2050

Audiology 2050 challenges us to think long-term, by helping us envision what audiology needs to look like in 25 years to achieve its potential as a clinical doctoring profession. Practice accreditation directly supports the Audiology 2025 framework. First, it reinforces professional autonomy. By proactively defining and owning standards of practice excellence, audiology strengthens its position as a distinct doctoral-level healthcare profession. Accreditation helps ensure that audiologists, not governmental or other external entities, set the benchmarks for quality audiologic care.

Second, accreditation supports access and sustainability. High-functioning practices with strong operational foundations are better positioned to adapt to reimbursement changes, integrate new technologies, expand services, and serve diverse patient populations. In short, strong practices sustain strong professions.

Continued on page 63

The BUSINESS of Better Hearing:

UNDERSTANDING FINANCIAL STATEMENTS AND DECODING THE DATA

Jordan Coates, MBA

As an audiology practice owner, you probably didn't open your business because you love spreadsheets. You built your practice to help people hear better—to restore connections, conversations, and quality of life. But whether we like it or not, a practice's survival is based on its ability to consistently produce a profit. How do we know if we're set up for financial success and longevity? It's in the financial statements.

The purpose of this article is to help private practice owners understand the language of financial statements and how to use that language to interpret the data to make smarter management decisions. You don't have to get an MBA, but by learning how to read and interpret your income statement, balance sheet, and cash flow statement, you'll be able to identify where profits are leaking, where growth potential is hiding, and where you may be leaving money—or mission—on the table. Interpreting financials is like evaluating a patient: you use objective information from the audiogram coupled with subjective details from their history to create a treatment plan for them.

How do we know if we're set up for financial success and longevity?

It's in the financial statements.

There are 3 financial statements that are universally utilized: the Profit and Loss (or Income Statement), Balance Sheet and the Statement of Cash Flows. These same three statements are used by companies as big as Apple or Nike and as small as a single-provider audiology practice. After examining each one of these statements we will discuss ways to use them to find hidden profit (or potential problems) in your practice.

The Profit and Loss (P&L) – Operational Report Card

The P&L (also called the Income Statement) gives us insight into the operational performance of a business during a specific time period. See Figure 1 for an example of a P&L for one month of business activity. It tells you how much money your practice earned (revenue), how much it spent (COGs and expenses), and what was left over after at the end of that time period (profit). It has three sections:

1. Revenue

For audiology practices, most revenue comes from three main streams:

A. Hearing aid sales – Money paid by patients or insurance for devices.

B. Diagnostic testing – Includes revenue for things like hearing evaluations, tympanometry and other billable tests and procedures.

C. Service and professional fees – Revenue from follow-up appointments, hearing aid repairs, tinnitus management, service plans, etc.

2. Cost of Goods Sold (COGS)

COGS are costs directly associated with generating revenue. Examples are money paid to manufacturers for hearing aids, earmolds, batteries etc.

3. Operating Expenses

These are the costs of running or operating the practice. Examples are payroll, rent, marketing, insurance, software subscriptions, utilities etc. While both operating expenses and COGS are technically expenses, COGS are directly influenced by revenue line items while operating expenses typically exist no matter how much revenue is generated.

How to Read the P&L

The P&L answers questions like: A.) Are we bringing in more money than we are spending? And B.) Do trends indicate decreasing revenue or increasing expenses? Think of your P&L as an operational report card. It reveals how efficiently your team converts clinical hours into profit.

Since the P&L represents performance over a specific time period, proper analysis requires comparison to previous time periods. If evaluating November 2025 P&L, you could compare it to the previous month's numbers or even November of 2024. In addition to identifying trends (major moves up or down in specific line items), you should also calculate margins for each period and compare them to previous periods as well.

"Margins" give us information about the relationship between two line items in a statement, calculated as a percentage. The two most important P&L margins to monitor are gross profit margin and net profit margin. The gross profit margin is the percentage of COGS related to total revenue. A decreasing gross profit margin would indicate that, for every dollar that you bring in on a hearing aid sale, the practice is paying more for the devices themselves. The net profit margin represents the percentage of revenue that remains as profit after all expenses have been deducted. When net profit margins decrease, it is time to do a deep dive to find ways to decrease expenses or increase revenue.

Why It Matters in Audiology

For private audiology clinics, success is not defined solely by the number of patients seen—it's about how effectively those patient encounters translate into good medical outcomes and practice income. The P&L reflects that balance. It bridges the clinical and business sides of care, showing whether the practice's operations are sustainable. Understanding it empowers owners to reinvest wisely—whether in new technology, staff development, or community outreach—without compromising profitability.

PROFIT AND LOSS

October 1–31, 2025

Revenue	
Hearing Aids	$32,564.00
Fitting Fees	$2,400.00
Diagnostics	$1,900.00
Services	$5,600.00
Accessories	$895.00
Total Revenue	**$43,359.00**

Cost of Goods	
Hearing Aid Bills	$10,746.00
Repair Bills	$800.00
Accessory Bills	$425.00
COG Total	**$11,971.00**

Gross Profit	**$31,388.00**

Expenses	
Credit Card Processing	$556.00
Office Cleaning	$350.00
Donations (Charitable)	$1,000.00
Advertising and Promotion	$4,160.00
Contract Services	$456.00
Insurance Expense	$120.00
Office Supplies	$450.00
Payroll Expenses	$11,538.00
Rent Expense	$4,500.00
Telephone Expense	$100.00
Utilities	$130.00
Total Expenses	**$23,360.00**

Net Income	**$8,028.00**

Figure 1. A sample Profit and Loss Statement for one month of business activity.

The Balance Sheet – The Snapshot of Practice Value

Think of the balance sheet as a still photo—a picture of a single moment in time that captures all that you *own* and *owe*. To understand the balance sheet, you must first understand the Accounting Formula: Assets = Liabilities + Owner's Equity. While this format is how the accounting formula is officially laid out, I think it makes more sense to re-arrange the components and show the formula as Assets – Liabilities = Owner's Equity.

> Simply put: What you *have* minus what you *owe* is what you are *worth*.

1. Assets

Assets are the resources your practice uses to generate value. They're typically divided into:

A. Current assets: these are typically either cash in hand, money owed to the business or things that can be easily converted to cash.

   Examples of current assets are money in checking/savings accounts (cash), hearing aid inventory and accounts receivable (A/R). A/R is money still owed to you from patients and insurers for services already rendered or products already sold. Current assets are expected to convert to cash within a year or able to be converted to cash (i.e. sold) quickly.

B. Long-term assets: equipment such as audiometers, sound booths, computers, vehicles, leasehold improvements, and real estate. These represent your longer-term investments in infrastructure. They have value but cannot be quickly turned into cash.

2. Liabilities

Liabilities are your practice's financial obligations to others. Stated differently, what you *owe* others. Like assets, they are also categorized by timeframe:

A. Short-term liabilities: Things that will be paid within a year such as credit card balances, payroll liabilities (like quarterly withholdings owed to government), sales tax payable, or vendor invoices due within a few months.

B. Long-term liabilities: Things that will be paid over a long period of time like real estate mortgages, SBA loans or lines of credit that extend beyond 12 months.

3. Owner's Equity

This is what's left after liabilities are subtracted from assets. This is sometimes called net worth. Owner's equity is not to be confused with the value of a practice, however. A well-run practice is worth much more than just the value of its assets and liabilities. Owner's equity just represents a dollar amount that would be left over if all outstanding invoices were paid to the clinic, all outstanding bills paid that were owed by the clinic and everything else (equipment, real estate, etc.) was liquidated.

How to Read It

Figure 2 is an example of a typical balance sheet found in private practice. The balance sheet answers questions like:

A. Do we have enough current assets to cover short-term obligations? (Also called liquidity)

B. Are we building long-term value? (Also called equity growth)

As with the P&L, establishing and recognizing trends is crucial to balance sheet analysis. Over time, trends on your balance sheet reveal whether your business is growing from reinvested profits or relying on borrowed funds. Rapid growth funded primarily by debt can strain cash flow and limit flexibility when opportunities arise.

There are several ways to evaluate whether your growth is healthy, but comparing balance sheets between two dates in time is one of the best ways to gauge the effect of your growth. Financing growth through debt is not always a bad idea. But over time, the owner's equity should continue to increase as the business grows.

Why It Matters in Audiology

Audiology practices face significant equipment and build-out costs when starting a new practice or opening a new location. The balance sheet helps owners see whether those investments are being financed responsibly and whether the business is accumulating real value.

Here are a couple of examples:

A. A new booth purchase could increase revenue by allowing you to see more patients and would increase the long-term assets line item since it has value. But, if financed entirely through loans, the long-term liabilities line item will also rise.

B. If accounts receivable (like outstanding insurance payments) increase faster than cash between two periods, it may signal collection delays (or unfiled claims) affecting liquidity.

By reviewing the balance sheet quarterly, owners can detect early warning signs of over-leverage* or under-capitalization.** This is often the difference between growth that's sustainable and growth that's risky.

BALANCE SHEET
December 31, 2024

Assets	
Current Assets	
Cash	$85,678.00
Accounts Receivable	$8,400.00
Inventory	$3,800.00
Fixed Assets	
Medical Equipment	$13,456.00
Total Assets	**$111,334.00**
Liabilities	
Current Liabilities	
Accounts Payable	$8,500.00
Sales Tax Due	$812.00
Credit Card Bills	$2,765.00
Long-Term Liabilities	
Bank loan	$9,845.00
Total Liabilities	**$21,922.00**
Equity	
Retained Earnings	$88,412.00
Common Stock	$1,000.00
Shareholder Equity	**$89,412.00**

Figure 2. A example of a balance sheet found in an audiology practice.

*Over-leverage in a private practice occurs when the practice takes on more debt than its cash flow can safely support. This typically means loan obligations, equipment financing, or expansion costs exceed the practice's ability to cover them through reliable patient revenue. As a result, the practice faces higher financial risk, reduced flexibility, vulnerability to reimbursement delays, and difficulty absorbing unexpected expenses.

**Under-capitalization in a private practice occurs when the practice lacks sufficient financial resources to fund operations, growth, or unexpected costs. This may involve inadequate startup capital, too little cash on hand to cover payroll or rent, or insufficient reserves for equipment, technology, or compliance needs. As a result, the practice may struggle with cash-flow gaps, delayed payments to vendors, limited ability to invest in staff or services, and reduced resilience to fluctuations in patient volume or reimbursement.

The Statement of Cash Flows – The Lifeblood of the Practice

A practice can be operationally profitable (according to the P&L) yet still struggle to pay its bills. If this is the case in your practice, the answer will be found in the statement of cash flows. It tracks the movement of currency through time. While the P&L records operational revenue and expenses when they're earned or incurred, the cash flow statement tracks when money actually moves within or through your practice.

There are several things that affect a practice's cash position (money in the bank) that are not accounted for on the P&L like loan payments or money spent on leasehold improvements. You can see an example of a cash flow statement for one year of business activity in Figure 3. The statement of cash flows has three sections:

1. Operating Activities

This section reflects your operations: patient/insurance payments, payroll, rent, vendor payments and A/R. It tells you whether daily operations are generating or consuming cash (similar to the P&L).

2. Investing Activities

Things like equipment purchases, renovations or technology upgrades appear here. These represent investments in the future. While they reduce short-term cash, they should enhance long-term productivity and growth if properly managed.

3. Financing Activities

These include money flowing between the business and its lenders or owners—loan proceeds or payments, owner draws/shareholder distributions (owner taking money out of the business), and capital contributions (investors or owners adding cash to the business).

STATEMENT OF CASH FLOWS

January 1–December 31, 2024

Operating	
Net Income	$187,556.00
Depreciation	$18,567.00
Increase in Account Receivable	($26,556.00)
Increase in Inventory	($5,600.00)
Net Cash from Operating Activities	**$173,967.00**
Investing	
New Audiometer	($9,500.00)
Interest Income from CD	$1,200.00
Net Cash from Investing Activities	**($8,300.00)**
Financing	
Loan for New Audiometer	$9,500.00
Loan Payments	($14,555.00)
Shareholder Distributions	($35,000.00)
Net Cash from Financing Activities	**($40,055.00)**
Net Cash Increase/Decrease for Period	**$125,612.00**

Figure 3. A statement of cash flow for one year of business activity.

How to Read It

Just because a business is showing a profit on the P&L does not mean that they are generating more cash than they are spending. Example: if your P&L shows a net profit of $9,500 for the month but you have a $5,000 monthly small business association (SBA) loan payment and bought a $6,000 REM, you would actually have a negative cashflow of $1,500 for that time period ($9,500 in, $11,000 out). Loan repayments, capital expenses (like equipment) and several other items that require an outflow of cash are not reflected on the P&L. While the P&L tells you if your operations are profitable, the statement of cash flows tells you if you are gaining or losing cash for a given period. Ignore the statement of cash flows at your own peril. Many businesses with substantial earnings have gone bankrupt. This is due to committing to too many capital expenditures (equipment, real estate, etc) and debt beyond their ability to pay. Toys R Us, for example, had great revenue and strong profits, but due to incredibly high debt levels, they ran out of cash and could not pay their creditors, leading to bankruptcy.

The statement of cash flows might be the most difficult of the financial statements to understand on a line-by-line level. In our example, you will see that the "depreciation" line item is a positive addition to the cash flow. Why is this? Depreciation should decrease something, right? Depreciation is a non-cash expense that is already accounted for in the "net income" line item. Though depreciation lowers the net income line, it doesn't actually decrease cash. Depreciation represents a decrease in value of capital purchases or assets. Since the "net income" line item in this statement has already been lowered by depreciation, that same amount is added back in the cash flow statement as a positive amount to zero out its effects on the actual cash flow itself.

Depreciation of assets decreases value on paper but does not negatively affect cashflow. Sound confusing? This is one example of several seemingly odd line items in the statement of cash flows that might not make sense at first glance. An in-depth description of each type of line item is beyond the scope of this article, but there are plenty of resources available (including the ADA website) to help you dig further. Learn about each line item and why it positively or negatively affects the final increase or decrease in cash for the period at hand.

The statement of cash flows answers questions like: A.) If we're profitable, why is cash decreasing? (Often due to equipment purchases, excessive loan payments, collection delays, etc), or B.) If cash is increasing but profit is flat, what's driving it? (Perhaps deferred expenses or loan proceeds.)

Why It Matters in Audiology

Audiology practices depend heavily on cash flow timing. As an example, hearing aid purchases require upfront payments to manufacturers that might be due before the patient pays or insurance reimburses the practice. The most common cashflow issues in medical practices occur due to the lag between filing an insurance claim and receiving payment, especially if you are billing insurance for hearing aids. In our practice, we can count on about a third of these hearing aid claims being incorrectly denied at least once, requiring appeal, further delaying payment for services rendered. Can you afford to wait 5 months for a hearing aid payment from insurance? The cash flow statement highlights these timing differences so you can plan accordingly.

Analyzing Financials: Where to Start

Once you understand what each statement is telling you, the real power comes from connecting each of them. This is where you can uncover truths about your business that are, otherwise, invisible (or show up after it is too late to correct). As previously mentioned, one of the best ways to analyze financials is by comparing margins/ratios between time periods and establishing and analyzing trends.

Listed here are a few key points of analysis that I find most valuable when reviewing financials. These are easy to calculate and a good way for us non-accountants to ease into understanding financial statements.

Gross Margin:

This is the percentage of your cost of goods sold (COGS) related to your revenue. COGS for most audiology practices is primarily made up of the cost of the hearing aids (what you pay to the manufacturer, sometimes known as the wholesale cost). This percentage can vary based on things like your hearing aid technology level mix or a time period in which you fit a more or less expensive manufacturer. Regardless, if you see that the gross margin is trending upward over a period of 3 months or more, it's time to investigate and take action.

Check manufacturer invoices to ensure that pricing is correct and that there are no "new" or unexpected/incorrect charges like shipping or over-charges for domes/wax traps/receivers. Remember that pricing is negotiable with hearing aid manufacturers. In addition to taking advantage of buy one, get one (BOGO) offers or similar discounts, don't forget that they want your business. You are their customer and direct pricing is always negotiable.

If the gross margins continue to decrease over time, it might be wise to increase your pricing accordingly to maintain profitability.

Here are some tactics that might be effective:

Revenue-to-Payroll Ratio:

There are several ways to analyze payroll expenses. I like to look at the ratio of total revenue to payroll. This is an efficiency metric. It tells you how many dollars of revenue are being brought in for every dollar paid to your staff. Newer clinics should see this percentage decrease over time as processes are sorted out and efficiencies discovered. Established practices should set targets based on historical data and, if those targets are not met, look deeper into KPIs like conversion rate or revenue per hour (at the provider level).

Collection Rate:

For practices that accept insurance, this is the most important place to start for an owner who feels like the practice is doing well (busy, lots of fittings, etc.) but is not seeing that sentiment translate to dollars into a bank account. Accounts receivable (A/R) is money owed to a business that it has not collected. Calculate the percentage of A/R to total payments collected. If this margin shows a drastic increase over time, run an A/R Aging report (which should be reviewed monthly anyway) and investigate. Start with the largest amounts still owed. Were they actually billed to insurance? Is a staff member writing off monies owed from insurance that should be appealed and paid? Monitoring the collection rate is vital to ensuring positive cashflow.

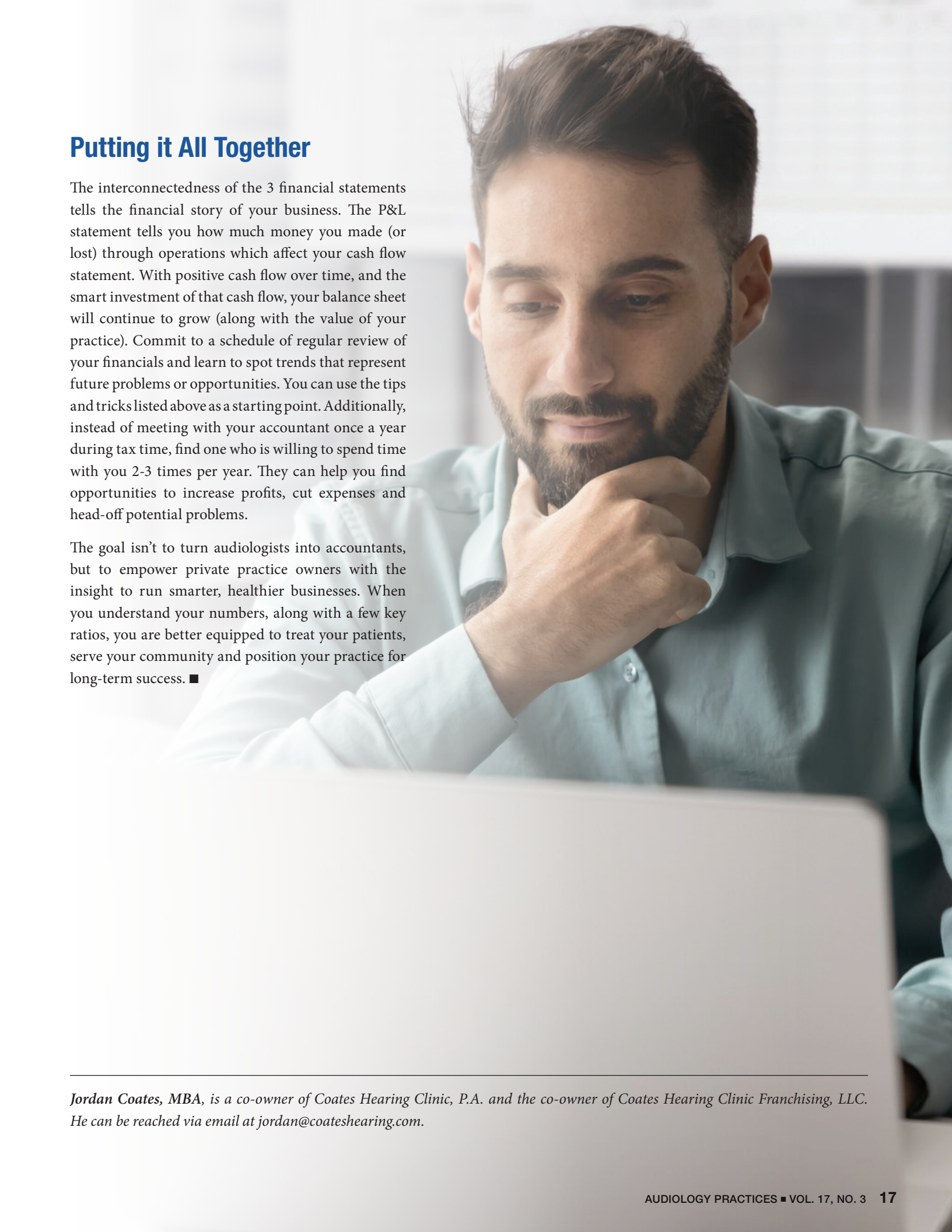
Marketing Efficiency:

Measuring marketing effectiveness is complicated. It should be analyzed by looking at several metrics including things like total leads, new patient appointments etc. Using financial statements, marketing efficiency can be measured by revenue-to-marketing ratio. This ratio answers the question "How many dollars am I bringing in for every dollar I pay in marketing?" While there may be one-off expenses (like a quarterly mailer or bi-annual ad agency payments) that skew this ratio for a given month, this ratio represents one of the most accurate ways to measure marketing effectiveness over time.

Putting it All Together

The interconnectedness of the 3 financial statements tells the financial story of your business. The P&L statement tells you how much money you made (or lost) through operations which affect your cash flow statement. With positive cash flow over time, and the smart investment of that cash flow, your balance sheet will continue to grow (along with the value of your practice). Commit to a schedule of regular review of your financials and learn to spot trends that represent future problems or opportunities. You can use the tips and tricks listed above as a starting point. Additionally, instead of meeting with your accountant once a year during tax time, find one who is willing to spend time with you 2-3 times per year. They can help you find opportunities to increase profits, cut expenses and head-off potential problems.

The goal isn't to turn audiologists into accountants, but to empower private practice owners with the insight to run smarter, healthier businesses. When you understand your numbers, along with a few key ratios, you are better equipped to treat your patients, serve your community and position your practice for long-term success. ■



***Jordan Coates, MBA**, is a co-owner of Coates Hearing Clinic, P.A. and the co-owner of Coates Hearing Clinic Franchising, LLC. He can be reached via email at jordan@coateshearing.com.*

Success Strategies

Addressing Barriers to Care

Insights from clinicians across health and wellness specialties who share similar opportunities and challenges as independent practice owners

Dr. Brian Harris
Owner, Harris Family Dentistry

Dr. Courtney Campbell
Founder Stitches Veterinary Surgery

Dr. Jane Brewer
Founder, Precision Chiropractic

Dr. Melissa Rose
Owner, Nardelli Audiology (3 Locations)

Dr. Rob Henslick
Founder, Dr. Henslick Vision Center

As part of CareCredit's commitment to not only providing financing solutions that work but also value that may help independent practices grow, together with the ADA we are bringing a group of successful doctors across several health and wellness disciplines to share what's worked for them. These are real-life, proven strategies to address the common challenges clinical practice owners face — like attracting new patients, patient retention, team training and more — as well as addressing barriers to care.

Brian Harris, DDS

The first barriers to patients getting what they want and need is confusion — and confused consumers do nothing. They may nod their head during the appointment and act like they understand, but they don't really know what their options are. The second barrier is cost. The more open and direct you can be with patients about cost and the more options you can provide that lets them to pay over time, the more success you're going to have. The third barrier is trust. And that one that takes time. The only way to really build trust is to provide massive value for patients without asking them to buy anything. Just serve them at the highest level and help them to get answers to the questions that most everybody has: "What are my options?" "What does it cost?" "Who do I trust?"

Courtney Cambell, DVM, DACVS-SA

Cost, fear and misinformation — these are the three biggest barriers we face in providing care. We tackle cost head-on by offering clear, transparent estimates. We present a range to clients because care isn't always predictable, but by staying within that range, we build trust. Clients also feel valued when given options — not just the "gold standard." Tailored, contextualized care plans acknowledge individual circumstances and provide meaningful choices. Fear often stems from uncertainty — questions like "Can I afford this?" or "How will I pay?" Our job is to help clients navigate these concerns with financial options. Health savings accounts, the CareCredit credit card, pet insurance — there are many ways to make care affordable, and we guide clients toward what works best for them. Misinformation is the last barrier. We counter this with education, offering resources, website links, handouts and videos before, during and after consultations. Post-visit videos that summarize care recommendations help clients process information and help make informed decisions. Empowering clients through education reduces fear and builds confidence in the care plan.

Jane Brewer, DC, DCCJP

All of us in private practice are asked the same or similar questions from patients that can signal a potential barrier to care. "How much is it going to cost?" "How much time is it going to take?" "Is it going to hurt?" Handling those objections before they're even asked is a great way to get ahead of concerns and put people's minds at ease. We try to address barriers and concerns upfront by encouraging patients to review the Frequently Asked Questions (FAQs) section on our website before they even come in. That's where we address a lot of those concerns including the time investment, pain management and treatment expectations. With a barrier like cost or finances we are also as transparent as can be. We are a direct pay practice but we're happy to provide any documentation needed for eligible insurance reimbursement. Proactively addressing barriers to care cuts down on confusion and helps to empower patients to make informed decisions.

Melissa Rose, AUD

It's a running joke in audiology that we're trying to get patients to purchase something for a problem that they don't always feel they have. Patients will come in and say, "Well, yes, sometimes I miss things." After testing we discover they have a 60, 70 decibel hearing loss, which is significant and can be classified as moderate to severe hearing loss. When it comes to healthcare, oftentimes one of the big barriers is cost. To address that concern we offer flexible financing with CareCredit — which has been a huge lever for us. We also offer our patients a subscription type model we call the 48-month treatment plan. After 36 months, patients are able to trade in their hearing aids. So our subscription program lets patients overcome the barrier of cost with a monthly payment versus having to manage the full upfront cost of hearing aids.

Rob Henslick, OD

The number one barrier to care is probably cost, so it's important that you're sensitive to that. But in the same vein, if it's a procedure or a pair of glasses that the patient really needs, it's our responsibility to make sure the patient understands the importance of care. It's also important to offer options when we can. You can have a pair of glasses that are super expensive, super fashionable, with the latest and greatest technology and lenses — or you can offer something that might fit within their budget a little better but still solve their needs. It's important to meet the patient where they are, but it's also important that you don't judge the book by its cover. It's easy to assume that someone isn't going to be able to afford whatever treatment it might be and therefore not even mention it to them. Unfortunately, in eye care, a lot of things are not covered by health or vision insurance, such as LASIK, upgraded cataract lenses and various lens implants. If you're dealing with treatment or procedures not covered by insurance, it's important to educate patients that while those procedures may not be absolutely mandatory, they certainly have huge advantages. It's also important to have options, whether it's financing or credit cards.

For more valuable resources, scan the QR code or visit https://www.carecredit.com/providers/hearing/resources/

CareCredit
a Synchrony solution

STEADI as she goes:

ADDRESSING **FALL RISK** IN THE AUDIOLOGY CLINIC

Justin R. Burwinkel Au.D. and Dave Fabry, Ph.D

INTRODUCTION

Falls risk management may not immediately come to mind when enumerating the professional services that dispensing audiologists can provide, yet helping patients maintain a steady course toward healthy aging is increasingly central to holistic audiologic care. Just as "steady as she goes" evokes maintaining a consistent and stable course of action at the helm, adopting evidence-based fall prevention strategies—such as those outlined in the Centers for Disease Control and Prevention's Stopping Elderly Accidents, Deaths & Injuries (STEADI) framework—can help audiologists guide older adults through the challenges at the confluence of hearing, balance, mobility, and independence.

A recent systematic review and meta-analysis found that, compared to those without hearing loss, individuals with hearing loss had 51% higher odds of falling in cross-sectional analyses and a 17% higher risk of falls when followed over time (Yeo et al., 2025). Earlier research also linked the severity of hearing impairment and engagement with audiology services to elevated fall rates (Criter & Honaker, 2016; Lin & Ferrucci, 2012).

Unfortunately, falls pose a pervasive threat even in the absence of the added complications of hearing difficulties. More than 14 million older adults in the United States—1 in 4 Americans aged 65 and older—experience a fall each year, making them the leading cause of both fatal and nonfatal injuries among this demographic. According to the CDC, fatal falls are projected to reach 100,000 annually by 2030, with direct medical costs expected to exceed $101 billion (Houry et al., 2016).

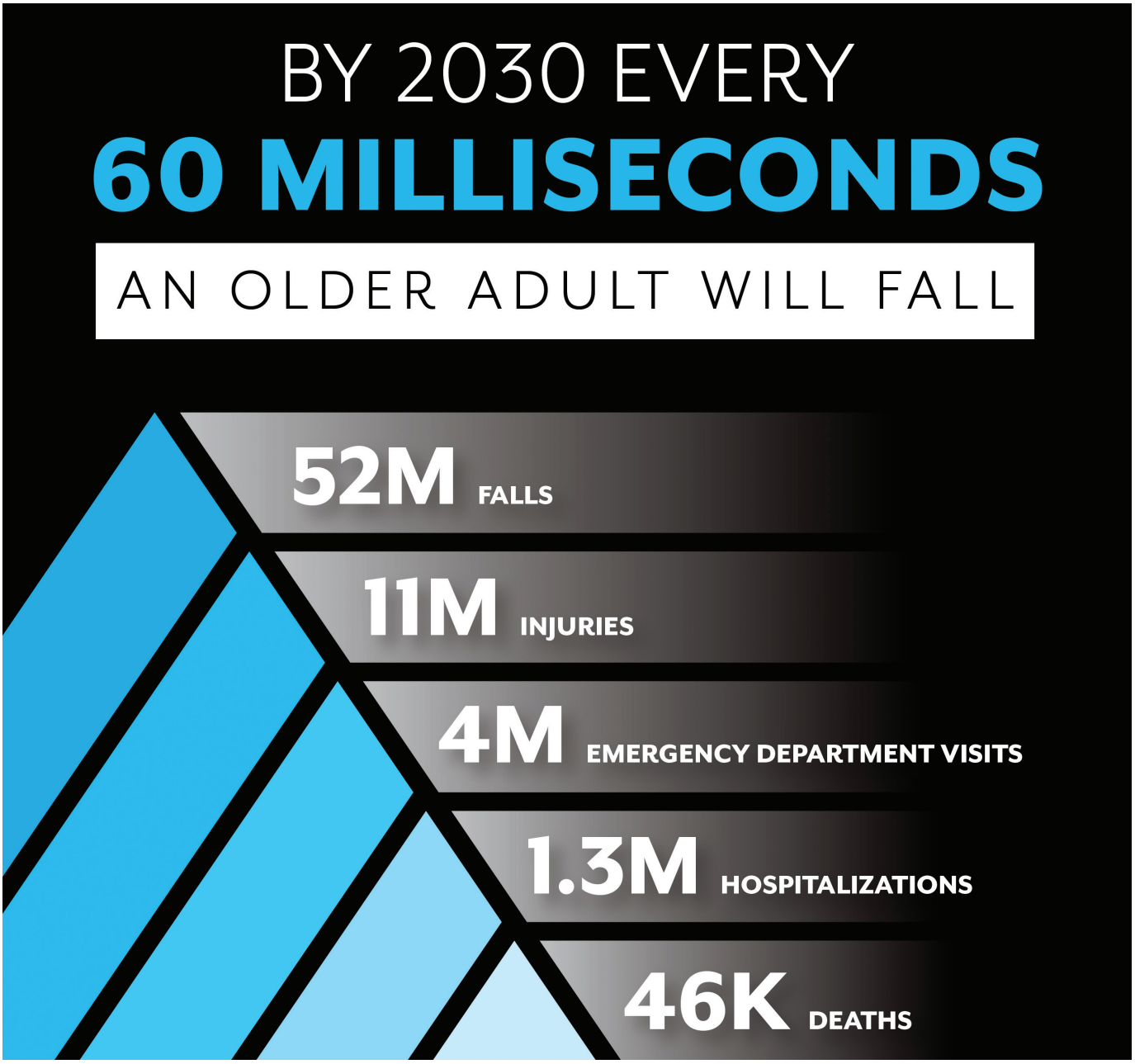


Figure 1. As of 2018, an older adult fell every second in the United States. With a rapidly aging population, that number is projected to increase to 52 million falls annually by 2030. Of those who fall, more than 11 million older adults are likely to be injured. These falls and fall injuries could lead to more than 4 million emergency department visits, approximately 1.3 million hospitalizations, and about 46,000 deaths. Data sources: National Vital Statistics System, National Electronic Injury Surveillance System-All Injury Program, and Behavioral Risk Factor Surveillance System.

The statistics (see Figure 1) are alarming, but the realities of the human toll are even more compelling. Nearly everyone has witnessed a loved one endure an injurious fall that abruptly altered their life's trajectory. A single incident, close call—or even the mere anticipation of one—can ignite a fear of falling, prompting older adults to restrict activities and withdraw from once-enjoyed pursuits. These behavioral shifts, which mirror the isolating effects of hearing difficulties, can markedly accelerate physical deconditioning, deepen emotional distress, and perpetuate a vicious cycle that heightens the individual's propensity to fall in the future.

Given our frequent contact with at-risk patients and graduate-level training in identifying and managing auditory and balance pathologies, audiologists are well-positioned to intervene. As we know, the hearing and balance systems intersect anatomically, physiologically, and functionally. Practically speaking, what begins as difficulty following conversations in noisy environments can cascade into reduced social participation, increased cognitive strain, unnoticed environmental hazards, and diminished physical vitality—all contributing to increased falls risk.

Despite this positioning, several barriers often hinder audiologists from engaging in falls prevention. Time limitations in fast-paced clinics, uncertainties around reimbursement for non-traditional services, and unclear protocols for screening and referral can make adoption feel daunting. Surveys have revealed that while most audiologists view falls risk management as within their scope of practice, many report feeling underprepared to implement it effectively (Patterson & Honaker, 2014). Routine assessments remain inconsistent across healthcare settings, where only 14% of primary care providers are familiar with evidence-based tools like the CDC's STEADI initiative (Howland et al., 2018). Fortunately, emerging technology solutions can help alleviate these challenges by minimizing the burden on clinicians—offering streamlined, AI-powered screening that aligns with best-practice guidelines and enables more frequent monitoring without extensive in-office time.

By thoughtfully using the available tools and weaving falls prevention into clinical routines and timely conversations, audiologists can truly practice at the height of their scope, addressing mobility and autonomy as integral aspects of hearing health, essential for maintaining long-term independence.

THE STEADI INITIATIVE:
A proven framework for Multidisciplinary Falls Prevention

By the time the American and British Geriatrics Societies published updates to their combined best practice guidelines for falls management in 2010, public health experts at the CDC recognized that an efficient multidisciplinary framework was needed to help clinicians adopt these evidence-based recommendations to address apparent gaps in patient care. Providers faced overburdened schedules, a broad array of modifiable risk factors, and unclear reimbursement pathways.

In response, the CDC's National Center for Injury Prevention and Control launched the STEADI initiative in 2013 (Stevens & Phelan, 2013). This clinician-friendly toolkit streamlines adoption with modular components, maps billing to Medicare's Welcome to Medicare and Annual Wellness Visits, and includes training aids to address preparation gaps reported by practitioners.

At its core, STEADI synthesizes decades of research into multifactorial strategies targeting sensory deficits, medication effects, frailty, and environmental hazards. A Cochrane review of 159 trials (Gillespie et al., 2012) found multifactorial interventions reduced fall rates by 24%, supporting STEADI's evidence-based foundation. The protocols emphasize a collaborative care model, with any health care provider serving as a potential entry point for screening and referral. Recommended assessments, like the Timed Up and Go (TUG) test, were strategically selected for high predictive accuracy, ecological validity, and simplicity in administration in order to "[yield] the most valuable clinical information in the least amount of time" (Casey et al., 2017).

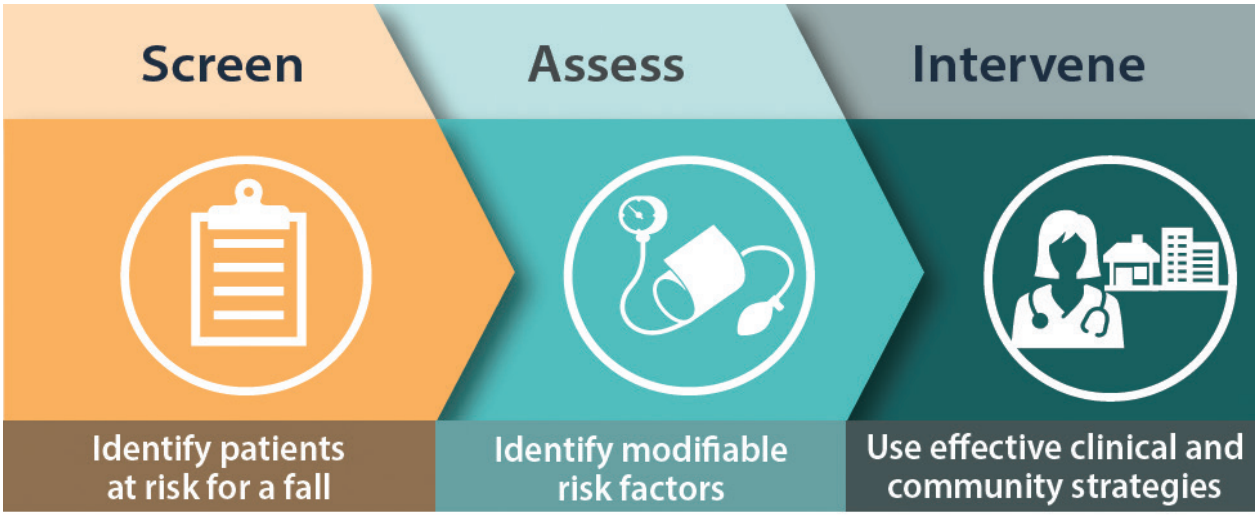


Figure 2. The CDC's STEADI framework guides clinicians through a three-step process—screen, assess, and intervene—to identify and reduce fall risk in older adults.

STEADI Stopping Elderly Accidents, Deaths & Injuries

The STEADI initiative follows a three-step algorithm: screen, assess, intervene.

- Screen: The *Stay Independent* questionnaire (≥4 yes or any fall history) flags elevated fall risk.
- Assess: Three primary functional tests evaluate gait, strength, and balance: 4-Stage Balance Test, 30-Second Chair Stand, and TUG. Additional assessments within the audiologist's scope of practice, such as vision screening and medication reviews, are suggested but may be more thoroughly assessed by colleagues in adjacent fields of practice.
- Intervene: Low-risk patients receive education on safety and nutrition; higher-risk findings prompt appropriate referrals for therapy, medication review, and home modifications.

Screening

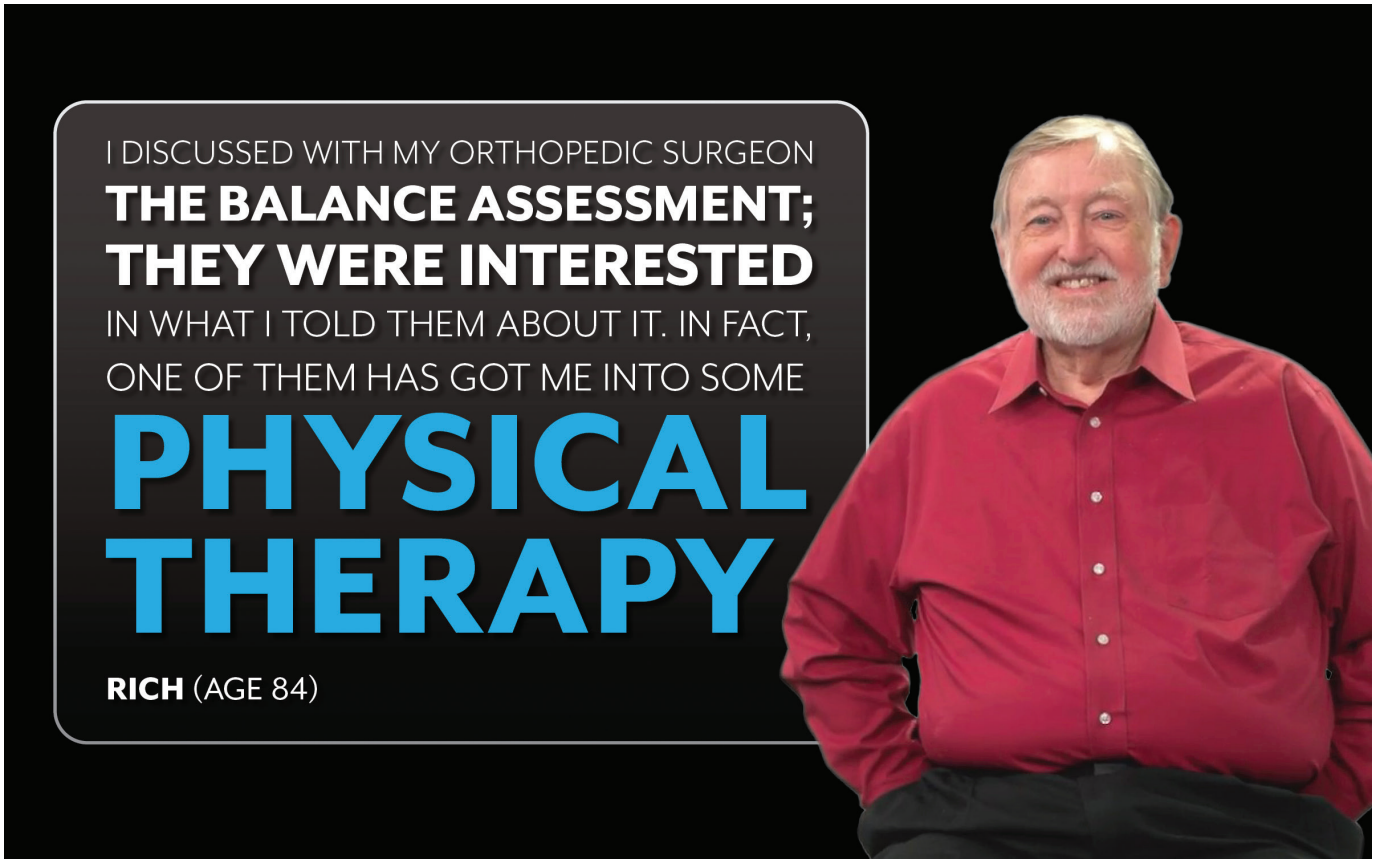
For audiologists, STEADI screening integrates seamlessly into routine workflows. The *Stay Independent* questionnaire—a 12-item self-assessment measure—can be completed by patients in the waiting room alongside standard case history forms, requiring no clinician time. Audiologists can also observe informal cues during patient interactions:

- Does the patient push off the chair arms to stand?
- Do they shuffle their feet, use a cane, or lean on a companion?
- Are there visible bruises on arms or hands suggesting prior falls?

These observations may prompt discussion of the three key *Stay Independent* questions validated by Eckstrom et al. (2017) during a discussion of the patient's lifestyle and health history:

1. Have you fallen in the past year?
2. Do you feel unsteady when walking or standing?
3. Are you worried about falling?

Positive responses to one of those key questions or a total *Stay Independent* questionnaire score ≥4 indicates an elevated fall risk and a need for a more formal assessment, aligning naturally with existing lifestyle discussions. These low-effort screening tasks require little extra time and align with Medicare documentation for preventive services (CMS, 2023). When performed, they also satisfy Merit-based Incentive Payment System (MIPS) Measure #318 (Falls: Screening for Future Fall Risk)—a high-priority, claims-based quality measure that can be reported on any Medicare patient aged 65+ to help meet the MIPS reporting threshold (Centers for Medicare & Medicaid Services (CMS), 2025).



Assessment

Fall risk assessment measures may be readily integrated and are within audiologists' scope of practice. Many audiologists already collect medication histories for ototoxicity—STEADI expands this to include fall-risk drugs and polypharmacy (e.g., ≥4 medications, sedatives, diuretics, antidepressants, etc.). Audiologists are also qualified to administer functional testing of gait, strength, and balance. The STEADI initiative suggests using the following:

- 4-Stage Balance Test (static stance progression)
- 30-Second Chair Stand (lower-extremity strength)
- Timed Up and Go (TUG) (dynamic mobility)
- Additional recommended assessments include measuring orthostatic blood pressure, identifying comorbidities, checking visual acuity, evaluating feet and footwear, auditing home hazards, and flagging potentially problematic medication regimens.

All three core tests fit within a 10-minute window and require only a chair, tape measure, and stopwatch. Orthostatic blood pressure checks—already used in vestibular patient workups—can further enhance risk stratification.

Intervention

Audiologists are uniquely positioned to administer interventions that address hearing loss as a modifiable risk factor for falls, using amplification to restore sensory input and disrupt risk cascades. In a large inpatient cohort, unaided hearing loss doubled risk of falling (Odds Ratio [OR] = 2.44, $p<0.042$), but amplification eliminated this disparity with no statistical difference between hearing aid users and peers with normal hearing ($p<0.889$; Tiase 2020). While randomized controlled trials are needed for evidence of causality (Lavie et al., 2023; Powell et al., 2021), current literature supports hearing amplification for restoring access to gait-related auditory cues (Cornwell et al., 2020), easing cognitive load during ambulation (Wollesen et al., 2018), and promoting social participation (Mick et al., 2014) and physical activity (Gispen et al., 2014; Kuo et al., 2021).

Beyond standard amplification, audiologists can counter the musculoskeletal deconditioning effects that may be exacerbated through social isolation (Agmon et al., 2017) by effectively preparing their patients to utilize public hearing accessibility accommodations. Use of hearing loops and remote microphones can dramatically improve signal-to-noise ratios in public spaces, reducing listening fatigue and encouraging participation in group settings, lectures, and social events (Burwinkel et al., 2022, 2023). By advocating for systems such as hearing loops, FM or Infrared receivers with neckloops, Auracast transmitters, and live captioning in venues, audiologists can lower communication-related barriers to these activities. Practices can also partner with local businesses, like restaurants, to promote quiet hours without background music, fostering more inclusive social environments.

In practice, audiologists already expend considerable effort using motivational counseling related to lifestyle modifications and can confidently advise consistent use of amplification to lower the risk of falling.

In practice, audiologists already expend considerable effort using motivational counseling related to lifestyle modifications and can confidently advise consistent use of amplification to lower the risk of falling (Campos et al., 2024). Pairing amplification with appropriate referrals to primary care, pharmacy, physical therapy, and occupational therapy can help ensure all of our patient's modifiable risk factors are addressed. A number of evidence-based fall prevention programs may be offered within your community that you can guide your patients to, such as Silver Sneakers, Tai Chi, Otago, Home Hazard Removal Program (HARP), etc. The STEADI initiative provides templates to streamline these referrals and help guide discussions around actionable safeguards.

ADVANCING BALANCE AWARENESS THROUGH HEARING TECHNOLOGY

While the CDC's STEADI initiative provides clinicians with guidance for fall risk screening, emerging technologies are helping promote balance awareness. At Starkey, we have leveraged advancements in hearing aid sensors and artificial intelligence (AI) capabilities to create tools that help users understand their balance status and encourage healthy lifestyle choices. Our Omega AI hearing aids and My Starkey mobile application include features such as Fall Alert, Balance Assessment, Balance Builder and activity tracking to help support behavioral changes that will benefit hearing aid wearers.

Automatic Fall Detection & Alerts

Starkey's Fall Alert feature uses inertial measurement unit (IMU) sensors and several layers of AI to identify movement patterns indicative of a user falling. When a fall is detected, designated caregivers are sent a notification of the detected fall along with a map of where the fall occurred. This type of alerting can be helpful in potentially shortening the time it takes for the user to get help if they need it. Similarly, dedicated personal emergency response systems (PERS) can offer peace of mind for individuals with particularly high risks or are known to be frequent fallers. Long lies after a fall can introduce health risks like dehydration, rhabdomyolysis, and premature mortality.

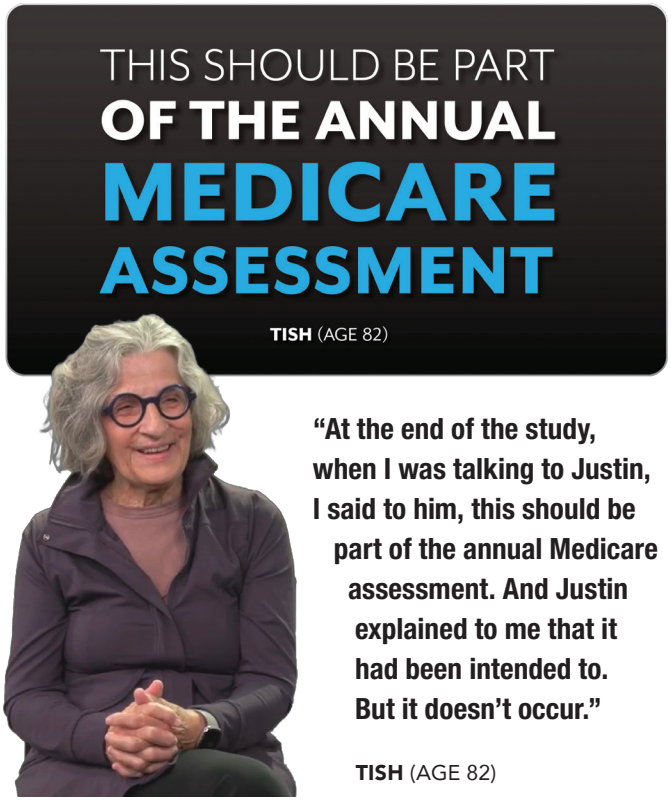
When Fall Alert was introduced, a peer-reviewed study found that the hearing aid-based fall detection algorithm's accuracy surpassed that of the leading purpose-built alerting devices, achieving 95% sensitivity and 98% specificity for falls, with minimal false positives during activities of daily living (Burwinkel et al., 2020). However, with the addition of a second-stage machine-learning decision-making layer running in the background of the My Starkey app, the Fall Alert feature has improved its accuracy continuously over time, as it receives new data from users (Burwinkel & Xu, 2021).

Autonomous Fall Risk Screening and Balance Assessment

The Balance Assessment feature delivers a 1:1 digital implementation of the STEADI initiative's core screening and functional assessment protocols in the My Starkey app. The user-friendly interface, developed with input and feedback from several groups of intended users and clinical experts, effectively guides users through each phase of the assessment with a combination of written, illustrative, and voice instructions.

It begins with the 12-item *Stay Independent* questionnaire, presenting each question with the same practical contexts, explaining the relevance of each question in plain terms, provided in the CDC's brochure. When indicated, the app guides users to safely prepare their space and complete the exact functional test battery—4-Stage Balance, 30-Second Chair Stand, and Timed Up and Go tests—while wearing their hearing aids. The only difference is the AI-driven autonomous scoring that aligns closely with trained clinicians, proven accurate and safe in-clinic, via telehealth, and when used unsupervised at home (Burwinkel et al., 2024; Steenerson et al., 2025). Patients with balance concerns can now receive screening and functional evaluation more frequently and consistently than possible with annual medical visits.

The Balance Assessment feature was also evaluated in a six-month post-market clinical follow-up study involving older adults identified as at risk for falls using the *Stay Independent* questionnaire. Their candid feedback, shared at the end of the field trial, offers useful insights into how the technology influenced their awareness, daily habits, and interactions with medical providers.



"At the end of the study, when I was talking to Justin, I said to him, this should be part of the annual Medicare assessment. And Justin explained to me that it had been intended to. But it doesn't occur."

TISH (AGE 82)

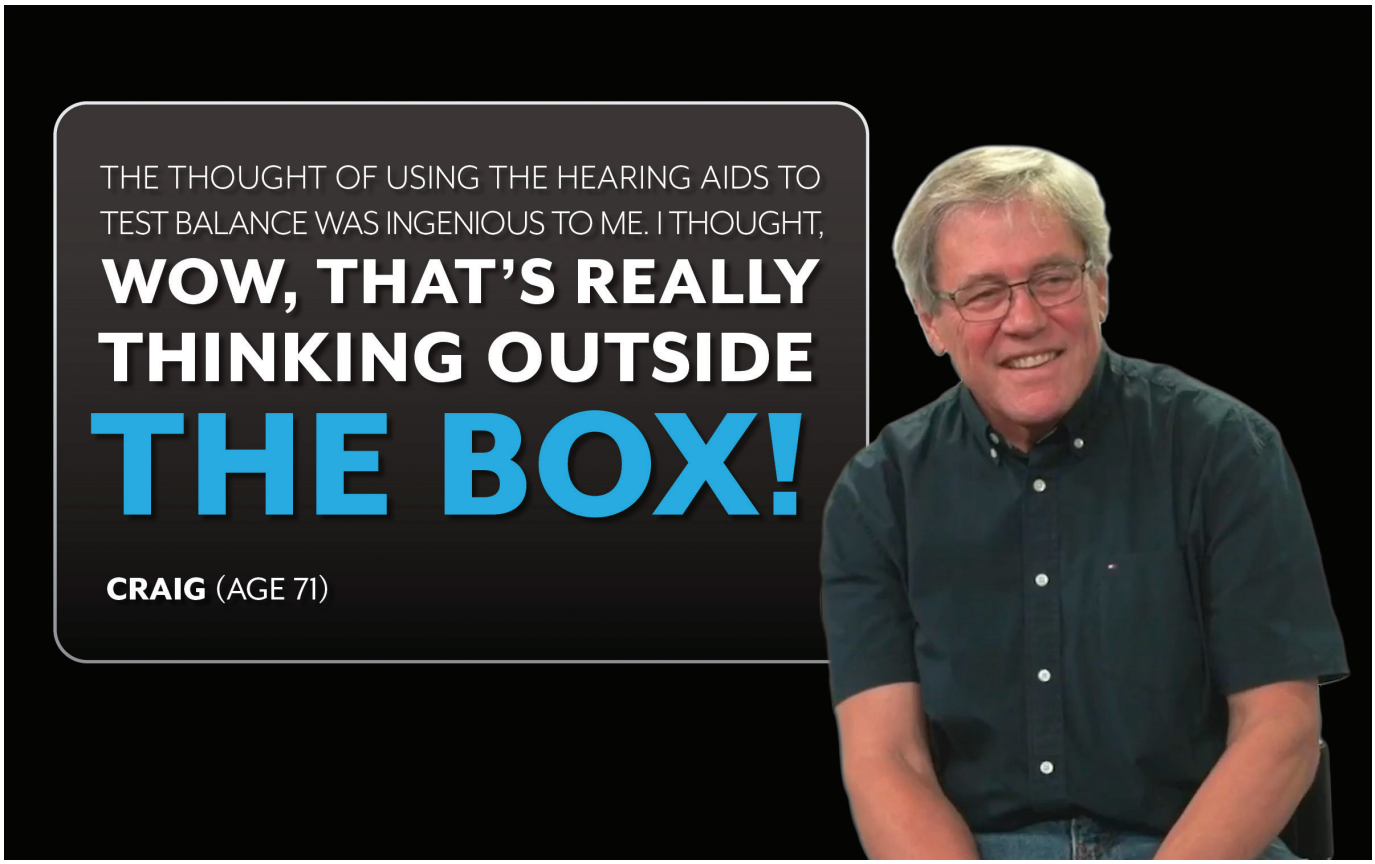
Guided Balance Exercises

Starkey's Balance Builder feature delivers on-demand, self-paced exercise guidance directly in the My Starkey app—using Omega AI hearing aids' IMU sensors to monitor and track progress. While not formally part of the STEADI protocol, these balance-oriented exercises directly target the modifiable risk factors STEADI identifies—gait instability, lower-extremity weakness, and poor balance—through clinically informed, progressive movements.

Daily Activity Updates

The Health section in the My Starkey app also empowers patients through sharing continuous updates of physical and social activity achievements—capturing metrics like daily step count, time spent being active, and engagement in conversations. These data points, passively collected via embedded sensors, offer patients a window into their own behavior and progress.

The "quantified self" paradigm, where individuals gain motivation and insight by observing their own patterns over time, can be particularly effective. For some patients, seeing tangible evidence of improvement—whether it's walking more steps, getting up from sitting more often, or engaging in more conversations—can reinforce healthy habits and motivate continued participation in typical activities of daily living. In a longitudinal randomized controlled trial, Stiglbauer et al. (2019) found that even brief (two-week) use of a wearable tracking device produced significant increases in perceived physical health and sense of accomplishment compared to a waitlist control group, with increased effects when users also engaged with the companion app.



This evidence supports the motivational value of quantified-self feedback in promoting sustained physical activity and early recognition of subtle declines that may warrant clinical attention.

Importantly, the efficacy of these insights is not limited to the patient's engagement or tech literacy alone. Through the companion Hear Share app, caregivers can remotely access the patient's activity data, enabling adult children or care partners to monitor trends, celebrate progress, and prompt follow-up visits when needed. This shared visibility strengthens the care network, supports intervention adherence, and fosters a healthy sense of accountability and encouragement.

By incorporating discussion of activity logs at follow-up visits, audiologists can help patients overcome barriers that might be limiting their social and physical activities and remain cognizant of how these factors contribute to overall wellness.

MAKING FALL PREVENTION YOUR PRACTICE'S DEFAULT SETTING

For audiologists committed to practicing at the height of our scope, fall risk management is a natural complement to hearing care in a dispensing practice. Patients trust us with their hearing; we can teach them that they can also trust us with their balance. Every older adult we see is quietly at risk of falling—especially those with hearing difficulties—yet many leave our clinics without a single question about how physical mobility or fear of falling may be affecting their lifestyle. This is a missed opportunity. Fall prevention belongs in audiology the way hearing screenings belong in primary care.

Fortunately, implementing fall risk protocols does not require a dramatic overhaul of clinical protocols. The STEADI toolkit is free, evidence-based, and designed for seamless integration. Screening questions can be added to intake forms, functional assessments require minimal time and equipment, and findings can be shared with primary care providers to support coordinated care. These small additions reinforce our role in whole-person health, deepen patient trust, and position our practices as proactive partners in aging well.

Start by identifying the components that align with your workflow and clinical comfort. Then, systematize them. This is how meaningful change occurs—by recognizing and embracing the opportunity to guide patients from better hearing toward safer mobility and sustained independence.

Here are several practical suggestions for integrating these tools into your practice:

- Incorporate Starkey's Balance Assessment At an Omega AI fitting follow-up visit; introduce the Balance Assessment feature in the My Starkey App and encourage patients and caregivers to repeat it periodically at home, returning if any changes are noted.
- Become familiar with the evidence-based fall prevention programs offered within your community. The National Council on Aging has curated a list of reputable programs: https://ncoa.org/evidence-based-programs
- Recommend Fall Alert and personal emergency response systems (PERS) to provide reassurance and reduce anxiety about potential falls.
- Train your entire team with Balance Assessment as a teaching tool: Use it to educate providers, front-office staff, and interns. Most professionals can achieve STEADI proficiency in a single session.
- Extend outreach with a "Balance Check Station": Set one up at senior centers or community health events using only a tablet, portable chair, and a set of demo hearing aids. Deliver immediate feedback (e.g., "Low risk—excellent. How's your hearing?") and include your practice branding on printouts. A single event can attract motivated patients with hearing or balance concerns.
- Host physician "Lunch & Learns": Demonstrate Balance Assessment on a staff member at a nearby practice and provide a copy of the Tiase et al (2020) and Campos et al (2024) studies that were published in the *American Journal of Preventive Medicine* and the *Journal of the American Geriatric Society*, respectively. With bringing attention to the compelling evidence being shared in leading medical journals, you might begin receiving inbound patient referrals within days.

SCAN TO READ
Journal of the American Geriatric Society

SCAN TO READ
American Journal of Preventive Medicine

SCAN TO WATCH
Balance Matters YouTube video

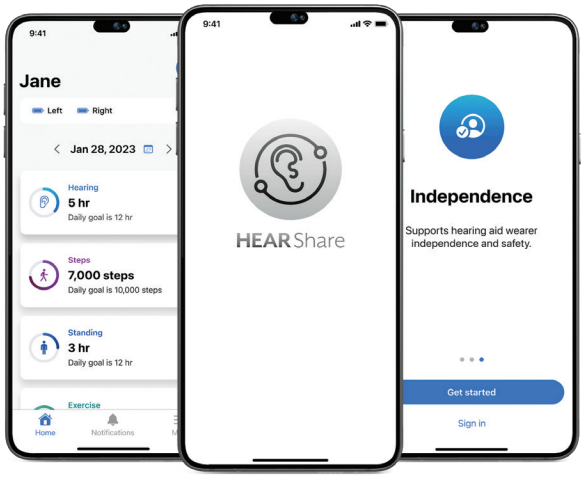


Figure 3. Screenshots from the Hear Share app, where caregivers can remotely view a patient's physical activity, hearing aid usage, and social engagement—supporting independence through shared insight.

- Engage caregivers through the companion Hear Share App (see Figure 3): Show them how to access the patient's My Starkey app physical and social activity data remotely. An adult child can monitor trends and prompt follow-up visits—strengthening patient retention by being an ongoing resource and ally.
- Lead community outreach and advocacy efforts to help alleviate barriers to social participation: Educate local venues (e.g., theaters, churches, civic centers) on room acoustics and encourage providing universal access through hearing loops, neckloops, and Auracast systems, along with live captioning and visual aids for events like lectures or gatherings. This positions your practice as a community resource while enabling patients to stay active and engaged.
- Get creative with ways to market a package that brings attention to your focus on both hearing and functional balance services.

Each step you take—whether adding a few key questions to your intake forms, running a quick functional test, or sharing a report with a physician—does more than improve clinical outcomes. It strengthens your practice, deepens patient trust, and expands your role in whole-person care. In doing so, you help patients maintain a steady path toward independence. Fall prevention succeeds through consistent, integrated care.

Since 2016, Starkey has been working to advance a vision that recognizes hearing and balance as inseparable components of healthy aging. From Fall Alert to Balance Assessment and now Balance Builder exercises, these technological innovations have been developed to empower audiologists to practice at the top of their scope—delivering care that strengthens connection, supports mobility, and enhances quality of life.

Our words shape our actions. Our actions become our habits. And our habits form our identity. Ultimately, when we embrace fall prevention as part of our audiologic care, we're not simply adding something extra—we're practicing audiology at its fullest potential. Because when our patients hear better, they live better.

ACKNOWLEDGEMENTS

We gratefully acknowledge Matthew Fitzgerald, Robert K. Jackler, Bryn Griswold, Soumya Venkitakrishnan, Deborah M. Kado, Achintya K. Bhowmik, Amit Shahar, Majd Srour, Matan Sivan, Roy Rozenman, Andy Lin, Chris Howes, Christy Cloninger, and Archelle Georgiou for their essential contributions to the development of the Balance Assessment and Balance Builder features, and to the rigorous design and execution of the research studies cited herein.

We also extend our deepest appreciation to the hundreds of research participants, through numerous studies, whose trust and commitment made this incredible work possible.

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Cost-Utility and Ethics of Hearing Aid Delivery Models:

Aligning Clinical Practice Standards with Modern Hearing Health Policy

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ABSTRACT

Purpose: Hearing aid outcomes depend not only on technology, but on *how* devices are fit and verified. This study compared three common service delivery models—non–best-practice fittings (NBP), best-practice professional fittings (BP), and self-fitting over-the counter (SF) devices,—to determine their relative clinical benefit, cost-effectiveness, and ethical implications for everyday audiology practice.

Method: A retrospective review of 638 first-time hearing aid users (2020–2024) from seven independent U.S. audiology clinics was analyzed. Outcomes included unaided/aided APHAB scores, real-ear verification when available, and estimated quality-adjusted life years (QALYs). A decision-analytic model compared lifetime benefit and cost across models using a 3% annual discount rate.

Results:

» NBP fittings—those completed without REM verification—produced the lowest improvement (1.21 QALYs) at the highest overall cost and were dominated in all comparisons.

» BP fittings yielded the greatest overall health benefit (3.56 QALYs) and remained highly cost-effective ($1,202/QALY; ICER ≈ $2,500/QALY vs SF). Sensitivity analyses confirmed the stability of these findings across multiple clinical and economic assumptions.

» SF devices provided moderate benefit (2.21 QALYs) at the lowest cost ($409/QALY), driven largely by earlier adoption and reduced financial barriers.

Clinical & Ethical Implications: Both BP and SF models meaningfully improve hearing-related quality of life, but serve different clinical roles:

- NBP fittings resulted in *poorer outcomes at higher cost*, raising concerns related to quality, informed consent, and avoidable morbidity due to underamplification.
- BP fittings provide *maximal clinical effectiveness* through verification and individualized adjustment.
- SF devices enhance *access and early intervention*—particularly for patients unlikely to pursue traditional care.

Conclusion: A tiered model of hearing care is supported—one that expands access via validated SF options while reaffirming REM-verified BP fittings as the clinical and ethical standard for audiology. Strengthening adherence to verification not only improves outcomes but reinforces the profession's credibility in a changing policy and over-the counter landscape, while supporting better long-term quality of life and reduced morbidity risk.

INTRODUCTION

Over the past century, medical and technological advances have substantially increased life expectancy in the United States, yet these added years have not consistently translated into improved quality of life.[1] Chronic conditions now shape the health trajectory of most adults, with nearly 60% of individuals under age 60 and 80% of those over age 60 living with at least one chronic disease.[2] Hearing loss follows this pattern: prevalence rises from 26.8% among adults aged 60–69 years to nearly 80% among individuals older than 80.[3] Globally, hearing loss ranks as the fifth leading cause of years lived with disability—exceeding diabetes, dementia, and chronic pulmonary disease[4,5]—and is associated with reduced daily functioning, social withdrawal, and diminished well-being.[6]

Despite the scale of this burden, hearing care remains under-resourced and unevenly integrated within health systems. Many public health efforts have focused on the economic costs of hearing loss rather than the potential return on investment from timely, effective rehabilitation.[7-9] Persistent gaps—such as the absence of routine adult hearing screening,[10,11] limited primary-care integration,[12] insufficient Medicare coverage,[13] socioeconomic disparities in hearing care access,[14,15] and longstanding workforce shortages[16,17]—reflect broader structural barriers in U.S. hearing-health delivery. At the same time, evidence demonstrates that hearing rehabilitation yields measurable economic and quality-of-life benefits.[18]

Nevertheless, substantial variation in amplification fitting and verification practices limits the consistent and equitable delivery of these benefits across patients and settings. Traditional, prescriptive hearing aids are exempt from FDA premarket review, placing responsibility for performance verification on licensed professionals.[19] Yet, fewer than one-third of U.S. clinicians routinely conduct real-ear verification, despite robust evidence that verification improves audibility, satisfaction, and long-term outcomes.[20-22] This variability is not merely technical: under-amplification increases listening effort,[23] reduces cortical stimulation,[24] and is associated with downstream risks such as social isolation, depression,[25] and cognitive decline.[26] It also increases the likelihood of device abandonment—effectively returning patients to an untreated state and perpetuating communication barriers and long-term morbidity.[27]

In response to persistent access gaps—not explicit concerns about quality—Congress passed the FDA Reauthorization Act of 2017, which established a regulatory pathway for over-the-counter (OTC) hearing aids intended for adults with perceived mild-to-moderate hearing loss.[28] These devices allow consumers to self-assess, self-fit, and purchase amplification *without* professional involvement. While this model improves affordability and lowers structural barriers to entry, it also removes clinical safeguards and may widen performance disparities between professionally verified and unverified fittings. The World Health Organization (WHO) similarly endorses scalable options, including self-fitting technologies, to address global workforce shortages—but emphasizes that access must be balanced with quality assurance to avoid large-scale under-treatment.[29]

This access–quality divide underscores a central challenge for U.S. hearing-health services: expanding reach while maintaining standards of care. Against this backdrop, evaluating the comparative value of non–best-practice professional fittings (NBP), best-practice professional fittings (BP), and self-fitting (SF) OTC devices is essential. The present study examines these three delivery models using a cost-utility framework that integrates life expectancy, health-related quality of life (HRQoL), and service quality indicators. Beyond estimating economic efficiency, this analysis addresses deeper system-level issues: the absence of an enforced clinical standard, the ethical implications of undertreatment, and the public health consequences of inconsistent care. Accordingly, cost-utility in hearing services must be interpreted not only in financial terms but also in relation to professional responsibility, population health, and long-term value within the health system.

METHODS

This study was a retrospective chart review conducted across seven independently owned audiology centers in the United States. Institutional Review Board (IRB) approval was not sought because the project met exemption criteria under U.S. federal regulations,[30] which permit secondary research using existing clinical data when subjects cannot be identified directly or indirectly through coded identifiers. All data were fully de-identified prior to receipt, involved no patient contact, and posed no more than minimal risk. Procedures complied with the ethical principles of the Declaration of Helsinki.[31]

Data Source and Study Population

Data were obtained from retrospective chart reviews of 638 patients who purchased either prescription or over-the-counter hearing aids between 2020 and 2024. All contributing clinics were independently owned, unaffiliated with buying groups or management organizations. Patient, clinic, and device identifiers were removed before data transfer to the investigator.

Eligible participants were first-time hearing aid users with mild-to-moderate cochlear hearing loss, defined as pure-tone averages of 25–55 dB HL across octave frequencies from 250–8000 Hz. Extracted variables included age, sex, audiometric thresholds (≤6 months from purchase), hearing aid technology tier, Abbreviated Profile of Hearing Aid Benefit (APHAB)[32,33] outcomes, real-ear verification data, programming reports (hearing aid gain and output), and date of purchase. Financial data were limited to retail prices of binaural fittings that bundled professional services.

Hearing Aids

Self-Fitting (OTC) Hearing Aids

Three of the seven practices further contributed data from adults who purchased and self-fit, OTC devices between 2023 and 2024. Audiometric thresholds were not available for this group; however, consistent with FDA labeling, mild-to-moderate hearing loss was assumed. All SF users completed unaided APHAB assessments as part of the initial purchase process, and 73 returned for a single follow-up session (mean = 84.7 days, SD = 21.8) as part of their purchase package that included real-ear measurement and aided APHAB.

Prescription Hearing Aids

To ensure comparability with self-fitting OTC devices, only binaural fittings of prescription receiver-in-the-ear (RITE) and receiver-in-the-canal (RIC) hearing aids in mid-technology tiers (standard and advanced) were included. Economy and premium-tier products were excluded to minimize variation in performance attributable to signal-processing sophistication, proprietary features, and pricing differentials. This approach mirrors the methodology of De Sousa et al.,[34] who similarly restricted analyses to mid-tier devices to reduce confounding associated with technology-level differences and isolate the effect of service delivery quality.

Professional Interventions

Professional fittings were categorized into:

- **NBP:** Fittings left at manufacturer first-fit settings without verification.
- **BP:** Documentation of real-ear measures (REMs) with gain adjusted to meet NAL-NL2 hearing aid prescriptive targets.[35]
- **SF:** FDA-regulated OTC devices purchased and configured by users without professional involvement.

Demographic characteristics showed that NBP users (mean age = 67.5; 124 females, 127 males) and BP (mean age = 66.0; 168 females, 146 males) were comparable in age and sex distribution. SF users were younger (mean age = 61.3) and more likely male (n = 42) than female (n = 31).

The distinction in professional fittings represents a substantive difference in service quality. REMs provide an objective, evidence-based method to confirm that prescribed amplification levels are delivered at the tympanic membrane, accounting for individual ear canal acoustics. Verified amplification improves access to soft and conversational speech,[27] reduces listening effort,[23] and is associated with better long-term communication and cognitive outcomes.[24,26] By contrast, omission of REMs increases the likelihood of under-amplification—limiting benefit, increasing abandonment,[27] and exposing patients to preventable social, cognitive, and HRQoL burden.[24] The absence of verification also raises ethical concerns, as patients reasonably assume that professional fittings include evidence-based procedures necessary to ensure treatment accuracy.

Measures

Self-Reported Benefit

The APHAB is a validated 24-item inventory assessing communication difficulty across four subscales: Ease of Communication (EC), Reverberation (RV), Background Noise (BN), and Aversiveness (AV).[32,33] A global score (mean of EC, RV, and BN) served as the primary HRQoL metric.[36] Clinical significance was defined as either (i) >22% improvement on any single subscale or (ii) ≥5% improvement across EC, RV, and BN.[33]

Real-Ear Verification

Real-ear aided responses (REAR) at 65 dB SPL (i.e., conversational speech) were compared with NAL-NL2 prescriptive targets[35] across 500–4000 Hz to calculate root-mean-squared error (RMSE). An RMSE ≤5 dB represented a clinically acceptable match to target, whereas values >5 dB indicated under- or over-amplification.[37] For NBP fittings—where REMs were not conducted—the NAL-NL2 target values were manually calculated and compared with the aided output reported in the hearing aid fitting record. This approach allowed estimation of fitting accuracy despite the absence of measured REAR data. All data were de-identified prior to receipt, and the author was fully blinded to patient identity and hearing aid manufacturer or model.

Economic Analyses

A cost-utility analysis (CUA) was performed to compare the value of NBP, BP, and SF models. QALYs were calculated by multiplying age-adjusted life expectancy by APHAB-derived utility values. Costs reflected retail pricing of OTC and prescription fittings, inclusive of professional services. A 3% annual discount rate was applied to both costs and QALYs to align with international health economic reporting standards. Results were expressed as:

- cost per QALY for each strategy, and
- incremental cost-effectiveness ratios (ICERs) with NBP as the reference, reflecting common U.S. practice patterns in which REMs are not routinely performed.

Decision-analytic modeling included both a short-term decision tree and a long-term Markov model to estimate lifetime costs and QALYs.

RESULTS

Service-Reported Outcomes

Table 1 presents APHAB outcomes across models. All three groups showed clinically significant improvement, but magnitude differed substantially. NBP fittings produced modest gains (global benefit: 14.7%), whereas SF showed greater improvement (18.5%). BP generated the largest HRQoL gains (27.0%), exceeding the ≥22% criterion for clinically meaningful single-subscale change.

A one-way ANOVA confirmed significant differences among groups ($F_{2, 635} = 465.3$, $p < .001$, $\eta^2 = .59$), indicating a large overall effect. Bonferroni-corrected *post-hoc* tests showed all pairwise differences were significant ($p < .001$). Effect sizes (Hedges' *g*) were large to very large: NBP vs BP (g = 2.57), BP vs SF (g = 1.66), and NBP vs SF (g = 0.89).

Outcome Measure	Non–Best-Practice (NBP)	Best Practice (BP)	Self-Fit (SF)
Unaided Global Score (%)	57.2	54.0	55.4
Aided Global Score (%)	42.5	27.0	36.9
Global Benefit (%)	14.7	27.0	18.5
Clinically Significant Improvement*	Yes	Yes	Yes
Effect Size (Hedges' g)	—	BP vs NBP: 2.57	BP vs SF: 1.66; SF vs NBP: 0.89

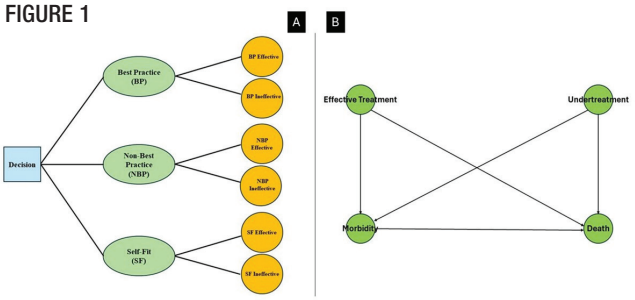
Table 1. Abbreviated Profile of Hearing Aid Benefit (APHAB) Outcomes by Service Delivery Model
Mean subscale and global benefit scores for non–best-practice (NBP), best practice (BP), and self-fit (SF). *Clinical significance: >22% improvement on ≥1 subscale or ≥5% across EC, RV, BN. See text for details.

Real-Ear Outcomes

RMSE values differed strongly by delivery model. BP fittings most closely approximated prescriptive targets (mean RMSE = 3.3 dB; 12.4% >5 dB; 0% >10 dB). SF demonstrated moderate accuracy (mean = 6.2 dB; 49.3% >5 dB; 5.5% >10 dB). NBP deviated substantially (mean = 9.1 dB; 78.5% >5 dB; 63% >10 dB).

ANOVA confirmed significant differences among groups ($F_{2, 635} = 9.37$, $p < .001$). *Post-hoc* tests showed BP performed significantly better than both NBP and SF ($p < .001$), while NBP and SF did not differ statistically ($p = .48$). Effect sizes indicated a medium-to-large advantage for BP vs SF ($g = -0.69$), a small-to-moderate advantage for NBP vs BP ($g = -0.35$), and negligible difference between NBP and SF ($g = -0.11$).

FIGURE 1



Panel A. Decision tree comparing best-practice (BP), non–best-practice (NBP), and self-fit (SF) fittings, with costs and QALYs accumulated along each pathway.

Panel B. Markov model illustrating annual transitions among Effective Treatment, Undertreatment, Morbidity, and Death, capturing lifetime costs and QALYs.

Economic Outcomes

All economic analyses were performed using TreeAge Pro Healthcare 2024 (TreeAge Software; Williamstown, MA). The analytic structure included an initial decision tree (***Figure 1, Panel A***) followed by a Markov process projecting lifetime cost and QALYs under each service model (***Figure 1, Panel B***).

Base-Case Analysis

Table 2 summarizes discounted lifetime results.

- **NBP** generated the lowest health benefit (**1.21 QALYs**) at a higher cost (**$3,978.75**).
- **BP** yielded the greatest benefit (**3.56 QALYs**) at higher cost (**$4,284.43; $1,202/QALY**).
- **SF** produced moderate benefit (**2.21 QALYs**) at the lowest cost (**$904.74; $409/QALY**).

Incremental cost-effectiveness ratios (ICERs)—also shown in **Table 2**—indicated:

- **NBP is dominated** (more costly and less effective than both alternatives).
- **BP remains highly cost-effective relative to SF** (ICER ≈ **$2,500/QALY**).

Model	Cost (USD)	Discounted Life Expectancy (yrs)	Utility Weight (APHAB Global)	RMSE Penalty Multiplier	Adjusted QALYs	Cost per QALY (USD)
NBP	$3,978.75	13.58	0.147	0.61	1.209	$3,290
BP	$4,284.43	14.04	0.270	0.94	3.564	$1,202
SF	$904.74	15.94	0.185	0.75	2.211	$409

Table 2. Base-Case Economic Results Using Discounted QALYs (3% Annual Discount Rate)
Discounted costs, RMSE-adjusted QALYs, and cost per QALY for non–best-practice (NBP), best-practice (BP), and self-fit (SF) fittings. RMSE penalties reflect loss of effectiveness from deviations >5 dB from prescriptive targets. Lower cost/QALY indicates greater efficiency.

One-Way Sensitivity Analysis

Figure 2, Panel A shows the deterministic one-way sensitivity (tornado) analysis. RMSE penalty (γ) and APHAB-derived utility weights were the strongest drivers of incremental net monetary benefit (NMB). Varying these parameters by ±30% changed NMB by up to 41%, yet SF remained the most cost-effective strategy across all plausible ranges at a willingness-to-pay threshold of $100,000/QALY. Device cost and clinician time had moderate influence; discount rate and device lifespan produced minimal changes (<10%).

Probabilistic Sensitivity Analysis

Probabilistic sensitivity analysis (10,000 simulations) demonstrated clear model separation (***Figure 2, Panel B***).

- **NBP** appeared primarily in the high-cost, low-benefit quadrant.
- **BP** clustered in the higher-cost, higher-benefit quadrant.
- **SF** clustered in the low-cost, positive-QALY quadrant.

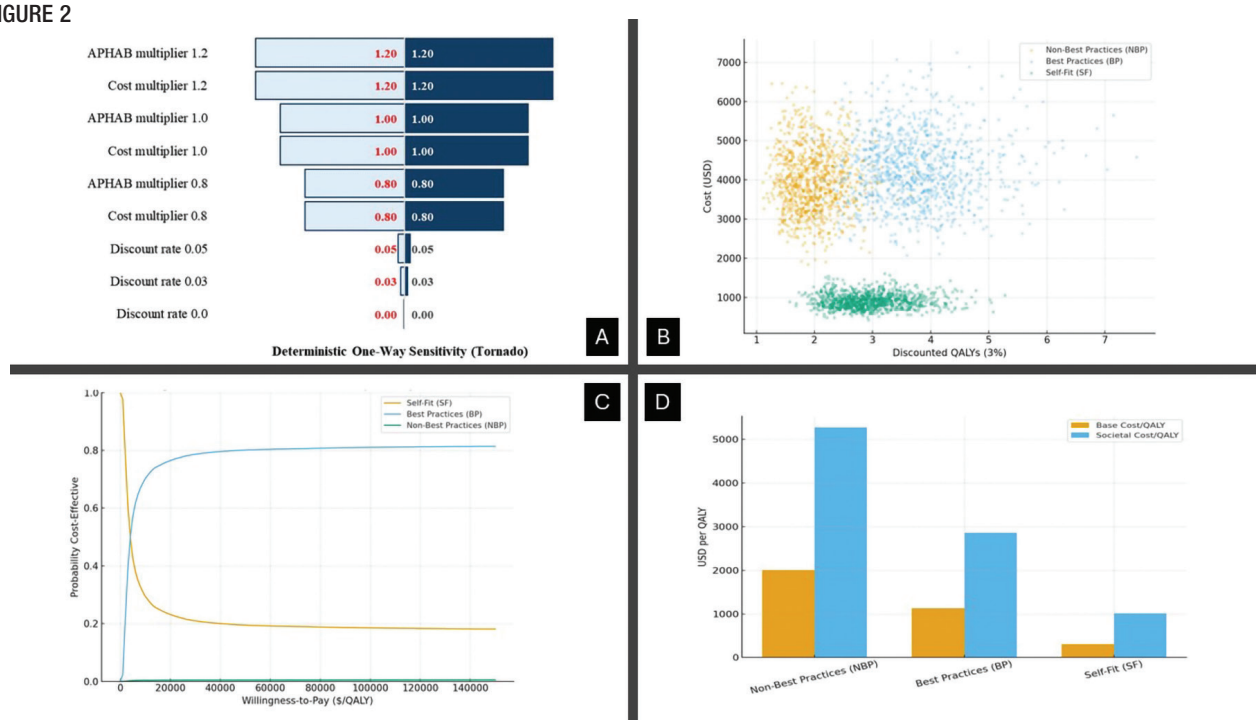
Cost-effectiveness acceptability curves (***Figure 2, Panel C***) indicated:

- **NBP** was cost-effective in <15%, confirming dominance.
- **BP** was cost-effective in 62% of simulations.
- **SF** was cost-effective in 84% of simulations at $100,000/QALY.

Scenario and Timing Analyses

Scenario analyses (***Figure 2, Panel D***) that incorporated broader societal costs—such as travel, caregiver time, and productivity effects—increased cost per QALY for all groups by approximately 8–12%, yet did not alter the relative ordering of strategies. SF remained the most cost-effective option, followed by BP, with NBP consistently dominated. Timing assumptions further reinforced these patterns: earlier adoption of SF substantially amplified cumulative QALY gains by extending years lived with adequate audibility, whereas delayed adoption of NBP accelerated value loss.

FIGURE 2



Panel A. One-way sensitivity analysis (tornado plot) showing the impact of key parameters on incremental net monetary benefit (NMB) at a $100,000/QALY threshold. RMSE penalty and APHAB-derived benefit had the greatest influence. **Panel B.** Cost-effectiveness plane from probabilistic sensitivity analysis (1,000 simulations). NBP remains higher cost with lower benefit; BP shows higher cost and greater QALYs; and SF clusters in the low-cost, positive-QALY quadrant. **Panel C.** Cost-effectiveness acceptability curves (CEACs) across willingness-to-pay thresholds. At $100,000/QALY, NBP is cost-effective in <15% of simulations, BP in 62%, and SF in 84%. **Panel D.** Scenario analysis comparing payer versus societal perspectives. BP and SF remain cost-effective under both; NBP remains dominated.

In practice, this means that postponing effective amplification not only reduces individual benefit but also increases downstream health-system burden associated with preventable communication difficulties, social disengagement, and cognitive risk. Taken together, these analyses demonstrate that both societal cost considerations and adoption timing influence absolute value, but neither changes the core conclusion that SF and BP deliver substantially greater long-term health benefit—and far better economic efficiency—than NBP fittings.

DISCUSSION

This study examined the comparative value of three hearing-aid delivery models—NBP professional fittings, BP professional fittings, and SF devices—using a cost-utility framework. By integrating life expectancy, HRQoL, and direct patient costs, the analysis provides insight into how service delivery variation shapes both individual outcomes and overall system efficiency.

Across all models, amplification improved HRQoL, but the magnitude and efficiency of gains differed markedly. SF generated meaningful QALY improvements at the lowest cost and was adopted at younger ages, leading to longer periods of benefit and substantial lifetime value. BP produced the greatest absolute QALY gains due to verified audibility and individualized optimization, while NBP—reflecting common practice patterns where verification is not conducted—yielded lower benefit at higher cost and was dominated in all economic comparisons. These findings were stable across sensitivity testing and probabilistic simulation.

Access and Effectiveness in Hearing Care Delivery

The results illustrate a central tension in hearing health policy: expanding access while ensuring treatment effectiveness. SF consistently fell within the low-cost, positive-QALY quadrant in the cost-effectiveness plane, and had the highest probability of cost-effectiveness across willingness-to-pay thresholds. These results align with global policy guidance, including the WHO *World Report on Hearing*,[29] which promotes self-fitting technologies as essential for increasing access, particularly in regions with workforce shortages.

BP fittings, though cost-effective by conventional thresholds, require greater clinical resources and are less scalable. Taken together, the findings support a tiered model in which SF serves as an accessible entry point to amplification, while BP offers maximal benefit when professional services are available or clinically indicated.

Implications for Quality and Standards of Care

Variation in clinical practice emerged as a major determinant of outcomes. RMSE findings indicated that BP fittings consistently approximated prescriptive targets, SF achieved moderate accuracy, and NBP deviated substantially. Because NBP fittings performed poorly across all economic and clinical metrics, their prevalence represents a quality gap with direct implications for system efficiency, patient outcomes, and payer confidence.

These results are consistent with prior literature showing under-amplification when manufacturer first-fit settings are used without verification.[20-22] The convergence across studies suggests that deviations observed in this analysis reflect a systemic practice pattern rather than site-specific variation. From a health services perspective, this level of unwarranted clinical variation signals failure in quality assurance and highlights the need for enforceable professional standards. Collectively, these results demonstrate that NBP fittings are not merely less efficient—they are predictably inaccurate, clinically indefensible, and ethically problematic.

Morbidity and Ethical Considerations

The ethical implications of these findings are best understood through the four foundational principles of biomedical ethics—autonomy, beneficence, non maleficence, and justice.[38] From a service delivery standpoint, the continued use of NBP fittings represents a preventable source of morbidity and inefficiency: failure to verify amplification leads to systematic under-treatment that diminishes outcomes and increases downstream burden associated with untreated or under-treated hearing loss.

Autonomy, which requires that patients make informed decisions based on accurate and complete information, is compromised when clinicians omit real-ear verification without explicitly disclosing this deviation from best practices. Patients reasonably assume that professional fittings are evidence-based; the absence of transparency constitutes a form of deception by omission and undermines informed consent.

Beneficence—the obligation to promote patient well-being—is upheld in both BP and SF models. BP fittings achieve beneficence through verified, individualized gain that optimizes audibility and maximizes clinical outcomes. SF devices, in contrast, promote beneficence at the population level by increasing affordability, expanding access, and enabling earlier adoption of amplification.

Non-maleficence, the duty to avoid causing harm, is violated when clinicians rely on unverified NBP fittings that predictably under-amplify speech, contributing to increased listening effort, reduced cortical engagement, social withdrawal, and elevated long-term morbidity risk.[23-26] Patients invest financial and emotional resources yet remain clinically under-treated, a harm that is both foreseeable and preventable.

Finally, *justice*—fair and equitable distribution of healthcare benefits and burdens—is compromised by the persistence of NBP practice patterns. Inconsistent verification creates unequal outcomes for patients receiving ostensibly similar services and undermines equity in hearing health care. Conversely, enforcing verification standards and supporting validated SF technologies promote more consistent, equitable, and accessible care across populations and settings.

Viewed through a benefit–risk lens, BP and SF achieve favorable profiles aligned with beneficence and nonmaleficence, whereas NBP yields an unfavorable ratio—minimal benefit relative to preventable clinical and ethical risk.

Policy Implications

Economic modelling demonstrated that SF maintained net monetary benefit advantages across most parameter values, while BP remained cost-effective though more resource intensive. Scenario analyses incorporating societal costs modestly increased cost-per-QALY estimates but did not alter the relative ranking of interventions (SF > BP > NBP). These findings indicate that both SF and BP represent efficient investments from payer and societal perspectives, whereas NBP does not.

For policymakers and payors, the implications are clear: reimbursement structures should incentivize adherence to evidence-based practices—particularly verification—while supporting validated SF technologies as a scalable entry point to care for populations with limited proximity to professional services. These priorities align with broader health system objectives related to equity, preventive care,and value-based reimbursement. Moreover, Medicare modernization, state licensure reform, and audiology's pursuit of limited license practitioner (LLP) status all depend on demonstrating consistent, cost-effective, and ethically defensible outcomes. Framing hearing care as both a public health imperative and an ethical obligation strengthens the case for integrating high quality, tiered hearing services into preventive and primary care frameworks.

Clinical and System-Level Implications

The findings reinforce a broader theme in health services research: technologies alone do not ensure population benefit. The effectiveness of hearing rehabilitation depends not only on access to devices but on the quality and consistency of service delivery. The large gains observed with BP fittings illustrate the critical value of professional expertise and verified audibility, whereas the efficiency of SF demonstrates how reducing structural barriers can broaden uptake and improve population reach. These results extend Gruenberg's "failures of success" thesis[1] to hearing care: amplification alone—whether accessed through SF or delivered under NBP conditions—produces some benefit, but the most substantial and reliable gains occur only when devices are paired with evidence-based, professionally verified services. Strengthening enforcement of verification —not simply its recommendation—would curb unwarranted practice variation, reinforce accountability, and ensure that hearing care consistently functions as a preventive health service rather than an optional technical enhancement. Furthermore, these results emphasize that the cost-utility of hearing care cannot be understood solely through financial ratios. It must be interpreted within the larger context of professional responsibility, ethical integrity, and the long-term public health consequences of untreated or inadequately treated hearing loss.

CONCLUSION

This study demonstrates that variation in hearing-aid service delivery meaningfully influences both health outcomes and system efficiency. Although all three models provided measurable benefit, SF devices offered the greatest value per dollar spent, while BP professional fittings achieved the highest absolute QALY gains. In contrast, fittings completed without verification (i.e., NBP) were consistently less effective and more costly, highlighting a source of unwarranted clinical variation with implications for quality, equity, and resource allocation. The findings underscore that the value of hearing care is determined not only by the technology selected but, more importantly, by the processes

through which care is delivered. Improvements in access—achieved through validated SF models, and improvements in effectiveness—achieved through verified BP professional fittings, represent complimentary contributions to population health. Together, they suggest the need for a tiered delivery system that expands access while ensuring that services meeting professional standards remain available for individuals who require more advanced support.

From a policy perspective, the results point to clear priorities. First, payers and regulators can promote consistent outcomes by incentivizing adherence to evidence-based verification practices. Second, supporting self-fitting technologies offers a scalable means of reducing untreated hearing loss, particularly in communities with limited access to professional care. These strategies align with global recommendations calling for integrated approaches that balance affordability, quality, and workforce constraints.

As populations age and the prevalence of sensory impairment rises, aligning hearing-care delivery with principles of effectiveness, accessibility, and value will be essential. The present findings provide an evidence base for strengthening service quality, expanding entry pathways, and reducing preventable morbidity. These insights directly support the long-term vision articulated in *Audiology 2050*[39]—a future in which hearing care is integrated into public health systems, defined by enforceable clinical standards, and accessible across diverse delivery models. Advancing this vision will require renewed commitment to verification, thoughtful integration of self-fit technologies, and policy reforms that elevate hearing health as a core component of healthy aging and health system performance.

ACKNOWLEDGMENTS

The author extends sincere appreciation to the participating audiology practice owners for their generosity in providing de-identified patient chart information, and to Dr. Michael Page for his thoughtful insights that strengthened the ethical analysis presented in this work.

Conflict of Interest Disclosures: The author reports no conflicts of interest related to this work.

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Amyn M. Amlani, PhD, *is an audiologist, researcher, and thought leader whose work spans clinical practice, health economics, and hearing-health policy. He serves as a clinical audiologist at the ENT & Allergy Centers of Texas, where he provides patient-centered diagnostic and rehabilitative care with a focus on tinnitus and hearing aid management. With more than two decades of experience in academic, clinical, and industry settings, Dr. Amlani has authored numerous publications on hearing-aid delivery models, cost-utility analysis, professional standards, and the future of audiology. He leads Otolithic, LLC, and consults widely on practice management, tinnitus services, and strategic planning. Dr. Amlani is recognized for advancing evidence-based, ethical, and economically sustainable models of hearing care across the profession. Dr. Amlani is the current president of the Academy of Doctors of Audiology.* ■

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CLINICAL BULLETIN #6

Brian Taylor, Au.D.

Getting the Patient's Point of View with Solodar's One Question (SOQ)

For this edition of the Clinical Bulletin, we go back more than 15 years to an article published in 2009. In a retrospective study of over 800 adults, aged 18-95 years, the authors examined the relationship between the patient's self-rating of hearing ability, and their subsequent decision to purchase hearing aids. They used one question, shown below, to examine this relationship. Since this one-question approach doesn't have a name and the data collection was from the offices of Atlanta audiologist Dr. Helena Solodar, we'll call the scale "Solodar's One Question" or the SOQ.

Here is what they did: At the initial office visit for a hearing aid evaluation, during the in-take interview, the audiologist asked each patient this question:

"On a scale from 1-10, 1 being the worst and 10 being the best, how would you rate your overall hearing ability?"

The answer to this question was then compared with whether the patient acquired hearing aids. As many might predict, those who rated their hearing very poorly (e.g., #1, #2 or #3), were very likely to obtain hearing aids—92% or more of the time they decided to acquire hearing aids. In contrast, only a relatively small percent of those who stated that they had relatively good hearing (ratings of #7 to #10) purchased hearing aids—about 20% of the patients with this self-rating acquired hearing aids.


“On a scale from 1-10, 1 being the worst and 10 being the best, how would you rate your overall hearing ability?”

Perhaps the most interesting finding of this study is the large difference between individuals with self-ratings in the middle of the scale. Roughly two-thirds of the 800 patients had a self-rating between 4 and 7, with the group equally divided between a self-rating of 4 or 5 and a self-rating of 6 or 7. Those with a self-rating of either 4 or 5 acquired hearing aids 80% of the time, while those with a self-rating of 6 or 7 — just one or two points higher — acquired hearing aids about 50% of the time.

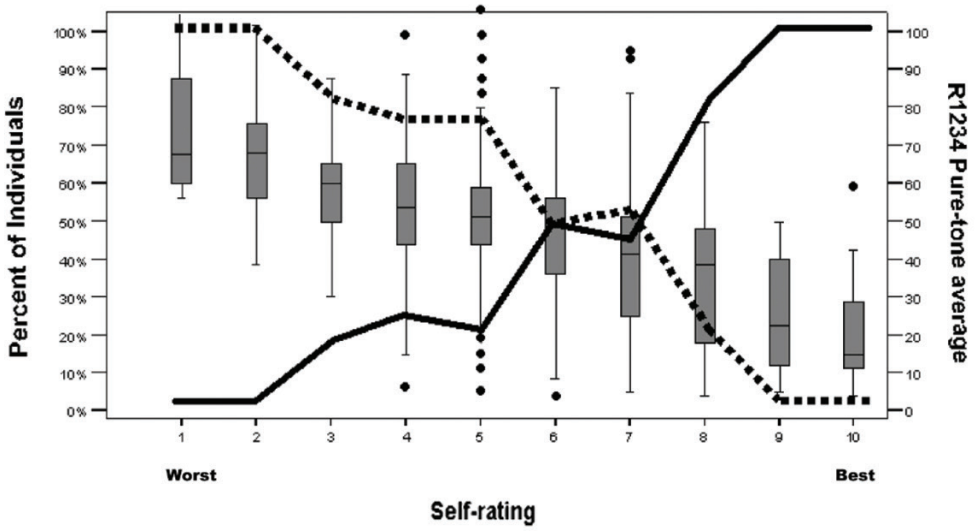

Figure. Dotted line = percentage of patients acquiring hearing aids. Solid line = percentage of patients not acquiring hearing aids. Note that the dotted and solid lines are a mirror image of each other. The box plots represent the range of 4-frequency pure-tone average and correspond to the right y-axis ordinate label. The black dots represent individuals with pure tone averages that fall outside the box plot range.

The findings of this study remind us that an individual's perception of a problem often trumps the magnitude of the problem as measured by an objective test. As this data illustrates, there a many help-seeking individuals with high pure tone averages and self-ratings more akin to near-normal hearing who are not ready to acquire hearing aids. On the other hand, the opposite also occurs: A self-rating that indicates a severely handicapping condition, say a self-rating of 3 or 4, with a near-normal audiogram, who are open to trying hearing aids. Either way, the value of asking this one-question should be evident.

Moving the Middle with a Follow- Up Question

Given that about two-thirds of help-seekers are likely to self-rate their hearing ability between a 4 and 7, it's wise to have a plan for how you might address these middling ratings. Here is a follow-up question, audiologists can ask:

"Why did you rate it (their self-rating number) and not a (chose a number closer to 10)?"

This open-ended question is likely to provide greater insight into the patient's point of view. After all, the more people who are ready to acquire hearing aids, the more successful our businesses will be.

As you can tell, the SOQ provides useful information and is extremely easy to add to your clinical repertoire. This one question simply could be added to one of the other scales like the RHHI (see Clinical Bulletin #5) or the PEW (See Clinical Bulletin #1).

Reference:

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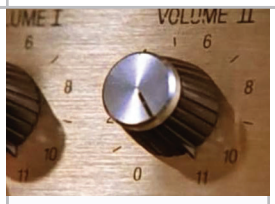

HAVE YOU HEARD?

ADA Demands Coverage of Medically Necessary Diagnostic Services Under Medicare Advantage Plans

ADA is actively advocating on behalf of members and Medicare beneficiaries in response to systemic denials of medically necessary diagnostic audiology services by Anthem Medicare Advantage plans. Since at least July 1, 2025, Anthem has denied coverage for diagnostic hearing and balance evaluations in multiple states—despite clear federal requirements that Medicare Advantage plans cover all medically necessary services included under traditional Medicare.

After repeated unsuccessful attempts to resolve the issue informally, ADA has formally demanded corrective action from Anthem, including reprocessing denied claims, confirming Anthem's responsibility for these services, correcting internal claims systems, and notifying providers and beneficiaries of proper coverage. ADA has also escalated the issue to the Centers for Medicare & Medicaid Services (CMS) and the U.S. Department of Health and Human Services (HHS).

ADA remains committed to protecting patient access to medically necessary diagnostic care and ensuring Medicare Advantage plans comply with federal law. Members impacted by these denials are encouraged to continue filing appeals and CMS complaints while ADA pursues resolution at the national level.

Extension of Medicare Telehealth Coverage Ends January 30, 2026

As audiologists have not yet been given permanent regulatory authority to provide telehealth services to Medicare beneficiaries, coverage allowances are tied to telehealth waiver programs. The last telehealth waiver program expired on September 30, 2025, in the midst of a government shutdown.

In Congresses agreement to the deal that ended the government shutdown, they also passed a continuing resolution which included an extension to telehealth coverage for audiologists. This extension is authorized until January 30, 2026, when another resolution will be required to extend the coverage provision.

For claims that may have been denied between September 30, 2025 and November 10, 2025, please resubmit any denied claims as the extension was made retroactive to October 1, 2025.

Please note that this applies only to Medicare coverage. Commercial health plans may not cover audiology services delivered via telehealth. Providers can review their contracts, payer portals and websites, and payer specific medical and coverage policies for specific information on telehealth coverage.

Please ensure when submitting claims for telehealth services that all appropriate place of service codes and modifiers are included in the claim.

Please reach out to Kim Cavitt at audiologyresources@me.com for questions.

VeDA Launches Vestibular Disorders Patient Registry

The Dizziness, Vertigo and Imbalance Patient Registry, sponsored by the Vestibular Disorders Association (VeDA), was recently launched.

The Dizziness, Vertigo & Imbalance Patient Registry is an online registry for people with vestibular disorders. It is sponsored by the Vestibular Disorders Association and hosted by the National Organization for Rare Disorders (NORD®) on their IAMRARE® platform. This registry will collect information from participants (or their authorized representatives) who are affected by dizziness, vertigo, and imbalance caused by a vestibular condition.

This registry aims to collect data on the vestibular patient experience to inform research that may improve patient outcomes and quality of life. By sharing information about their vestibular journey, patients can help advance vestibular medicine and make vestibular disorders more visible.

Please visit www.vestibular.org for more information.

Academy of Doctors of Audiology Position Statement in Support of the Stop CMV Act (H.R. 5435 and S.2842)

The Academy of Doctors of Audiology (ADA) strongly supports the Stop CMV Act, H.R. 5435/ S.2842, legislation that would strengthen national efforts to prevent, detect, and manage congenital cytomegalovirus (cCMV)—the most common infectious cause of birth defects and non-genetic hearing loss in children.

Background

Each year, approximately one in every 200 infants is born with congenital CMV. Among those affected, about one in five will experience lifelong challenges such as sensorineural hearing loss, developmental delay, or vision impairment. Despite this high prevalence, cCMV remains largely unknown to the public and underrecognized in prenatal and newborn care. With proper prenatal and public education, cCMV is preventable.

The Stop CMV Act authorizes new funding to incentivize hospitals and other health care facilities that care for children to screen babies for cCMV within the first 21 days after birth. The legislation also authorizes funding to collect data on cCMV and to encourage research, education, and training of health care providers, families, and the public.

The Role of Audiologists

Audiologists are essential members of the interprofessional care team responsible for identifying and managing hearing loss related to cCMV. Through newborn hearing screening programs, diagnostic audiologic assessment, and longitudinal monitoring, audiologists are often the first clinicians to identify early signs of cCMV-related auditory dysfunction.

Integrating CMV testing into existing newborn screening protocols enhances early identification, ensures timely referral for medical management, and supports improved developmental and communication outcomes for affected children. The Stop CMV Act would help make these evidence-based best practices more accessible and consistent across the nation.

The Stop CMV Act aligns with ADA's mission to advance high-quality, patient-centered audiologic care and improve public health through prevention, education, and early intervention. Specifically, ADA supports the bill's provisions to:

- Expand education and outreach to healthcare professionals, expectant parents, and the public regarding CMV prevention and transmission.
- Enhance early detection efforts, including universal newborn CMV screening and targeted testing of infants who do not pass their initial hearing screen.
- Advance CMV-related research and surveillance to inform evidence-based interventions.
- Support access to early intervention services for children identified with cCMV-associated hearing loss.

Conclusion

The Academy of Doctors of Audiology urges Congress to pass the Stop CMV Act to advance early detection, prevention, and access to care for children at risk for hearing loss. Through increased awareness, screening, and coordinated care, we can reduce the prevalence and burden of congenital CMV and strengthen the foundation for lifelong hearing health. ■

Medicare Audiology Access Improvement Act of 2025:

Momentum to Action

Alicia Spoor, Au.D., ADA Advocacy Steering Committee Chair

Reflecting on Fall Advocacy Successes and Looking Ahead to 2026

Clothed in orange and maroon scarves and ties, 200 ADA audiologists, spouses, staff, and patients visited Congressional offices on Thursday, September 25, 2025, during ADA's Lobby Day. Despite the cloudy, rainy day outside, the atmosphere inside House and Senate meetings was energizing as ADA members explained to Congressional staff how the Medicare Audiology Access Improvement Act (HR 2757, S 1996) would assist patients and constituents in each district.

When passed, MAAIA will:

- Remove the Medicare, Part B requirement for beneficiaries to obtain a pre-diagnostic order prior to seeing an audiologist for any medically necessary hearing or balance concerns;
- Reclassify audiologists are Practitioners within the Medicare system; and
- Allow Medicare beneficiaries to obtain audiology treatments services, already covered by Medicare, from an audiologist.

During Lobby Day visits, audiologists shared compelling stories from their practices about the barriers Medicare, Part B (traditional Medicare) beneficiaries face when trying to access hearing and balance healthcare from an audiologist. Congressional staff members were particularly interested in several key points: all other insurance providers function the way MAAIA advocates, state licensure laws dictate scope of practice, Medicare beneficiaries can apply coverage to other providers for audiology treatment although they may be less qualified than audiologists to provide the services, and ensure permanent telehealth services. The impact of these meetings was immediate and significant. **Thanks to the efforts of ADA (and ASHA) members, 17 new House Representatives and 3 new Senators have signed-on as co-sponsors! Thank you to all in attendance.**

MAAIA legislation has been referred to the two committees of jurisdiction- Energy & Commerce and Ways & Means. This first step is necessary to then have a committee hearing on the legislation. Sponsors of the MAAIA legislation are working to include it in an end-of-year package in 2026. The momentum for MAAIA is real and growing, but momentum does not pass legislation—action does. Every audiologist has a role to play in turning this momentum into victory.

ADA members can take action now:

1. Visit Congressional Connect (https://www.congressionalconnect.net/), edit the templates, and send a letter to your Members of Congress asking them to co-sponsor MAAIA. [If your Member is already a co-sponsor, use Congressional Connect to send a thank you letter for their support.]
2. Submit opinion editorials (op-eds) about MAAIA to your local media. If possible, add a quote from a patient or referring provider that supports passage of the legislation. Articles written by patients or caretakers are also extremely valuable.
3. Contact ADA headquarters and schedule virtual Congressional meetings.
4. Educate Medicare, Part B patients about the barriers and the MAAIA legislation could remove these obstacles.
5. Encourage Doctor of Audiology students to provide their perspective and stories to elected officials.

MAAIA is the main priority of ADA, American Academy of Audiology (AAA), and American Speech-Language-Hearing Association (ASHA) at the national level. However, there are many other initiatives supported by ADA at both the national and state levels, from Medicare reimbursement to scope modernization.


1628

As we enter 2026, let's carry forward the momentum from September's Lobby Day and make this the year that MAAIA becomes law.

Commit to the New Year with advocacy. Start 2026 by taking the following action:

1. Become a member of your state association.
2. Renew your ADA membership. Send in your paid state association dues for a discount on ADA membership.
3. Recruit colleagues to become state and ADA members.
4. Listen to the December ADA Advocacy Update webinar, available on ADA's website.

2026 Hearing Aid Service Coding Changes

BY KIM CAVITT, Au.D.

On January 1, 2026, 12 new Current Procedure Terminology (CPT) codes are scheduled to go into effect. These codes represent hearing aid candidacy, hearing aid selection, hearing aid and assistive device fitting, follow-up, verification, and electroacoustic analysis. Current CPT codes, 92590-92595, will be deleted on January 1, 2026.

These coding changes could have a significant impact on many audiology practices. In order to provide ample time to learn, operationalize, and monetize these codes, ADA has created coding resources for our members.

What providers could these code changes impact the most:

- The in-network provider who offers and/or bills an unbundled or itemized hearing aid delivery.
- In-network providers of health plans, payers and insurers who recognized 92590-92595 and/or who recognized hearing aid services represented by 92700 (unlisted otorhinolaryngological procedure or service) or V5299 (hearing service, miscellaneous) as non-covered. This could include, but is not limited to:
  - » Commercial health plans and insurers, specifically Blue Cross Blue Shield Association and Aetna health plans.
  - » State Medicaid programs.
  - » State Early Periodic Screening, Diagnosis and Treatment (EPSDT) programs.
  - » State Vocational Rehabilitation programs.
  - » State and federal Worker's Compensation programs.
  - » VA Community Care.

What providers could these code changes impact the least:

- The provider, whether offering a bundled, unbundled, or itemized delivery, who is out of network for every health plan, payer, and insurer except for traditional Medicare.
- The provider who never utilized 92590-92595 and/or never provided services represented by 92700.
    - » These providers only use HCPCS V-codes (such as V5010, V5011, and/or V5020) to represent and bill for hearing aid related services.
        - Please note that, if this has been your process, there are billing situations where you may have left revenues on the table.

It is uncertain if or how these code changes will impact hearing benefit/care plan or third-party administrator professional fees and billing policies and allowances. Visit www.audiologist.org for additional information and to view the ADA 2026 Reimbursement Update webinar. ■

Continued from page 3

But the Au.D. was **never** meant to be the **destination**. It was a **launchpad** toward something greater: a profession that is visible, valued, and **autonomous**.

And more than two decades later, we must ask the tough questions:

- Are we reimbursed at a level that reflects our expertise?
- Do Medicare patients have direct access to our care without gatekeeping?
- Do we stand shoulder-to-shoulder with our doctoral peers in interprofessional respect?
- Are our services seen as essential to healthcare?

And those sobering answers bring us here—despite our progress, the full promise of the Au.D. remains unrealized.

Why? Because **autonomy** isn't about a degree designation—it's about ***power***.

Power over how we practice, how we are perceived, and how policy and reimbursement are shaped.

Power also means **authority**—the ability to direct care, supervise extenders, and set standards, rather than leaving those decisions to insurers or large systems.

Autonomy isn't defended—it's constructed. Brick by brick, policy by policy.

An **autonomous profession** shapes healthcare; it doesn't wait for permission. It manages chronic conditions, restores communication, and improves quality of life—not as technicians, but as doctoral-level providers.

And autonomy is also about **parity**. Until we stand as equals with PTs, OTs, optometrists, psychologists—and as collaborative peers with ENT physicians—we remain positioned as secondary providers in the eyes of the system, and our patients remain underserved.

Yet divergent ideologies among our **professional organizations** fragment us. One organization clings to historical educational and professional requirements, while another forges alliances under the guise of protection but resists the very initiatives that would advance us. **Neither path advances autonomy—they constrain it**.

The only way **forward** is a unified, strategic push for control over our practice, our worth, and our identity. And that requires **humility**—the willingness to listen, compromise, and put the profession above personal and organizational interests.

That means shifting from fitting into someone else's system…and transitionng from conformity to innovation by creating one designed for us and for our patients. And to achieve it, we must embrace **four defining pillars**.

First: We Must Think Beyond "Access"

Yes, we face a **workforce shortage**. But simply adding more audiologists without changing the system only reinforces our limitations—**it's proliferation without power**.

Large systems and retail chains are already filling gaps with lesser-qualified providers, while **AI** is rapidly reshaping care through apps, remote diagnostics, and automation. If audiologists aren't at the table defining these models, others will do it for us—and on their own terms.

That's why **access** must mean more than numbers. It must be anchored in **authority**, reinforced by policy, and safeguarded by professional judgment.

Access alone is not the goal. **Autonomy** is—and it must remain our **North Star**.

Second: We Must Revive the Independent Practice Segment

Two decades ago, nearly 50% of audiologists owned independent practices. Today? Less than 15%.

That matters. Because independent practices consistently deliver higher patient satisfaction, more personalized care, and better continuity of services. Just as important—**private practice remains the only segment of our profession that is truly autonomous:** free to define its clinical model, set its value, and advocate without constraint.

If we want to lay the foundation for **autonomy**, we must increase—and fiercely **protect**—the number of independent practices in audiology.

Third: We Cannot Anchor Our Future to Device Sales.

That model **commoditizes** us.

Our foundation must be **differential diagnosis**—the comprehensive evaluation and management of auditory and vestibular conditions. That's how we earn **respect**, become **trusted referral partners**, and establish ourselves as the **primary entry point for hearing and balance care**—recognized for doctoral-level expertise, not product sales.

And recognition matters. **Visibility is autonomy in the eyes of the public**. If patients don't know that audiologists are their **first point** of contact for hearing and balance care, even the strongest policies will fall flat.

States like **Maryland** and **Arkansas** are showing us the way. Their audiologists now order imaging and blood work. They didn't wait for permission—they asserted readiness. And their success in modernization proves this: when audiologists **advocate effectively**, the system adapts.

Modernization must begin in academic training. Pedagogy and practica must reflect licensure realities, not outdated models. We can't continue to graduate clinicians trained merely to dispense devices. Our academic model must evolve to prepare **leaders** in diagnosis, treatment, and lifelong care—the **true hallmarks** of a doctoral-level profession, entrusted with the Au.D. designation.

Finally—and the most urgent requirement for autonomy: Achieving Medicare Limited Licensed Practitioner (LLP) status.

LLP status would transform our place in healthcare by aligning our **legal, economic, and professional identity** with our training.

Our presence yesterday at **ADA Lobby Day**, advocating for the **Medicare Audiology Access and Improvement Act**, showed what's possible—one unified voice declaring that audiologists are ready to be the first point of contact for hearing and balance care. Passing this Act would not just be a policy win—it would be a mirror, reflecting the truth that we are leaders in healthcare, not technicians.

While policy can open doors, it is our **professional identity** that determines whether we cross the threshold—united, as a forward-facing profession. That requires shedding the legacy mindset—choosing leadership over compliance, clinical care over product delivery—and committing to live autonomously every day.

But let's be clear: living autonomy is not easy. Too often, this **mindset shift** is undermined by internal division—amplified on **social media**, where opinion masquerades as authority. And when noise replaces evidence, we erode both our credibility and our unity.

That's why **autonomy** must always be grounded in **science and evidence-based practice**. Because autonomy isn't about **ego**—it's about **patient value** first, and **provider respect** that follows.

Ensuring **direct access** to comprehensive care—and fair reimbursement for diagnostic and rehabilitative services—is why **autonomy** must be claimed and defended.

There is an Opportunity Cost of Doing Nothing

…and it is steep.

If we fail to act—

- **Our services remain undervalued and tied to devices.**
- **Students graduate into an unstable workforce with low wages and high debt.**
- **Reimbursement will stay misaligned with the expertise we provide.**
- **Independent practices will continue to disappear.**

And we're already seeing **two outcomes**. First: **professional dissatisfaction**—driven by low economic value and high debt that drains advocacy and pushes too many colleagues—especially early-career providers—out of the profession altogether.

Second: we **lose ground**—not to some distant competitor, but to a healthcare system eager to replace us with cheaper, less-qualified providers.

This isn't fear-mongering—it's the reality of **market forces**. And unless we act, outside forces—**not us**—will define the future of audiology.

Outro

But here's the good news: the story is not finished. The future is still ours to write—if we choose to act together. And that's why the question before us is simple: **what will it take—and why must it be now?**

If we want real change, it will take all of us—students, new graduates, mid-career, and seasoned professionals. Whether in private practice, the VA, academia, industry, or ENT. Whether you align with AAA, ASHA, or ADA. Whether Democrat, Republican, or Independent.

One profession. One future.

Along with unity, we need torchbearers who carry our voice into statehouses and into Washington. Leaders like **Deanne Frazier Gordon**—an audiologist, a Kentucky State Representative, and now a candidate for U.S. Congress. Her voice will serve her district and elevate our profession—showing policymakers that audiologists belong at the center of healthcare.

Her example reminds us: the work ahead won't be easy. It will take persistence, advocacy, and above all, unity.

Autonomy is built on trust, sustained by culture, and exercised through power. Division and self-interest weaken us—but unity amplifies our ability to serve patients.

The time for waiting is over. The path is clear. The time is now. Together—we won't just take the next step. We'll deliver the missing piece: **true professional autonomy**.

For our students and new graduates: you are ***not*** stepping into a finished profession—you are stepping onto the frontlines of its reinvention.

Your ideas, your culture, your advocacy, and your innovations will shape how far audiology advances in autonomy and respect. **You are co-owners of the profession's future, not passive recipients.**

Finally, my heartfelt thanks to my family for their unwavering love and support, and to you, the membership, for the trust you've placed in me. I carry that trust with respect—and the determination to honor it. **Thank you.** ■

HEADQUARTER'S REPORT

Continued from page 7

Third, the accreditation program elevates patient-centered care. Audiology 2050 envisions care models that are outcomes-driven, inclusive, and responsive to patient needs across the lifespan. Accreditation standards emphasize patient experience, informed consent, care coordination, and ethical practice, elements that build trust and improve outcomes.

Finally, accreditation strengthens advocacy. As ADA works to advance policies such as the Medicare Audiology Access Improvement Act and broader recognition of audiologists as essential providers, having a nationally recognized accreditation program adds credibility to our message. It demonstrates that audiology is serious about quality, accountability, and public protection.

Momentum from the Field

The response to the Audiology Practice Accreditation Program has already been extraordinary. Interest from across the profession made it clear that practices are eager for a meaningful, audiology-specific accreditation pathway. I am pleased to share that the inaugural cohort of practices seeking accreditation has officially sold out.

As practices in this first cohort move through the accreditation process in 2026, they are helping shape the future of the program, and the profession! ADA expects to reopen the accreditation application process in April 2026 for ongoing accreditation opportunities.

Looking Ahead

Practice accreditation is not an endpoint, but rather one more guidepost on the road to audiology's future. Over time, the ADA Audiology Practice Accreditation Program will evolve alongside the profession, incorporating new evidence, emerging care models, and the realities of modern practice. It will also serve as a platform for collaboration, learning, and continuous improvement across the audiology community.

I invite you to learn more about the program, engage with accredited practices as they emerge, and consider how accreditation can support your own vision for the future of audiology. Together, we are not just preparing for what comes next, we are building it. ■

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