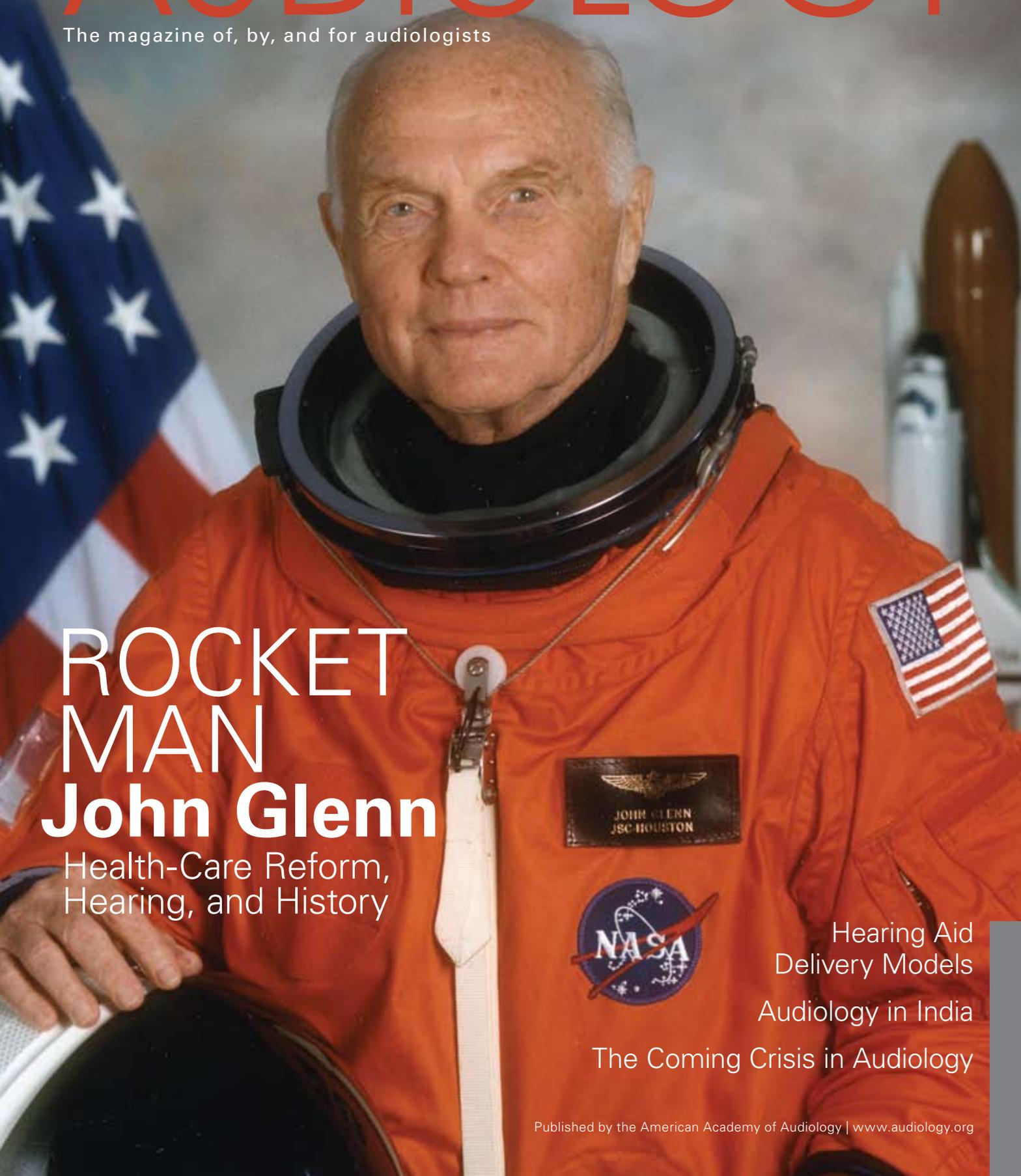


AUDIOLOGY TODAY

The magazine of, by, and for audiologists



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◀ John and Annie Glenn at the John Glenn High School in New Concord, Ohio, after Glenn's speech announcing his candidacy in the 1984 presidential campaign.

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Rocket Man: John Glenn *Audiology Today* discusses health-care reform, hearing, and history with the former astronaut and U.S. senator, who, at 88 years of age, still runs circles around most people.

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Hearing Aid Delivery Models: Part 2 of 2 A discussion of recommendations made by the Academy's Task Force on Hearing Aid Delivery Models, as a result of their analysis of the options available to audiologists and patients seeking rehabilitation through amplification.

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Audiology in India An overview of audiology in India, from education, to the availability of audiological services and the challenges that await the profession in the future.

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The Coming Crisis in Audiology A shortfall in the number of audiologists is predicted to occur in the not-so-distant future. If we do not address this impending crisis, any gaps in care will be filled by alternatives outside the profession.

By Barry A. Freeman



2009 EXCEL
Award Winner



2009 American
Inhouse Graphics
Award Winner

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EDITORIAL MISSION

The American Academy of Audiology publishes *Audiology Today* (AT) as a means of communicating information among its members about all aspects of audiology and related topics.

AT provides comprehensive reporting on topics relevant to audiology, including clinical activities and hearing research, current events, news items, professional issues, individual-institutional-organizational announcements, and other areas within the scope of practice of audiology.

Send article ideas, submissions, questions, and concerns to amiedema@audiology.org.

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What We Value and Where We Are Going

Invariably during a semester,

I find myself discussing values with AuD students. For example, audiologists value *evidence* (compared to tradition or habit) to guide our clinical practices. We value *cultural competence* as we navigate this increasingly diverse world. We value *patient-centered care* by sharing the power within a patient-audiologist relationship. Values describe us at a fundamental level, as well as guide our actions, our decisions, and how we present ourselves to the patient and the world.

These have been interesting discussions, but also slightly awkward, because I would have to ask students to take my word for it. Audiologists had not actually gone on record to affirm their professional values. Wouldn't it be nice to refer students (and others) to a document describing core values that have been developed for audiologists, by audiologists?

Now we can. Over the last year, the Professional Standards Committee took on the arduous task of reviewing and updating the Academy's values statement. Its processes and outcomes are described on page 63. Chair Cheryl DeConde Johnson (succeeded by Eileen Rall) guided committee members through a rigorous analysis that included active member participation, and then organized complex input into an easy-to-understand format.

Of course, a values statement has to live and breathe to be meaningful. It needs to be explicitly woven into

the Academy's fabric. To be authentic (not merely lip service), values need to be "known and owned" by all members.

How? Try this: schedule a lunch with one or more audiologists and discuss just one of these core values—and use the principles of "appreciative inquiry" (Cooperrider and Whitney, 2005). This process asks positively framed, forward-thinking, constructive questions such as:

"How can activism transform audiology?"

"What should *professionalism* look like 10 years from now?"

"What are some of our best examples of *public relationships*, and how can we support that further?"

Appreciative inquiry helps discussion focus on strengths, innovation, and possibility. (Consider using a search engine to learn more about this process; it is very productive.)

While members strive to "know" these values at the local level—from the "bottom up," as it were—the same kind of work will be done "top down." Over the next several months, your Academy Board, as well as the boards of the AAAF, ABA, and ACAE, will be leading similar discussions. In the next "President's Message," I'll share information about a "think tank" approach to develop goals for audiology for the year 2020. We have



a lot of work to do in the next 10 years, and we need everyone's input to develop our vision.

Where are we going? Our values will guide us. 🌱

A handwritten signature in black ink that reads "Kris English".

Kris English, PhD

President

American Academy of Audiology

Reference

Cooperrider D, Whitney D. (2005) *Appreciative Inquiry: A Positive Revolution in Change*. San Francisco: Berrett-Koehler.

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Change

This fall, I witnessed the fruition of change

at the ground breaking outside the Dallas Convention Center for construction of the brand new Omni hotel. Lobbying efforts for a hotel connected to the Dallas Convention Center have been ongoing the past 25 years. The enduring vision for this project was fueled in part by their end users, directors of large conventions such as AudiologyNOW!® In addition to those within city government, Mayor Tom Leppert made a special point to thank two citizen groups—Enough is Enough and Rest in Peace—critical to bringing about this change. The viral marketing tactics spearheaded by those residents of Dallas brought additional voters out by district, the aggregate of which swung the results in favor of the long-sought-after hotel.

On behalf of our patients, the profession of audiology desires change within the federal government known as “direct access” (HR 3024). Essential to the Academy’s ongoing efforts over the years has been/will be the government relations lobbying efforts on Capitol Hill and—perhaps more importantly—the critical role each audiologist plays within her or his congressional district.

So that we can witness this enduring vision of direct access come to fruition, let us say: enough is enough. Here’s how you can effect change within the U.S. government:

- Contact the member of Congress from your district to urge support of HR 3024 through the Legislative Action Center (www.audiology.org and click on Advocacy).
- Donate to the PAC so the Academy can thank our “friends of audiology” in Congress (www.audiology.org and click on Advocacy).
- Rally other audiologists in your district to join your efforts.

The Academy is grateful to the many audiologists who have already been in touch with their member of Congress this year, whether via correspondence or face-to-face visits, increasing the number of cosponsors on HR 3024.

On behalf of those experiencing hearing loss or balance disorders, you can effect change for your profession. Enough is enough! 🗣️

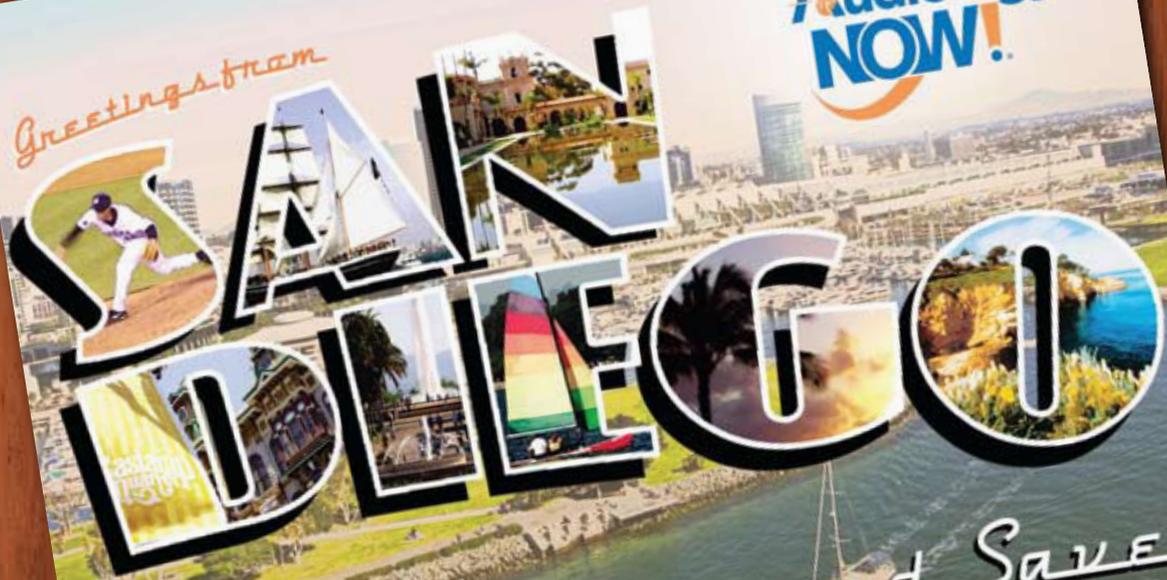


A handwritten signature in black ink that reads "Cheryl Kreider Carey". The signature is fluid and cursive.

Cheryl Kreider Carey, CAE
Executive Director
American Academy of Audiology



Greetings from



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Best Practice—Is It a Matter of Ethics?

In her article “Best Practice: It’s a Matter of Ethics” (Sept/Oct 2009 issue of *AT*), Catherine V. Palmer, PhD, challenged us to adopt a protocol for the verification of hearing aid performance that includes the use of real ear measures. Consistent with the notion of “best practices,” she provided the evidence that supports the adoption of such measures as part of the verification process for every patient. As Dr. Palmer is an established expert in this area, her call for change is well taken and I commend her for issuing the challenge.

Given that the issue of reform of the health-care system has been the subject of significant discussion over the past year, and that a part of this discussion has centered on the use of evidence as a foundation for clinical practice, Dr. Palmer’s call for implementation of an evidence-based protocol for verifying the performance of hearing aids is, therefore, very timely.

Dr. Palmer, however, took things a step farther by suggesting that not using evidenced-based procedures might be a violation of our ethical principles. Funny thing about ethics, we all believe in them but when they hit us in the face, they are tough to accept. In this regard, Dr. Palmer’s call for change is courageous and calls for a serious introspection of our roles and responsibilities to our patients in order to assure ethical practice.

However, I would surmise that not everyone agrees with this position, after all adopting these protocols would require some audiologists to change their clinical habits. Resistance to change is a common human trait and audiologists have not been exempt. Consider the concept of “monitored live voice” (MLV) and the years it is taking to eliminate

what clearly has been shown to be a flawed testing technique. Whether our resistance to change is due to an unwillingness to adopt new techniques, the belief that experience is as valid as evidence, or that we allow time and reimbursement factors to override our decision process, is unknown. But, we can only hope that implementation of best practices for verification of hearing aid performance does not take as long as the elimination of MLV.

Ian M. Windmill, PhD

Hearing Aid Dispensing Position

The positions that the Academy seems to be promoting on hearing aid dispensing are rather disturbing. This was very apparent in the Sept/Oct 2009 issue of *AT*. First, Catherine V. Palmer, PhD (“Best Practice: It’s a Matter of Ethics”) proclaims that 66 percent of dispensing audiologists are practicing “unethically” (based on her quote of Mueller’s statistics that only 34 percent of audiologists are using real-ear measurements). That is a dangerous and irresponsible statement to make in a public forum, and is certainly not in the best interest of the profession to announce to the world that a majority of us are unethical.

While there is certainly some valuable information to be gleaned from real-ear measures, obviously 66 percent of the profession does not perceive enough value to routinely perform the procedure. Surely, far more than 34 percent of the profession is providing top-quality, ethical care. She dismisses the comment of one audiologist who is concerned about “over-utilization of real-ear measures.” The audiologist may have

been expressing concern that real-ear measures, an objective measure with a questionable relationship to patient outcome, could be used at the expense of other objective and subjective assessments that are more directly associated with positive outcomes and patient satisfaction.

Just because we can measure something, doesn’t mean that we should do so on every patient. There are instances of audiologists who perform acoustic reflex decay on every patient because “they might have an acoustic neuroma.” That is fraud and abuse of the system. There is a cost to the consumer, direct, or indirect, for every procedure and service we provide. We have a fiscal responsibility to America’s health-care system to only provide those procedures that are necessary, and not do “everything on everybody.” We also have an ethical responsibility to be expert enough to make informed decisions as to when we feel procedures are, or are not appropriate.

Then, in “Hearing Aid Delivery Models” (by Robert Sweetow, PhD), there is a clear bias toward unbundled hearing aid pricing. The reason that the vast majority of audiologists choose a bundled pricing approach is that those of us in the real world recognize that unbundled pricing is simply not a viable business model. What’s more, many of the rationales presented in the article for unbundled pricing are based more on conjecture than fact. The fact that an audiologist may bundle hearing aid prices has absolutely nothing to do with “giving away professional services.” Most of us would understand that when a dentist charges \$500.00 for a crown, that price includes their professional services, lab fees, and the crown itself. The same applies to eyeglasses. It is insulting to our consumers to think that they are too stupid to understand

this. As far as helping us toward third-party coverage of hearing aid services: why would we want that? That does not make hearing aids free (someone still has to pay for them). It will have very little impact on market penetration (evidenced in countries with

government health-care plans that cover hearing aids), and will only serve to increase administrative costs and drive down our revenues, bringing the demise of private practice audiology.

The American Academy of Audiology was formed “by and

for audiologists” to get away from governance by an academic elite that was out of touch with practitioners. It appears that we are falling into the same trap again.

Fred Rahe, AuD

EDITOR'S RESPONSE

Drs. Rahe and Windmill raise a number of very important points in their letters that deserve consideration and editorial response.

The first issue relates to whether the Academy is “promoting” any position or practice. Each issue of *Audiology Today* (AT) comprises feature articles based on member or nonmember submissions that are reviewed prior to publication by the Editorial Advisory Panel. These articles in no way represent “official” Academy positions unless specifically stated. Many issues of AT also contain committee and task force reports, board communications, and overall Academy news, announcements, and updates that, to varying degrees, communicate the governance and management structure in facilitating the Academy's strategic plan. The primary purpose of feature articles, however, is to stimulate discussion, raise awareness, and provide the opportunity for scholarly debate among Academy members. To that end, Dr. Palmer's article certainly succeeded.

If Dr. Palmer had simply pointed out the overwhelming evidence in favor of probe microphone measures as a useful verification tool, her manuscript would likely have joined countless others that failed to stimulate discussion or generate change in clinical practice. By raising the issue of ethical practice, however, she appeared to strike a nerve with Dr. Rahe and possibly other AT readers.

Dr. Rahe states that, “While there is certainly some valuable information to be gleaned from real-ear measures, obviously 66 percent of the profession does not perceive enough value to routinely perform

the procedure.” The implication of this statement is that real-ear probe microphone measures are the treatment, instead of a tool used to assess a treatment. Rather, the treatment is optimizing audibility, and there is strong evidence in the literature to support the assertion that audibility is essential to provide patient benefit through amplification (e.g., French and Steinberg 1947; Kryter 1962; Pavlovic 1984).

As David Pascoe (1978) frequently pointed out, however, while mere audibility does not guarantee speech understanding, lack of audibility dramatically reduces that probability! Currently, real-ear probe microphone measures are the most accurate and efficient method for verifying that the essential goal of audibility has been achieved. The techniques may change in the future, but restoration of audibility remains a basic tenet of amplification for most patients with mild-to-moderate degrees of hearing loss.

As Dr. Windmill states, Dr. Palmer's call for implementation of an evidence-based protocol for verification of initial hearing aid characteristics is very timely.

Dr. Rahe suggests that clinicians don't “perceive enough value” from probe microphone measurements. The fundamental issue really isn't about perception; rather, it is about using the evidence base, and the evidence base strongly supports the return of audibility as stated by Dr. Palmer's article. In many clinical disciplines, the evidence and clinical beliefs may be in opposition for many years prior to complete integration of research and practice.

Scholarly discussion and debate is an important tool in gaining knowledge,

and it requires an atmosphere of mutual respect. Raising the issue of “ethical practice” will always elicit heated dialogue; however, asserting that someone is an “academic elite” because they choose to engage in research, education, and clinical practice is just as likely to elicit a reaction. The focus should remain on what tools, methods, and treatments will provide optimal patient benefits, and this requires active participation by clinicians and researchers. *Audiology Today* wishes to thank Dr. Palmer, Dr. Rahe, Dr. Sweetow, and Dr. Windmill for their contributions and encourages others to do the same.

David Fabry, PhD

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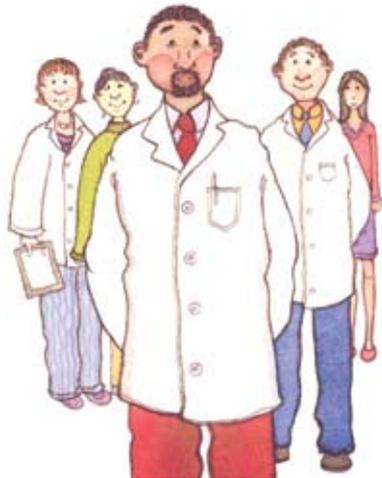
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Your Leadership, Your Employees

Employees committed to a practice identify with its goals, feel involved, and are loyal. People who are committed are less likely to leave for another job, to be tardy, and to take sick days. Leadership style is one major factor in an employee's decision to remain or leave. A recent study compares the effects of two opposing leadership styles—leader initiating structure and supervisory consideration—on organizational commitment.

Leader Initiating Structure Versus Supervisory Consideration

Leader initiating structure (IS) is how leaders define their role and the roles of their employees in terms of a certain goal. Most studies show that IS prompts employees to feel as though they have more responsibility and are more involved in the practice's plan. Structured roles and rules also create a perception of dependability, another factor that increases commitment. However, some researchers believe that if a leader gives a great deal of direction to employees, workers will feel like they have less responsibility and less autonomy. Meanwhile, supervisory consideration is the degree to which a leader creates a climate of support, trust, respect, and friendliness. The support system can include listening to workers' issues,

accepting employee suggestions for improvement, and treating workers like equals. Researchers have linked social interaction between a leader and subordinates with organizational commitment.

Growth Leaders

Many organizations have growth leaders who are able to tap markets that may be oversaturated. As your practice develops, particularly if your market is a highly competitive one, growth leaders may become increasingly more important. Many of the managers examined in a recent study acquired myriad skills by working in a variety of aspects of their organization. Not only do these growth leaders have a variety of skills and experience, but they also firmly believe in their own abilities. Unlike traditional leaders, growth leaders often experiment in the market and with solutions, even though they do not have concrete data telling them that they will succeed. Researchers view these leaders as entrepreneurs willing to collect their own data and research to devise solutions and implement them, but once implemented, they are monitored and tweaked to meet the needs of the organization.

Bringing It All Together

Many leaders struggle to balance the interests of their employer with those of their colleagues, but some have found ways to do just that. Leaders with high-performance practices must think beyond the bottom line and care about the well being of the practice. Day-to-day operations must remain a priority for these leaders, which means personal connections with individual employees are essential. Without these relationships, workers can be taken for granted, which can translate into

tougher times when major culture or strategy shifts are necessary. To motivate workers during these shifts, leaders must foster honest and transparent communication throughout the ranks prior to the strategy shift. Leaders must also continually display care for the practice and its workers without one taking precedence over the other. Through these techniques, leaders can create loyalty and trust to mobilize staff members.



Reaching Your Potential

Personal fulfillment comes not from clearing hurdles set up by other people, but by clearing hurdles one sets for oneself, says Robert S. Kaplan, a professor of management practice at Harvard Business School. Kaplan offers three "rules of the road" to guide people on the journey to reaching their potential. First: people need to act according to the guideline that managing their career is 100 percent their responsibility. Second: going along with the conventional wisdom rather than personal passions and convictions is the wrong idea. Third: people must stay hopeful that justice will prevail over time.

My Career, My Responsibility

It is important for people to be able to identify their own significant weaknesses, in addition to their top strengths. “Unfortunately, you often can’t count on [others] to accurately assess your strengths, or to be willing to confront you with what you’re doing wrong. It’s up to you to take control of this process by seeking coaching, asking for very specific feedback, and being receptive to input from a wide variety of people,” Kaplan says. If you choose to go the coaching route, your coach will act as a sounding board, and help you develop your talents and tackle failure-prone behavior. Very few coaches are specifically hired to address personal issues, but the vast majority of coaches nevertheless end up helping with personal matters.

Pursuing Your Passion

Hopefully, you have chosen your field because you are passionate about it. However, there are steps you can take to maximize the enjoyment you feel for your career. For example, excellence at critical tasks is vital, according to Kaplan. “That sounds painfully simple, but many [people] fail to identify the three or four most important activities that lead to success in their job or business.” If you head a practice, the crucial tasks might be patient interaction, diagnostics, and staff relationships. Anything you can do to spend a majority of time on the things you most enjoy and excel at can help raise your level of passion.

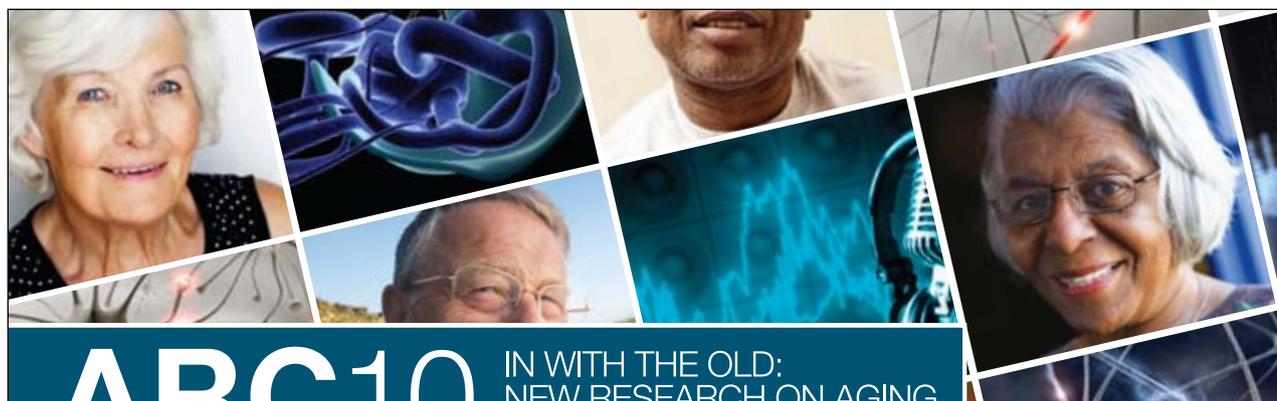
Justice Prevails

Finally, it is important to demonstrate character and leadership as

well, trusting in long-term vision over short-term concerns, and being unafraid to be bold rather than playing it safe, Kaplan says. To do this, you may want to invite comments on ideas from cynics to ensure you do not get too wrapped up in your own concepts, and make innovation a formal agenda item at regular staff meetings. Furthermore, you may want to articulate your long-term vision to your staff and cultivate a community of action. Following these guidelines will help you reach your potential and make the most of your career, all while deriving the most satisfaction possible from your chosen profession. 

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Academy Responds to AMA SOP Data Series

In July 2009, the Academy's Board of Directors established a task force charged to review the AMA *Scope of Practice Data Series*. Reference materials are being developed and will be shared with the members at the earliest opportunity. In the meantime, read the Academy's response to the AMA.

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JOHN GLENN

BY DAVID FABRY

Audiology Today recently caught up with the former astronaut and U.S. senator, who, at 88 years of age, still runs circles around most people.

John Glenn is one of the original Mercury Seven astronauts who, on February 20, 1962, became the first American to orbit the Earth. Glenn's ride into space, while a great technical achievement, held even greater significance for the country during the Cold War with the Soviet Union. For years, the United States had lagged behind the Soviet Union in the space race, and Americans saw Glenn's accomplishment as a political, as well as a scientific, milestone. Upon his return to Earth, Glenn was hailed as a hero across the country, and his flight stimulated a newfound confidence that humans could successfully break free of the Earth's gravitational pull. Rather than rest on his laurels, John Glenn continued his life of service to his country, serving as a U.S. senator from Ohio for 24 years. At 88 years of age, Senator Glenn still runs circles around most people, and *Audiology Today* was fortunate to catch up with him recently.

AT: Senator Glenn, thank you for your years of service to this country and for taking the time to speak with us today. First of all, health-care reform is the topic on everyone's mind these days. Expenditures in the United States on health care surpassed \$2.2 trillion in 2008, amounting to an annual cost of approximately \$8,000 per resident, and representing over 16 percent of the nation's gross domestic product (GDP). This is among the highest of all industrialized countries, and yet some estimates suggest that over 45 million Americans do not have health-care coverage. What is your opinion of the need for health-care reform in the United States, and how would you design a viable plan?

JG: We have been long overdue in getting health-care reform. We should have decent health-care available for everyone; other industrialized nations do, and that is the key. I hearken back to the time that my dad had some problems shortly after he had retired. He had prostate cancer that had metastasized. My parents didn't have money; they had saved a little bit for retirement. (My wife) Annie and I were able to help them out. I can't imagine reaching that stage, having a problem and not being able to get some sort of help. Despite many challenges, I think that we have a good track record. I would like to see it reformed along the lines of Medicare, or maybe even something along the lines of the VA (Veteran's Affairs) or Federal Employees Health Benefit Plan. We have those programs that have been run by the government, and everyone realizes that they are good programs, and I would like to see them expanded.

I have worked at the Mayo Clinic and Walter Reed Army Medical Center—two stellar examples of privately and publicly funded health-care systems, and both run efficiently and work well. Specific to audiology, the VA, military, and federal employee plans have benefitted many persons who suffer from hearing and balance disorders, effectively providing "universal" health care for those citizens. How do you answer critics who talk about the Medicare program as one that will bankrupt the country? If we said "do away with Medicare," there would be a horrible uproar all over the country. I favor expanding that type of program to meet the needs of all.

And although there is a lot of debate on this issue, many physicians have weighed in by saying that their preference is to fight over reimbursement levels with one insurer (e.g., Medicare) than with a multitude of private insurers, as they presently do. Many contend, however, that the lack of competition provided by a single-payer system would stifle innovation, and I know that research has been a major focus for you in your career as a senator. One thing is for certain, however, in this age of Twitter, Facebook, and the Internet, the politics of this issue certainly threatens to distract from the fact that millions of Americans are similar to your parents. Despite saving for retirement, rising costs have made it nearly impossible for them to pay for health care.

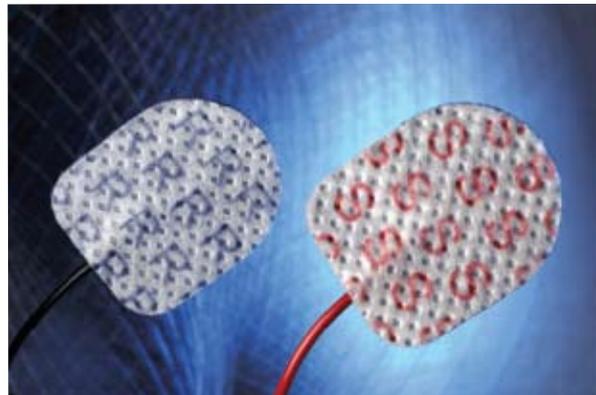
Yes, the problem now is more political than it is medical. The people who opposed Obama are bringing up all sorts of ridiculous things that, unfortunately, some of the public believes. If you come back down to what is really needed for the country, it is expansion of the Medicare system, and it would benefit everyone and, in the long run, be cheaper for the overall health bill for the country than it is now.

I hope that you are right, and that we can find some sort of compromise solution that will upset everyone equally (laughs) while ensuring health care for everyone without saddling our children and grandchildren with outrageous debt. What we really need is some sort of unifying event for health care, which will help us set aside our differences and focus on the long-term goals, like your orbital flight did for the U.S. space program in the 1960s. Let's shift the focus to your time in the military and with NASA. First of all, was there much emphasis on hearing protection for the noise exposure that you encountered with early spacecraft?

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My flying started in World War II days. Shortly after Japan attacked Pearl Harbor, I went into military flight training and became a Marine fighter pilot. I flew 59 combat missions during World War II and 63 missions during the Korean conflict. Our helmets had sound-attenuating cups around your ears, but beyond that, you just hoped that your ears weren't being damaged by the high decibel levels in which you were working. So it was mainly an awareness of it, but no real special protection made, and not even later in the space program. You had to have hearing levels that were OK, but as far as what your ears were going through in space and in flying, that was pretty much the same as in World War II days.



John Glenn dressed in flight gear, taken during his flight training in World War II, circa 1943.

You must have “tough” ears, because some people exposed to the same noise levels might have fared much worse, and I am glad that there is greater awareness of the potential for damage today. Have you noticed any difficulty with your hearing?

My hearing has degraded somewhat, but I think that it is more a factor of aging than it is anything else. I have gone through the usual routine for most elderly of a decrease in the high-frequency sounds, so I have hearing aids that I use a good part of the time that give me better control of the high-frequency sounds that I heard when I was younger.

They work well?

Yes, they do. I am always looking for improvements, of course. You mentioned that Walter Reed is looked at as the experts in the military community in Washington, and that is where I have had my hearing testing done.

Did you encounter any special challenges with your hearing, during your tenure as an astronaut with Project Mercury?

For my orbital flight with Project Mercury, we used a pressure control system that provided 100 percent oxygen at pressure of five pounds per square inch (psi). With that pressure, we could build a lighter space craft. But it also led to some problems later on the Apollo 1 launch pad fire where three people were killed (including fellow Mercury astronaut “Gus” Grissom). Today, you go into space at basically the same environment you have on Earth (14.72 percent OSI with oxygen nitrogen mix), and adjust it as you re-enter like you would on any aircraft. I think that the biggest strain on my ears in Project Mercury was on re-entry, when we were building up from that five psi inside the cabin to normal sea-level pressure as you re-enter. That occurs very rapidly, and you have to clear your ears very fast by swallowing or moving your jaw. You are coming straight down, well above sonic speed, and you don't get subsonic until you hit 30,000 feet coming down. This adjustment needs to be made very rapidly, and that's the only real problem that I have ever had with my ears.

Did you receive special training or evaluation to make sure that you could clear your ears? Even though I know how to use the Valsalva maneuver, I really struggle to clear my ears when I scuba.

I can only imagine what this is like when you are travelling at or above sonic speed.

It becomes a problem if you don't stay ahead of it. It is much the same as scuba diving, and of course just a few feet makes a big difference under water. I'm glad that you brought that up because I love to scuba dive. One of the problems, of course, with Project Mercury pilots was that you could not reach in and pinch your nose to use the Valsalva maneuver, because your faceplate was closed during re-entry. With Apollo, they were off of 100 percent oxygen, and all the people involved were pilots, so they were familiar with the process of clearing their ears.

Yikes. I really hadn't considered this very obvious and potentially painful consequence of space flight—or really the return from space flight. Did you find any differences with your hearing during weightlessness?

No I didn't. The mission lasted four hours, 55 minutes, and 23 seconds, and I orbited the Earth three times.



Snapshot of John Glenn, dressed in fatigues, standing beside an F4U Corsair of U.S. Marine Corps squadron VMO-155 while assigned to the Marshall Islands during World War II, circa 1944.

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It took about five and one-half minutes from launch into orbit, and then re-entry is about eight minutes.

Incredible that it was over that quickly. Did you ever feel “cheated” by the fact that you were denied the opportunity to fly to the moon?

Obviously, I would have liked to go to the moon, but I had no complaints regarding my role in the space program. After my first flight, I wanted to get back into flight rotation and go again. Many years later, I found out that President Kennedy conveyed the decision to NASA that I wasn't to be used again at that time. I guess that there was so much attention focused on us that he was concerned about what the fallout would be if something happened to me on a second flight. I didn't know that at the time. They were suggesting that I go into areas of training management and things like that, and I didn't want to do that, so I eventually left to do other things.

You were good friends with the Kennedy family over the years. How interesting to find out that they would not want to place you at risk for an accident, which certainly would have been devastating to the space program and for the nation during the height of the Cold War.

I didn't feel that way about it, I wanted to go up again; I stayed in the program for almost two years and I finally left to do other things.

How amazing then, for you to become the oldest person to go to space when you returned with the Space Shuttle Discovery in 1998— at the age of 77!

It was very, very, different, not as far as hearing goes, but for the whole experience. I was alone on the first flight in a very small craft—you didn't have much room to float around because there wasn't any space to do that. The purpose of that first flight was just to see if we could do it, and to see what problems would occur with people going into space. The impetus for much of the early part of the space program was the Cold War. The Soviets were claiming technical superiority to the United States, and they were using as an example the fact they were launching

vessels into space while too often our vehicles were blowing up on the launch pad. By the time of my second flight 36 years later, the whole purpose of the program had changed. We had a larger crew; we had seven people in the crew on Discovery flight STS-95, and the purpose of the program had changed from competition with the Soviets (or the Russians by this time) over to doing basic research. It was a very different flight—you could get up, change clothes, and float around. We had 83 different research projects on that one flight on Discovery. Columbia had 90 research projects. Additionally, we had the experience of 120-plus manned flights in between there that gave us a much greater level of experience in space.

As you said, although you remained an advisor to the NASA program, your interests turned to public service. What prompted this decision after already giving so many years to your country?

Bobby Kennedy called public service the “most honorable profession” because you are representing other people. You are proud of that, and I hoped that I could, if only in a little way, change the country or the future for the better. I just found it very rewarding and very interesting. It might have come from my high school days, when I had a civics teacher who made the subject intensely interesting. It kindled an interest in government and politics. I never thought that I would have the opportunity to run for high office, but I just found it interesting.

John Glenn in the cockpit his F8U-1P Crusader during the "Project Bullet" record-breaking transcontinental flight, 1957.



Who was that teacher? It certainly is testimony to the importance of educators as early role models!

His name was Harford Steele from New Concord High School near Concord, Ohio.

What were some of your memorable activities during your 24 years in the U.S. Senate?

One of my roles, among many, was on the Special Committee on Aging. I had asked to be assigned there, because I had seen some of the problems that my parents had, even though it was not considered to be one of the major committees. I thought that there might be things that I could do to reduce problems for other people. One of the things that I worked with was the National Committee on Aging, headed by Dr. Robert Butler. I worked with him very closely on a project called The Graying of Nations. We had 25–30 different nationalities that attended; under the direction of Dr. Butler, we began to identify the major problems of the elderly, discussed

how we should address them, and tried make sure that research information from wherever it turns up in the world gets full distribution so it can benefit people all over the world.

Were hearing and balance disorders specifically identified as issues faced by the elderly?

The studies that we did back on the Special Committee on Aging identified a lot of different areas, and the areas of balance and hearing were one (of many) issues that we were looking into at that time.

Do you have any suggestions for the profession of audiology to increase awareness of the societal impact of hearing and balance disorders, given that the prevalence is so high in the aged population?

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John Glenn aboard the U.S.S. Noa during the recovery phase of NASA's Project Mercury MA-6 mission, February 20, 1962.

this will increase. Any health-care reform policy should definitely include any problems that the elderly have with hearing or balance, and we should prevent it as well.

Speaking of balance disorders, I recall that you had a personal experience with this as well.

Yes, years ago (in 1964), I hit my head very hard on the metal rail on the top of the bathtub. Subsequently, whenever I moved my head a little bit, I suffered from terrible dizziness. My doctor at the time predicted that whatever recovery I would get would occur within eight to 12 months, and beyond that I would need to live with it the rest of my life, probably because there wasn't anything they could do at that time to operate. I got better by stages, initially, I was in the hospital for awhile, and when I finally came home, progress came very slowly. It took almost nine months before I had decent recovery—it was that debilitating. I finally got 100 percent recovery, and asked to go back through the balance tests that we had when we were picked for the space program, so



President John F. Kennedy and John Glenn inside the Mercury Control Center during a tour of Cape Canaveral prior to ceremonies commemorating Glenn's Friendship 7 space flight, February 23, 1962.

I could see how it compared, and went back through those tests again as well as through a jet flying refresher course to see if that affected me any. It didn't. I have had complete recovery and have been fine ever since. But that experience, which had me laid up for the better part of a year, was something that I'll never forget, and I can appreciate people who have problems with Mènière's syndrome or things like that, and I can understand what they are going through.

It really is a misunderstood disability, perhaps because it is "invisible" compared to others. Although you were young when you suffered this accident, the risk of falls increases with age, and the balance system is a direct factor in many situations. There have been many advances in the diagnosis and treatment of balance disorders, and we really need to make more people aware of that. Returning to the space program, you have been outspoken in your opposition to space tourism—why?

We do these things in space not to just have a pleasant experience, but we are doing these things for basic research purposes. I just don't think it is right to just take it down to the level of "space tourism." The Russians have sold missions on their end, and we have a number of people who have paid \$20 or \$30 million to go up on a space flight. If the Russians want to use it that way, that's fine. As far as our involvement, I would like to see everybody have the opportunity to go into space and have a better appreciation of that. But right now, I think that our space program is off kilter. I mentioned before that the purpose of the early space program was to increase research efforts and learn new things for people right here on Earth. We have invested about \$100 billion in the space station, and to commit this type of money without using the station for the purpose it was intended is just flat wrong.

So instead of committing money to go back to the Moon, we should focus efforts for research on the space station.

I think that we need to better define what we expect to look into in going back to the moon. People talk about exploration for exploration's sake—just put a man in a vehicle and see how long we can keep him alive in space. I support exploration if we are willing to pay for it. I just don't think that we should drop projects halfway through when they are as expensive as the space station.



John and Annie Glenn at the John Glenn High School in New Concord, Ohio, after Glenn's speech announcing his candidacy in the 1984 presidential campaign, April 21, 1983.

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Crew members of the Space Shuttle Discovery mission STS-95 leave to board the shuttle after the prelaunch preparations for their space flight, October 29, 1998.

With the shuttle program being phased out, we will soon need to contract with the Russians to send our own astronauts to the space station.

I think that it is just a mistake. Our priority right now should be to get the best research return on the space station. Also, we have a wonderfully cooperative effort going on with the 15 other nations that are involved in the space station, and it is almost a blueprint of how we should be conducting foreign policy.

You have been quoted as opposing the use of female astronauts. Is this correct?

No. I have been misquoted on this issue, and every time it comes up for discussion I get misquoted again. I was giving testimony before a congressional committee when that came up in 1962, and they asked about women going into space, and I said that was fine if they could qualify for the NASA requirements, which had been established under President Eisenhower. He decided that military test pilots would be the ones to do this. In those years, there were no women military test pilots, so they didn't qualify. That is when I said that and it got misquoted later on. What I said was that women didn't qualify for NASA rules, as they had been set. Later on, NASA changed the requirements, and that was fine with me. Subsequently, there are quite a number of [women] military test pilots, and we have had a woman commander. Almost 30 percent of the present astronauts are women.

I always thought that the issue seemed out of character, so thank you for the clarification. Which of your achievements are you more proud of—those on land or in the air?

It is impossible to separate. I am very proud of the space flight that I was able to participate in, and also the later studies that I did on aging on the later flight. We were interested in the studies on aging, things that happened to the younger astronauts in space that happen as part of the natural processing of aging right here on Earth: immune system changes, osteoporosis, protein replacement in muscles, and others are all changed in younger astronauts during flight. They are also things that change with aging on Earth. As you said, I was 77 when I went up the second time. We were interested to see how it compared to the younger people and see what turned these systems on and off in the human body, and might make it possible for astronauts to have longer space flights

without problems, and cut off some of the frailties of old age. I was very proud of that experience.

Talk about giving your body up to science!

When it comes back to your original question, I think that it has to come back to active combat—you are being shot at and shooting in return. The space program and test flying are voluntary. Your life is on the line, you see people that do not make it back, and those are things where your future isn't guaranteed, and what research has been done to put you where you are.

Is there anything that you can think of growing up that enabled you to take such risks in an unproven, but tested, technology and be okay with it?

Well, I think the answer is that it was important for the country, and we were willing to take some risk. We had a much higher level of confidence than the average person when I went on the Mercury flight in 1962. The space program was so distant from anything that normal people would consider doing—some thought it was a fool's errand of some kind. We had been through it, we'd had the experience, we had seen the research, we worked closely with the engineers, we visited the plant, and we saw the construction. Keep in mind that many people hadn't even flown on an airplane, let alone gone into space. So, it was something that we had trained for, and we thought was important for the country, and whatever risk there was that went along with it, we were willing to do it.

A number of astronauts have related extraterrestrial experience during space flight. Have you had "Close Encounters of Any Kind?"

I call myself a UFO agnostic—I just don't know. I have not personally ever seen anything I thought could not be explained by rational physical experience.

But you are not willing to go on record as a UFO "atheist"?

I have known people who claimed to have seen things that they thought were probably UFOs, and they were very convinced of this. I certainly don't try to talk them out of it. I think maybe I just haven't had the type of experience that they have had. I am open to be convinced in either direction.

What is your favorite space movie?

Apollo 13. People think that we had something to do with *The Right Stuff*, but we did not. Hollywood fabricated a lot of that. *Apollo 13* portrayed the event exactly as it happened. The crew was just about as close to not making it back as it could come and still came back, and the movie depicted that.

Thank you again for your service to the country, and for taking the time to speak with us today. 🇺🇸

David Fabry, PhD, is the content editor for Audiology Today, and the chief of audiology at the University of Miami, in Miami, FL. Send comments about this article to dfabry@audiology.org.

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HEARING AID DELIVERY MODELS

PART 2 OF 2

BY ROBERT SWEETOW

A discussion of recommendations made by the Academy's Task Force on Hearing Aid Delivery Models, as a result of their analysis of the options available to audiologists and patients seeking rehabilitation through amplification.

Part one of this article appeared in the September/October issue of *AT*.

The mandate for the American Academy of Audiology Task Force (TF) on Hearing Aid Delivery Models was to provide an analysis of the options available to audiologists and patients seeking rehabilitation through amplification. The TF identified four central issues to consider:

- 1. What are the pros and cons of bundling versus unbundling?**
- 2. What are the crucial issues that audiologists must consider when establishing insurance contracts?**
- 3. Should Internet, over-the-counter, and mail order sales be managed, and how should audiologists participate?**
- 4. Should there be any regulation on dispensing by nonaudiologists?**

Task force members (listed at the end of this article) were asked to analyze each of these issues and to comment on their effects on patients and audiologists. The findings were outlined in the first installment (part one) of this article.

In the conclusion of this report, the recommendations delivered to the Academy Board of Directors are presented. While each of the aforementioned central issues contains important and controversial aspects, the task force concluded that a common factor that has major implications for each topic is the development of a transparent fee schedule.

Bundling Versus Unbundling

There are clear advantages and disadvantages to both bundling and unbundling. The decision regarding which one should be used in a given practice is dictated by unique practice needs, such as adherence to contractual arrangements and state regulations that may be beyond the control of the audiologist. In fact, approximately 50 percent of audiologists are not self-employed and thus may not be the decision makers for their practice, regardless of their personal preferences. Recognizing that there is simply not going to be a “one-size-fits-all” type of arrangement to suit the diverse settings in which audiologists are engaged, the TF decided not to endorse either bundling or unbundling. Instead, it was recommended that the Academy should reinforce the concept that a clear fee structure should be presented, or at least be made available, to the public whether bundling or unbundling is selected, so that consumers and other stakeholders might understand what the fitting of amplification entails. By educating stakeholders about the complexity of the services, audiologists and the Academy could potentially encourage third-party payers to reconsider current policies that discourage unbundling and exclude reimbursement for certain services deemed necessary for the successful fitting of hearing aids. Ultimately, the ability to use a fair and unbundled-only schedule could be effectively used by the Academy to promote our professional and specialized services and to argue for appropriate reimbursement that sets us apart from nonaudiologists who dispense.

The TF also emphasized that audiologists should never give away professional services (such as hearing tests) for the purpose of selling a product.

Establishing Insurance Contracts

Audiologists are justly frustrated by the lack of specifics regarding some insurance policies. The TF identified

several concerns regarding insurance contracts in the first installment of this article. For example, when benefits are available, there typically is no differentiation whether the services and products are provided by an audiologist or a nonaudiologist. Audiologists do not have adequate input into the writing of these contracts, nor do they have a means of protesting. Some insurers change policies without informing the audiologist in writing and giving him or her an opportunity to “opt out” of certain contracts without exclusion as a provider to all of their policies. Some insurance companies may specify a discount, but they may not indicate the price from which that discount should be applied, and some insurance companies provide a larger “discount” if the services are provided by “franchised-” type groups such as HearPO, Beltone, Epic, TruHearing, etc., as opposed to a fixed billable benefit. It would be helpful for audiologists to participate on panels, but given current insurance guidelines, it is unlikely that this will be accomplished.

It was suggested that the Academy look at insurance as a marketplace that can be cultivated. The Academy needs to meet with and educate national providers such as Blue Cross about what the professional process for the provision of hearing aids entails. The Academy needs to educate these insurers about our protocols and how unbundling the services from the products is not only fair and ethical to the patient but may result in a more transparent and accountable billing practice that does not raise costs to the insurer. The ill-conceived concept of paying for a bundled service such as “invoice plus a fixed percentage” needs to be altered, as it does not account for the professional’s value. The Academy needs to present cogent, evidence-based arguments to government agencies to create appropriate CPT and HCPCS codes and reimbursement levels. Members also, however, must be presented with the realistic fact that many of the desires of audiologists will not be met because of the fact that insurance companies have different goals than audiologists, and that audiologists

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themselves represent a variety of business models (both medical and retail), not all of which would benefit from a universal approach. In addition, the Academy needs to make the effort to educate members regarding business fundamentals, such as billing all patients uniformly, offering no free services, and legal and ethical principles. To this end, it would be useful for the Academy to publish a glossary of insurance-related terminology including, but not limited to, such terms as *usual and customary*, *allowables*, *coinsurance*, *copay*, *balanced billing*, *deductible*, *benefit vs. coverage*, and *within and out of network*. The Academy should provide the education and tools for audiologists to create their own transparent fee schedule. There are underutilized codes available, such as the earmold impression code (V5275). There is an infrastructure already existing that audiologists could better employ.

These findings, in addition to a list of procedures and codes specific to hearing aid fittings, will soon be posted on the Academy's Web site in conjunction with the recommendations of the Coding and Reimbursement Committee.

Internet and Mail Order Issues

From buying clubs (for example, Costco), to manufacturers purchasing established practices for distribution control, to retail outlets with large marketing budgets, there are more purchase options available to the consumer than ever before. Internet and mail order purchase options are likely to grow and become more readily available, and there is little or nothing that can be done to regulate them on a state and national level beyond what is currently in place. The Academy should approach these alternative delivery models as an opportunity to promote better services to patients and as a way to bring new value-added services to Academy members. Our professional and ethical obligations as audiologists and as an Academy should be to protect the consumer and our patients.

To distinguish between direct-to-consumer sales, which bypass the audiologist, and those Internet-based companies that sell hearing devices in partnership with audiologists, it is recommended that the Academy issue a statement recognizing the critical component the audiologist brings during the entire process of a hearing aid fitting, stating that for a patient to achieve optimum hearing health care, the process should begin with a thorough diagnostic hearing evaluation and consultation with a licensed audiologist. With some of the models that do include the audiologist, such as the point of sale with direct face-to-

face fitting, it is recommended that audiologists evaluate the reimbursement structure for not only the hearing aid fitting but also for hearing aid accessories such as Bluetooth devices and remote controls, to be certain his or her time and expertise is adequately compensated.

Realistically, the Academy cannot afford to advertise hearing health care to the extent that industry can, and so our members need to be given the tools to work legally and ethically within the model if they so choose. The TF believes that the Academy should approach these alternative delivery models as an opportunity to promote better services to patients and as a way to bring new value-added services to Academy members. The Academy needs to become more proactive at offering educational classes and online opportunities to help audiologists understand the pertinent issues. A major component of training on these matters relates to the earlier discussion of establishing a transparent fee schedule. The unbundling of codes should be transparent for this occurrence.

These products, like any others dispensed by audiologists, need to be properly fit in accordance with professional standards and individualized counseling. As such, billing for these services is appropriate. Since the hearing aids may have already been purchased and may be unable to be returned for credit, we must assure that patients are managed professionally and obtain the best hearing outcomes with whatever product they have chosen. To this end, the Academy should remind audiologists that the guidelines set forth in the 2006 Academy document "Guidelines for the Audiological Management of Adult Hearing Impairment" should especially be adhered to when a patient seeks out clinical services after having already purchased hearing devices "direct" or not initially from the audiologist with whom they consult.

If the audiologist believes the hearing aids purchased are incorrect for the patient, the patient should still have the right to return for credit that is dictated by state law. Thus, if the Academy is to get involved in regulation of the alternative delivery models, it should focus on ensuring the "right to return" clause. It was recommended that the Academy, via the consumer Web site, advise consumers who have recently purchased hearing aids that under state law they have a narrow window to return their hearing aid(s) for credit if their products are not appropriate for their hearing loss, lifestyle, and/or needs.

Regulation of Other Dispensing Professionals

It was recommended that the Academy should continue to promote the position that audiologists perform assessments, in which their sophisticated treatment emerges to produce maximum hearing aid benefit. Service is more important than product.

Summary and Conclusions

The task force concluded that most of the issues pertaining to hearing aid delivery models return to the same central issue. That is, audiologists must remain professional, and business practices related to dispensing of hearing aids must be transparent. 

Robert Sweetow, PhD, is the director of the audiology at the University of California, San Francisco.

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AUDIOLOGY IN India

BY VINAYA K.C. MANCHAIH,
M. REDDY SIVAPRASAD,
AND SRIKANTH CHUNDU

AN OVERVIEW OF AUDIOLOGY IN INDIA, FROM EDUCATION, TO THE AVAILABILITY OF AUDIOLOGICAL SERVICES, AND THE CHALLENGES THAT AWAIT THE PROFESSION IN THE FUTURE.

The Republic of India is the seventh largest country by geographical area with a population of more than a billion people. It is a country well known for its diversity in terms of culture, language, and religion. While one of the fastest developing countries in the world, approximately two-thirds of the population is still living in rural settings, and more than 80 percent of the population has a daily income of less than \$2.00. The World Health Organization (WHO) estimates that around 80 percent of deaf and hearing impaired people live in low- and middle-income countries (WHO, 2006).

Examination of the demographics of India by the Census and National Sample Survey Organization (NSSO) identifies disability as one of the major concerns for the country. Results of a survey by NSSO in 2002 (NSSO, 2003) showed that around 16 percent of the population has some form of hearing difficulty. This figure could be slightly high because the definition of *hearing impairment* is rather loose and includes conductive, mild, and

unilateral hearing loss, in addition to permanent hearing loss. NSSO estimates that about 60 percent of those with hearing difficulties are not using any sort of assistive device as their disability is not severe (Singal, 2008). However, the WHO estimated that the prevalence of disabling hearing impairment in the Indian population is 5.9 percent (WHO, 1999).

The Development of the Audiology Profession in India

Hearing impairment, like any other disability, remains a social and health issue in Indian society. Some treatment solutions for ear diseases are available in Indian traditional medicine, such as Ayurveda, Unani, and Siddha. Typically, children born with significant hearing loss have been educated in special schools for hearing impairment, where education via Indian Sign Language is promoted (Vasishta et al, 1978; Jepson, 1991). With the advent of amplification devices and influential American

educational rehabilitation systems, the oral mode of communication has become more prevalent, and many special schools have upgraded their mode of instruction to oral. Full-fledged hearing services were established in some parts of the country as the field of audiology developed.

Education of audiology professionals in India first started at the university level as a master’s program, similar to that in other countries. There are now a number of higher education institutions providing speech and hearing education and services across India (TABLE 1).

Audiological Services in India Today

Professional hearing services are available in India in both the public and private sectors. Both offer audiological services, including hearing assessment and/or evaluation, selection and fitting of hearing aids, and aural rehabilitation. Some of the centers also have successful cochlear implantation programs. However, there are very few centers and professionals working in some of the specialized areas in audiology, such as vestibular assessment and rehabilitation, assessment and management of auditory processing disorder, and tinnitus rehabilitation.

Public sector facilities with audiology services are mostly district-level hospitals, educational institutes, and district health rehabilitation centers, funded by Departments of Health and state government. The services provided are free of charge or at subsidized rates. Since 1996, there has been provision for free body-level hearing aids through the Assistance to Disabled Persons for Purchase (ADIP), funded by the Ministry of Social Justice and Empowerment. Along with the hearing aid, there is also a provision for delivering solar-driven

rechargeable batteries since 2004. There is also progress toward the provision of fully subsidized BTE hearing aids for the pediatric population under the NPPCD). The public sector is also working to extend audiological services to remote and rural areas by conducting residential and rural camps and appointing public workers to identify and refer those who are in need of services. More manpower is needed to ensure the smooth running of several of these government projects.

Audiologists in the private sector are greater in number than those in the public sector. These are generally equipped with all the necessary diagnostic instruments, and their work is mainly focused on hearing aid dispensing. The patient has to pay for private sector service. There are also some well-known private cochlear implant centers across South Asia that attract patients from other countries. A concern in relation to private sector provision is that there is currently no restriction or regulation of hearing aid dispensing.

Estimates of the distribution pattern of such facilities in India are shown in TABLE 2. However, most of these clinics or institutes are based in urban locations and consequently are not accessible to everyone, particularly the large remote rural populations. There is also generally a shortage of qualified professionals and infrastructure.

Current Major Projects in Audiology

One of the major audiology projects is the development of an “indigenous cochlear implant” by a group in the Defence Research and Development Organisation (DRDO). This project aims to develop a low-priced cochlear implant that could bring down the cost of implants to

Table 1. Prevalence Estimates for Speech and Hearing Disability in the National Sample Survey (NSS) (2002)

Disability Type	NSS 2002	
	Number	Percentage of Disabled
Speech	2,154,500	11.65
Hearing	3,061,700	16.56

Table 2. Distribution of Audiology Clinics in India

	East	West	South	North
Public	5	8	12	15
Private	12	39	52	66

one-sixth their current price. Unpublished reports indicate that the device is currently being tested on animals.

Another major project is the NPPCD, which is funded by the Ministry of Family and Welfare of the Government of India. This project aims to prevent avoidable hearing problems by identifying, diagnosing, and treating ear problems; providing medical rehabilitation for people suffering with hearing impairment; improving the existing intersectoral linkages for continuity of the rehabilitation program; and developing institutional capacity for ear care services. A pilot project was conducted in 25 districts during 2006–2008. The proposed government five-year plan aims to implement this to all districts of the country by 2012.

In recent years, many charities and organizations have been actively working to improve hearing health-care services in India. Project Deaf India is a good example. The long-term vision of this project is to reduce the incidence of deafness in the world and to improve the social status of deaf and hard-of-hearing young adults.

There are also various neonatal hearing screening and school hearing screening programs being piloted and adopted by a variety of institutions and hospitals across India. Some institutes also run regular residential and rural camps to identify and support people with hearing-related problems.

Audiology Education

In 1965, the first audiology and speech language therapy program was started at the All India Institute of Speech and Hearing and it was established by the Government of India, which is now a premier speech and hearing institute in Southeast Asia. The program was heavily influenced by American colleges and offered a dual degree in audiology and speech and language pathology. This dual degree practice is still present in most schools both at bachelor's and master's levels.

The entry level for the profession in India is a bachelor's degree. These programs are four years in duration and focus on speech and hearing sciences with approximately 1,500 hours of clinical practice. In general, the education programs in India are very rigorous and demanding. At the present time there is no specialized bachelor's program in audiology; however, some of the institutes do offer specialized master's and PhD programs in audiology. Many of these programs are internationally recognized, offering students the opportunity to study with people of different linguistic and cultural backgrounds. To assist this, the course has an expectation that students be able to communicate in English.

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Today there are approximately 25 speech and hearing schools offering recognized diploma, bachelor's, and master's courses. TABLE 3 provides information on a few of the institutes offering audiology programs in India. These programs are accredited by the Rehabilitation Council of India (RCI). The curriculum is regularly updated through RCI-mandated workshops, and all the schools follow a minimum common curriculum.

It is estimated that more than 5,000 people have graduated out of the Indian speech and hearing schools since 1966. The majority are employed in India; however, many of them have found employment in the United

States, Australia, United Kingdom, New Zealand, and the Gulf countries. In recent years, there has been an increase in the global demand for audiologists due to the modernization of audiology, especially in Western countries. This has resulted in a major drain of skilled audiologists to Western countries and a shortage of qualified audiology professionals in India.

There are two indexed speech and hearing journals being published from India with contributions from Indian academicians: *Journal of the Indian Speech and Hearing Association* and *The Journal of All India Institute of Speech and Hearing*. Both journals promote home-grown research

Table 3. Details on Some of the Speech and Hearing Schools in India

Institute/University	Place	Degrees/Courses Offered	Course Duration
All India Institute of Speech and Hearing (AIISH), Mysore University www.aiishmysore.com	Mysore	BSc Speech and Hearing MSc Audiology PhD Audiology	4 Years 2 Years 3 Years
Ali Yavar Jung Institute for the Hearing Handicapped (AYJNIHH) in four different universities across India http://ayjnihh.nic.in	Mumbai, Kolkata, Secunderabad, and New Delhi	BASLP BEd (HI) MSc ASLP MEd (HI) PhD Audiology	4 Years 1 Year 2 Years 1 Year 3 Years
Manipal College of Allied Health Sciences, Manipal University www.manipal.edu	Manipal	BASLP MASLP	4 Years 2 Years
Sri Ramachandra Medical Centre (SRMC), Sri Ramachandra University www.srmc.edu	Chennai	BASLP MASLP	4 Years 2 Years
Post Graduate Institute of Medical Education and Research (PGIMER) www.pgimer.nic.in	Chandigarh	BSc Speech and Hearing MSc Speech and Hearing	4 Years 2 Years
Topiwala National Medical College c/o BYL Nair Charitable Hospital www.nair.edu/depts/index.html	Mumbai	BASLP MASLP	4 Years 2 Years

Note: BASLP = Bachelor's in Audiology and Speech Language Pathology; BEd (HI) = Bachelor of Education (Hearing Impaired); MSc ASLP = Master of Science in Audiology and Speech Language Pathology; MASLP = Master's in Audiology and Speech Language Pathology; MEd (HI) = Master of Education (Hearing Impaired)

activities and are currently available in print form only.

Professional and Regulatory Bodies

The Indian Speech and Hearing Association (ISHA) was formed in 1967. It is a professional and scientific association for audiologists and speech and language pathologists in India with over 1,500 registered members. Its role is the promotion of excellence in the speech, language, and hearing professions and rehabilitation services through advocacy, leadership, and continued education. It is also working to develop an ethical framework, to monitor professionals, encourage networking, and support research.

The RCI (Rehabilitation Council of India) was set up as a registered society in 1986. In 1992 the Government of India implemented action to regulate the curriculum, training, and practice of rehabilitation courses under the Rehabilitation Council of India act (Sivaprasad, 2009). Apart from monitoring the curriculum, RCI has also laid down strict norms for practicing rehabilitation sciences. RCI also maintains a Central Rehabilitation Register (CRR) of all qualified professionals and personnel working in the field of rehabilitation and special education, which requires registration and periodic renewal. The RCI act mandates membership of CRR for practicing allied health professionals. The RCI also prescribes disciplinary action against unqualified persons delivering services to persons with disability.

Future Challenges

A number of challenges face the provision of hearing health-care services in India:

- Raising awareness levels in the general public about audiological problems and services. The complexity in terms of educational, religious, and socioeconomic backgrounds of such a diverse population needs to be considered in this.
- Ensuring even geographical distribution of audiology professionals and infrastructure, and improving accessibility to audiological services for people living in remote and rural settings.
- Creating more audiology clinics in the public sector, thereby creating more opportunities for professionals to work in the public sector.
- Improving the knowledge and skill levels of professionals, especially in specialized areas like vestibular



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assessment and rehabilitation, auditory processing disorder assessment and management, and also tinnitus rehabilitation.

- Developing standardized and uniform procedures and protocols for hearing health-care services, and improving and modernizing audiological services.
- Reducing the brain drain and increasing the number of hearing health-care professionals.
- Defining the scope of practice for professionals from various training routes.
- Evaluating and expanding the professional and educational training needs to continue to meet the needs of the profession in the country.
- Regulating hearing aid dispensing.
- Improving clinical and applied research, initially starting from epidemiological studies to better understand the extent and nature of hearing disorders.
- Raising funding for both clinical and research work through government and various national and international charities and organizations. 

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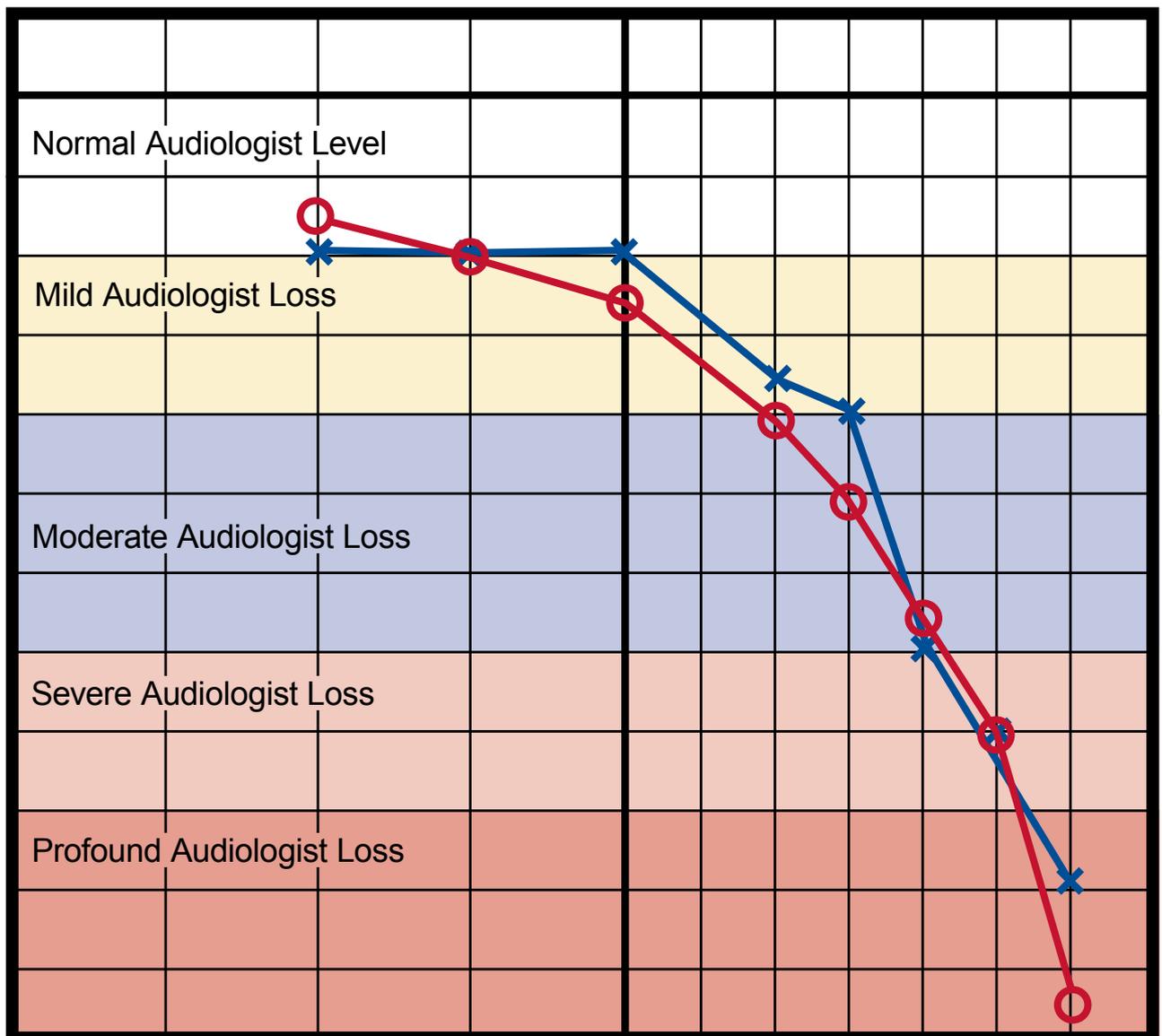
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The Coming **CRISIS** in Audiology

BY BARRY A. FREEMAN



A shortfall in the number of audiologists is predicted to occur in the not-so-distant future. If we do not address this impending crisis, any gaps in care will be filled by alternatives outside the profession.

If you were to read the prospectus of a company seeking venture capital to enter the hearing health-care field, you would find that only about 8 million persons in the United States own hearing aids out of more than 30 million persons with hearing loss. You would sense the anticipation expressed in the prospectus for the potential revenue that might be generated by this huge unmet need of potential purchasers of hearing aids. Of course most, if not all, of these companies believe that they have the magic bullet to meet the needs of the more than 30 million who could benefit from wearing hearing aids.

Yet the brutal fact is that even in countries where hearing aids are provided at no cost to the majority of citizens (e.g., United Kingdom, Denmark, and Australia), market penetration for hearing aids does not exceed 40 percent of the potential users. It is not surprising, then, to read literature (Edwards, 2006; Amlani, 2009) that suggests the estimated actual maximum market potential for hearing aids in the United States is closer to 12–14 million persons, or 35–40 percent of persons with hearing loss, not the more than 30 million that often is cited. In fact, it is likely that currently we may be successfully penetrating 60–65 percent of the U.S. market potential. This is not to say that the remaining persons with hearing loss do not need audiologic services. In fact, this group of persons with hearing loss and no hearing aids would benefit from counseling, assistive technology, auditory training, and

many other audiology intervention and management services.

It is acknowledged by many that the number of persons seeking our services will, indeed, increase in the next several decades due to improved identification and awareness and the aging population. Our challenge as hearing health-care professionals is to assure that there will be an adequate number of qualified providers to identify and evaluate persons with hearing loss and provide intervention services, including hearing aid technology for the growing number of persons with hearing- and auditory-related problems in the coming decades. If we do not meet this demand, then it is possible that other health-care providers (e.g., physician assistants, nurse practitioners, etc.) will step up and take over a portion of our scope of practice, or perhaps some new delivery system will be adopted to manage the high demand for hearing and hearing-related services. Already, in other areas of health care, we have seen the introduction of disruptive innovation in the form of convenient care clinics (Kenagy and Christensen, 2002). These are menu-driven clinics at stores like CVS and Walgreens that are staffed by nurse practitioners who deliver cost-effective care to an estimated 10 million persons annually. You can imagine that a convenient-care hearing services model might utilize a hearing health-care kiosk with automatic hearing tests and easy-to-fit hearing aids (Mehrotra, 2009).

As audiologists, we must reinforce the need for qualified practitioners who maintain high practice standards in the delivery of hearing health care to avert the impact of lower quality health-care service delivery innovations.

Consumers of Hearing Health Care

Hamlin (2009) published a "Consumer Checklist for Purchasing a Hearing Aid," which outlined steps to a successful hearing aid fitting. The checklist identified numerous factors, including a comprehensive hearing examination, assessment of handicap and lifestyle, validation and verification of the fitting, as well as information on the dispensed product such as warranties and technology features. The Hearing Industries Association (HIA) released the results of a survey of 890 respondents with hearing loss on the "Top Ten Reasons for Hearing Aid Delight" (Hearing Industries Association, 2007). Consumers identified factors such as the professionalism of the provider, counseling, verification and validation, and the qualifications and expertise of the hearing health-care provider as critical to patient

"delight" with their amplification devices. When comparing the HIA study to the recent report from *Consumer Reports* (2009), there was strong agreement that (1) hearing aids can help patients "hear well;" (2) that while there are an array of options available to access hearing health care, the marketplace was "fragmented and confusing;" and (3) the key factor to success with amplification was related to the "qualifications and competence of the provider." Common to these studies was the lack of identification of product cost as a leading factor in patient success with their hearing aids. Again, it is important to note that the key factor to success with hearing aids was reported to be the qualifications and competence of the provider. We should acknowledge this finding in our practice patterns, recognizing that our focus should be on the highest quality provision of our professional services. With these facts in mind, then, the key question for the future remains whether there will be enough clinical practitioners to meet the anticipated growth in demand for hearing health-care services in the coming decades.

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Practitioner Demographics

A survey of all audiology and hearing instrument specialist state license boards in the United States was completed to determine the number of active license holders in 2009 (Freeman, 2009). While TABLE 1 suggests that there are approximately 32,000 licensed providers, the number appears to be an overestimate of individual providers. The case in point is that in 16 states, audiologists are also required to be licensed hearing aid dispensers. It would be a conservative estimate to say that 50 percent of the active licensees in those 16 states are, in fact, audiologists. For example, in California, 52 percent of the 1,764 hearing

aid dispensers also are licensed audiologists. Therefore, the adjusted number of active licensed dispensers in the United States is estimated to be 10,616. In addition, it may be estimated that approximately 10 percent of licensed dispensers also hold an active license in a second state. That is, some dispensers who live near state border areas may be licensed in more than one state—leaving an estimated 9,050 hearing instrument specialists in the United States as shown in TABLE 2.

The data in TABLE 3 suggest that there are 17,383 active audiology licensees in the United States. In some states, audiologists who work for the Department of Education

Table 1. Active Audiology and Hearing Instrument Specialist (HIS) License Holders in the United States

Licensed Audiologists	17,383
Licensed HISs ^a	14,483
Total ^a	31,287

^aExcludes West Virginia.

Table 2. Licensed HISs Adjusted for Duplicate Head Counts

Licensed Specialists	14,483
Licensed HISs adjusted for states with dual licensure (AuDs and HISs) ^a	9,050 ^{b,c}

^a16 states require dual licensure. An estimated 50 percent of HISs were also audiologists.

^bPercent also licensed in more than one state.

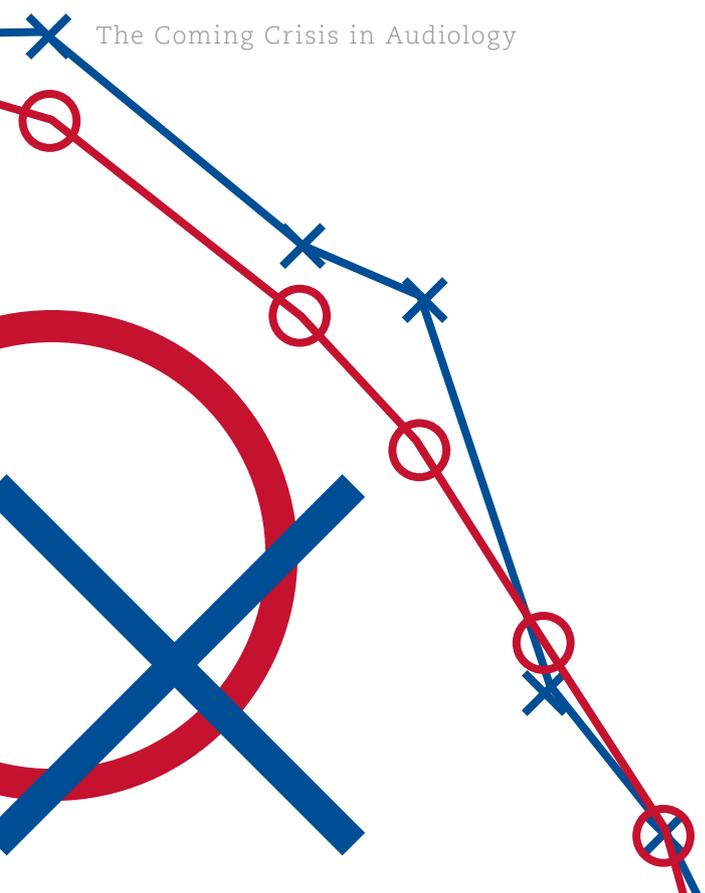
^cAn estimated 63 percent were over age 50 (Strom, 2006).

Table 3. Licensed Audiologists Adjusted for Duplicate Head Count and Estimated Unlicensed Practitioners

Licensed	17,383
Unlicensed (est.) ^a	500
Duplicate Count (est. 10%) ^b	1,788
Total Audiologists	16,095

^aIndustry, education.

^bLicensed in more than a single state.



(e.g., educational audiologists) are exempt from a state license, and an estimated additional 10 percent of audiology licensees are licensed in more than a single state. Therefore, it may be estimated that there are 16,095 audiologists in the United States. According to the Academy's 2008 *Compensation and Benefits Report* (unpublished), the full-time equivalent (FTE) of audiologists that work part-and full-time is 80 percent. That is, of the 16,095 licensed audiologists, there are only 12,876 audiologists working the equivalent of full time. This is consistent with the U.S. Department of Labor's estimate in 2008 of 12,480 audiology jobs in the United States (U.S. Department of Labor, 2008).

The Age Factor: Retirement and New Graduates

According to the membership demographics of the American Academy of Audiology, approximately 38

Table 4. Demographics of Audiologists by Age

<30 Years	11%
31–40 Years	26%
41–50 Years	25%
51–60 Years	26%
>60 Years	12%

Table 5. Audiology Residential Doctoral Graduates and Admissions for the Years 2007–2012

71 Accredited Academic Programs 5 Consortium Programs 77 Total Universities	2007 Graduates	407
	2008 Graduates	512
	2009 Graduates	482
	2010 Graduates	582
	2011 Graduates	602 ^a
	2012 Graduates	629 ^a

^aAttrition estimated at 10 percent.

percent of audiologists in the United States currently exceed 50 years of age (TABLE 4). Thus approximately 6,000 audiologists (38 percent) will reach retirement age in the next decade. The Audiology Foundation of America (AFA) surveys university programs annually to determine the number of graduates and anticipated graduates of residential doctoral audiology programs (TABLE 5) (AFA *Residential Graduate Survey*, pers. comm., July 2009). While these (2009 or 2008) data might suggest a gradual upward trend in graduates, it should be noted that students graduating in 2007–2008 started their AuD programs when there were fewer universities offering the AuD degree. That is, prior to 2008, there were both accredited master's and doctoral audiology programs. AFA data collected prior to 2008 only accounts for students enrolled in doctoral programs and does not represent all students enrolled in audiology degree programs. Therefore, it is not that there are more students entering the audiology profession in 2009, but rather, all students are now in doctoral programs. Currently, according to the ASHA Council of Academic Programs, there are 71 accredited programs representing 77 universities (including consortium programs), and together they are enrolling approximately 600 students annually. However, it is likely that not all of these students will complete the doctoral degree program (with an estimated 10 percent attrition); other students will return to their native countries to practice; and still others will pursue additional education, take positions where they will not become clinical service providers, or perhaps choose not to work in the field of audiology for one reason or another. Thus, as a profession, we will graduate approximately 5,500 clinical practitioners during the next decade while an estimated 6,000 practicing and licensed audiologists will reach retirement age.

The audiology demographic trends are clear based on an analysis of these data: (1) there will be fewer students entering the audiology profession than the projected retirements of active audiologists; (2) the audiology profession will have little or no growth; and (3) there will be an increase in demand for hearing health-care services. It must be asked how the profession will respond to these challenges to meet patient demands.

Solutions: The Role of Audiologist's Assistants

Most other health-care professions have proactively addressed their shortages in providers by implementing standards and training programs for assistants to aid the professional in conducting routine and less demanding

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office tasks. Optometry and dentistry both have added assistants to their current delivery system. The field of optometry has in place the licensed doctor of optometry, the optician, and now the optometry assistant; similarly, licensed dentists have added dental assistants to their current long-time use of the dental hygienist.

If the public demand for hearing services and hearing aids increases without the needed changes in the supply of

clinical providers, then it is clear that other health-care providers may step in and take over our scope of practice, or alternative service delivery models will be developed and instituted. These new models may, indeed, exclude the licensed audiologist and will, no doubt, interrupt our current model for fitting and selling hearing aids.

In 2006, the Academy developed and published a position statement on audiologist's assistants. According to the Academy, the purpose of the audiologist's assistant is to (1) improve access to audiologists for hearing and balance health care by increasing availability of audiologic services; (2) increase productivity by reducing patient wait times and enhancing patient satisfaction; and (3) reduce costs by enabling assistants to perform tasks that do not require the skills of a licensed audiologist. The Academy recommends that the scope of practice, duties, and responsibilities should be decided by the supervising audiologist—making it clear that the audiologist is in charge of all activities performed by the audiologist's assistant. Currently, 20 states regulate audiologist's assistants in some manner although the definition, training, scope of practice, and qualifications described in the various legislative mandates are quite diverse. While efforts have been made to identify the necessary knowledge and skills of assistants (Hamill and Freeman, 2001; Kasewurm, 2006; Freeman, 2008), currently, there are no accepted national training and performance standards for audiologist's assistants.

In summary, it is clear that under our current system of graduate education and hearing services delivery, the profession of audiology will be challenged in the coming years to meet the anticipated increase in demand for our services. It is time for all audiologists and our professional organizations to become proactive and control our own future before changes in health care and service delivery disrupt our own efforts to manage and treat our patients.

Barry A. Freeman, PhD, is senior director, Education and Audiology, Starkey, Inc.

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Also of Interest

The Academy will soon offer online resources for recruitment at the high-school and middle-school levels. Check www.audiology.org in mid-November to see the resources.



Audiology Trip to Kenya

Laura DeJulia

From: Warren, CT

Current School: Third-year AuD student at the George S. Osborne College of Audiology at Salus University, Elkins Park, PA

Undergraduate Degree: BA in Communication Disorders, University of Connecticut

Why Audiology? I just sort of fell into it. I have always known that I wanted to be a doctor; of what, at the time, I did not know. I found audiology after taking a course in language acquisition in children, and fell in love with everything about communication and hearing, especially with children.

Favorite Season: Fall

Quote to Live By: “I cried because I had no shoes, then I met a man with no feet.”—Unknown

Philanthropy audiology missions are not something that we hear about often, but something I was interested in, as part of my program at Salus University.

I was approached by my professor—Dr. Yell Inverso—to join her and some of my fellow students on an audiology mission trip to Kenya. Of course, I said “yes,” as who would pass up an opportunity to go to Africa and do audiology? After the initial thrill, reality started to set in—I am a graduate student and I have no money. We began writing to friends, family, hearing aid companies, audiology supply companies, and fellow audiologists asking for donations of any kind, whether it be monetary, or in the form of equipment or supplies. Everyone, including Salus University, was supportive and gave what they could for us to go on our trip.

After a lot of hard work to get a team together, we gathered supplies and equipment donations from many sources, and were ready to go on our first official audiology mission trip.

We set off for Kenya with five 50-pound bags full of supplies and equipment to set up an audiology clinic from the ground up. We stayed at the Nyumbani Children’s Home, which is home to 105 HIV-positive orphaned children. As we set up our equipment, we were swarmed by curious children, who were excited about how the ear worked and could not wait to look in each other’s ears with the otoscopes. The children were excited for us to be there, I think mostly because we brought lollipops and temporary tattoos to give them after their hearing tests. Every child you meet just captures you to where you fall in love with them. Then there are the few that change you forever. I began testing this adorable five-year-old boy who was having some ear issues, but he was great at following directions and did great with listening for the beeps with masked bone. I found out later that he has had multiple brain surgeries, which you could not tell at all by looking at him. All of these kids had a story and have been through more than we could ever imagine, and the entire time I did not hear one complaint about anything. It really shows you that life is what you make it.

Dealing with power outages, and language barriers, and applying temporary tattoos became part of everyday audiology for us. This was the experience of a lifetime. From the very beginning, the kids made us feel like family. I have never been to a place and felt so at home. The people we met, the pathologies we saw, and the lessons we learned cannot be put into words. Not only to be part of a mission trip, but also to lay the groundwork for future audiologists and future audiology students within this great community was such an amazing experience. 🎧



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Music to My Ears: Enhanced Speech Perception Through Musical Experience

By Dylan J. Sheridan and Lisa L. Cunningham

The perception of emotion in speech is vital to communication and social interactions. This perception relies on our ability to maintain and understand the paralinguistic (nonverbal) elements of speech. Diseases that disrupt the perception of emotion in speech can result in social isolation. Autism spectrum disorders, for example, are characterized by such communication problems. In addition, some individuals with auditory processing disorder (APD) are unable to perceive verbal and nonverbal aspects of speech and therefore have difficulty communicating in noisy environments (Moore, 2007). Scientists are examining the mechanisms underlying the perception of paralinguistic speech cues with the goal of developing therapies aimed at improving communication for persons with these disabilities.

Musical training is one possible therapeutic approach to help the brain better perceive certain sound characteristics. The auditory pathway has multiple levels of neuronal organization in order to filter, classify, and comprehend sounds produced by speech and music. This

highly organized pattern of neurons allows the brain to identify the characteristics of a sound stimulus, including subtle differences in pitch (frequency), timbre (quality), timing, and loudness (intensity). The brain's finely tuned ability to accurately relay and interpret changes in paralinguistic elements of speech is the essence of perceiving vocalized emotion (Strait et al, 2009). It has long been known that genetic factors play an important role during development of the auditory system. However, only recently have scientists begun to unravel the complexities of how experience can change the functional capacities of the auditory system.

The brains of professional musicians have larger volumes of grey matter within the auditory, sensory, and motor regions of the cortex, compared to nonmusicians (Gaser and Schlaug, 2003). In addition, cortical modifications can be induced by both long-term and short-term musical training (Pantev et al, 2003; Trainor et al, 2003), providing further evidence that musical experience can alter the cortex. Recent studies by Nina Kraus and members of her laboratory

at Northwestern University indicate that musical experience can also alter subcortical brain regions. Using a stimulus designed to provoke strong negative emotions (an infant's unhappy cry), they examined auditory brainstem responses (ABR) in musicians and nonmusicians. This stimulus consisted of both periodic and complex portions. The ABRs of musicians were different from those of nonmusicians in response to both the complex and less-complex (periodic) portions of the stimulus. Relative to nonmusicians, musicians showed enhanced response amplitudes to the complex portions of the stimulus and reduced amplitudes in response to the periodic portions of the stimulus. Additionally, subjects that began their musical training before the age of seven showed enhanced frequency tracking and were better able to perceive pitch and timbre features of the stimulus (Strait et al, 2009). These data provide biological evidence that musical training enhances the brain's ability to discern emotional aspects of speech (Strait et al, 2009).

In a series of studies, these scientists have shown that musical

training enhances subcortical sensory infrastructure and imparts advantages to the processing of speech (Wong et al, 2007; Musacchia et al, 2008; Kraus et al, 2009; Strait et al, 2009). Their most recent finding (Parbery-Clark et al, 2009) demonstrates that musicians have enhanced processing of speech in background noise.

The enhancements in the musicians' responses to the complexity of the stimulus could be due to cortical influences on subcortical regions of the brain (reviewed in Tzounopoulos and Kraus, 2009). Both music and language are primarily cortical functions, and the cortex can influence subcortical regions via extensive descending neuronal fibers that synapse on multiple subcortical targets. These "top-down" modifications (i.e., cortical influences on subcortical regions) are likely to be involved in shaping the enhanced responses of musicians to various aspects of vocal communication (Wong et al, 2007; Musacchia et al, 2008; Kraus et al, 2009; Strait et al, 2009). Additional evidence to support mechanisms of top-down modulation has been shown in both animals and humans (Suga et al, 2000; Perrot et al, 2006).

Basic understanding of the processing the paralinguistic elements of verbal communication will help us understand the mechanisms underlying diseases that disrupt these critical communication functions. In addition, insight into the ways in which musical experience can enhance the processing of both linguistic and paralinguistic cues

paves the way for development of musical training therapies aimed at improving communication for persons with APD and autism spectrum disorders. 

Dylan J. Sheridan, BS, is a second-year medical student at the Medical University of South Carolina and Lisa L. Cunningham, PhD, is an assistant professor with the Department of Pathology and Laboratory Medicine at the Medical University of South Carolina.

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Internal Marketing: Making the Most Out of Your Patient Database

By Tracey Irene

Marketing is important to position your business ahead of the competition. Many businesses have seen decreased budgets for marketing as a way to keep costs down in the recession. However, marketing should not be forgotten during these times. Marketing efforts during a downturn can be seen as an opportunity to gain market share. There are several low-cost ways to achieve this goal while still being budget conscious.

A patient-focused marketing approach can be an effective way to improve customer service and loyalty and maintain repeat business of your existing patients, while still keeping the cost of marketing down. Tap into a resource that is already in place, your patient database. A wealth of information is available at

your fingertips. Here are five ideas on how you can use your database to improve the relationships with the patients you have.

- 1. Recall Letters** Consider those patients who have not purchased hearing aids in over five years. Send them a letter and encourage them to come in and hear about what the latest technology has to offer them. The letters can be general or product specific to a new technology that may be appropriate to a certain population.
- 2. Newsletters** A newsletter can be a wonderful way to stay in touch with your patients. You can create your own newsletter by using a variety of types of publishing software. You can also research

prewritten sources that can be customized with your business information; the downfall may be that they lack flexibility. Patients love to hear about new products, current events in your office, hearing aid tips/advice about use and care, and coping with hearing loss. Use the newsletter to market promotions and specials, as well as open houses to your patient base.

- 3. Birthday Cards** Birthday cards can be a simple way to reach out to your patients and let them know you care. Generating birthday lists and labels is simple when you tap into your database. Have each audiologist sign the cards personally. In our practice, patients have reported how nice it is to know that they were thought of on their birthday. Bulk birthday cards can be purchased and customized with your logo.
- 4. Warranty/Hearing Test Recall** A warranty recall program is an important aspect of maintaining quality patient care. Each month, a list can be generated of those patients whose warranties are about to expire. Encourage your patients to return to the office for a check. Use this as an opportunity to offer extended warranties and inform patients of new products and accessory devices that might be helpful to



them. In addition to warranty recall, you can use this same concept to generate hearing test recall lists.

5. Physician Marketing Physician marketing can be a very effective way to generate referrals. Consider using your database to generate a mailing list of physicians who currently refer to your office. Stay in touch with your referral sources and develop a good relationship with them. You can connect with your referral sources through a physician-focused newsletter, reports, or even a simple informative tip of the month. Be creative and find a unique way to connect with your referral base as the go-to experts in the field.

Remember that not only can printed information be a way to communicate to your patient database, but also e-mail marketing can be a cost-effective green alternative to print marketing. According to Gyl Kasewurm, AuD, “while direct mail is good for driving new patients through our doors, e-mail marketing can be an effective vehicle for deepening and strengthening existing patient relationships.”

Using resources currently available to you can be cost-effective and yield a high return on investment. Remember that it costs less money to retain the customers you already have than it does to obtain a new customer. Make the most of your database and turn it into an avenue to improve customer service and patient loyalty. 

Tracey Irene, AuD, is a senior audiologist with Professional Hearing Services, a Division of Moreland Ear, Nose, and Throat Group, LTD, in Milwaukee, WI. She is also a member of the Academy's BEST Committee.

If you have a practice management success story or article idea, please contact Dave Fabry, content editor (dfabry@audiology.org).



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2009—It Was a Very Good Year

By James A. Beauchamp

As 2009 comes to a close, a quick look back reminds me that it has been a very exciting year for the American Board of Audiology (ABA). We celebrated 10 years of providing board certification for qualified audiologists, commenced updating the examination for our first specialty certification, cochlear implants, and completed the first phase of the

development of our second specialty certification, pediatric audiology; and each month we continued to receive applications from audiologists who realize that board certification is an important element for their professional growth and autonomy, as well as for the profession as a whole.

At AudiologyNOW!® 2009 in Dallas, ABA celebrated our 10th

ABA Board Profile



Catherine Lawrence, RN
ABA Certification Coordinator

Note: At the time of preparation for this issue of *AT*, ABA Board of Governors elections were in process. We will be publishing profiles of the new ABA board members in future issues.

Hails from: Santa Fe, NM

Years at Headquarters: Four years

What I Do for the ABA: My primary duty is providing excellent customer service to certificants. I am the first point of contact for ABA certificants—both on the telephone and via e-mail. I prepare and furnish to both new and renewing certificants their certificates, prepare renewal packets, maintain the ABA database, prepare materials for ABA leadership review, and perform a variety of ABA administrative and financial tasks. I also work closely with the managing

director on the ABA elections, board meetings, and ABA-related events at AudiologyNOW!®

In My Free Time: I've just graduated from nursing school, so I haven't had much free time lately! But I do enjoy my energetic four-year-old daughter and travel when I have the opportunity.

Quote to Live By: “The reality of the other person lies not in what he reveals to you, but what he cannot reveal to you. Therefore, if you would understand him, listen not to what he says, but rather to what he does not say.” —Kahlil Gibran

anniversary of providing board certification to audiologists who seek a mechanism to demonstrate to their patients, colleagues, the public, and themselves their commitment to excellence. As we recognized those who had held ABA Board Certification in Audiology for five

next offering of the CI exam will reflect these changes.

A different group of subject matter experts from diverse backgrounds and geographic regions developed a comprehensive survey disseminated to those in the audiology community who indicated that

the ABA's Managing Director Sara Lake, JD, CAE; Keri Murphy, certification manager; and Catherine Lawrence, certification coordinator, ABA's mission simply could not be accomplished.

As professionals striving for excellence in an ever-changing

As professionals striving for excellence in an ever-changing health-care arena, audiologists hold fast to certain principles and strive to adhere to best practices.

and 10 years with appropriately noted lapel pins, we were reminded that ABA Board Certification in Audiology signifies our commitment to continuing professional education, as we strive to engage in professional best practices in an ever-changing profession. It was a great time of connecting with many professional friends and fellow certificants.

It is important to review and update the examination that candidates must successfully complete in order to obtain certification to ensure that it continues to appropriately measure knowledge of the subject matter. A group of subject matter experts in cochlear implants recently reviewed the ABA Cochlear Implant (CI) Specialty examination and, working with psychometricians, is now updating the examination to reflect properly the cochlear implant specialty body of knowledge. ABA's

they were involved in pediatric audiology service delivery or research. The data from this survey have been collected and analyzed. It will serve as the basis for ABA's Pediatric Audiology Specialty and the assessment that the ABA is developing that will determine who should be awarded this specialty credential. Much work has been done on this important initiative, but even as the project approaches completion, much work continues.

I am very grateful for the opportunity to serve as chair of the Board of Governors of the American Board of Audiology this past year. To work with the great group of very dedicated and hard-working volunteer professionals and Board Certified audiologists who served on committees and task forces was indeed a pleasure. My appreciation is extended to the ABA staff as well. Without the continual assistance of

health-care arena, audiologists hold fast to certain principles and strive to adhere to best practices as we seek to provide the most efficacious hearing care for those who seek our services. ABA Board Certification in Audiology remains a hallmark of that dedication to excellence. Certification is one of the keys to audiology becoming an autonomous profession. Please pause for a moment and consider what ABA Board Certification in Audiology means for you professionally and for the profession of audiology. The ABA needs audiologists; audiologists need the ABA. 🎧

James A. Beauchamp, AuD, is chair of the ABA and chair of the Pediatric Audiology Initiative.

A Personal Experience

By Doris Gordon

As executive director of ACAE, and, I hope, as a responsible professional and ethical colleague, I believe in maintaining the highest educational standards and reviewing all evidence-based practice. I think most audiologists share this point of view. Although I am not an audiologist, I have had a respect for and a close professional relationship with and understanding of the profession for the past six-plus years. My area of expertise is in accreditation, higher education, and health care. I have come to admire and fully believe in the AuD and ACAE's rigorous requirements for achieving this degree. It is more than evident that both competence as an audiologist and the continual seeking of advanced knowledge are critical for this profession, as audiology becomes recognized as a household word throughout the United States and the world.

That said, I have been amazed at the general lack of understanding that the public has about audiology, the AuD, and the standards of excellence it promulgates, and the sheer competence necessary for every practicing audiologist to have.

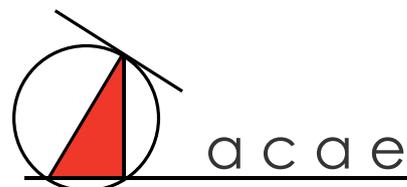
Recently, this came to light for me personally. An older friend, who is highly educated and well known within the Washington, DC, community, became frustrated on discovering his hearing loss. My friend makes public appearances on a regular basis and was frustrated with being unable to hear questions from his audience. Seeking help, he went to a variety of hearing dispensers who charged thousands of dollars for devices that were next to useless. Although hearing tests were performed, there was no rigorous, comprehensive evaluation nor explanation provided about his loss. Further, there was no proper fitting of devices to determine what was appropriate for him, and there were no follow-up examinations. Blatantly stated, the customer was just asked to pay upfront.

Fortunately, he told me about his experience, and I inquired with one of our ACAE board members living in Washington about a recommendation for him. She immediately provided the name of a qualified audiologist who saw my friend right away. He told me that the experience with the audiologist compared to that with the hearing aid

dispenser was like night and day. The clinical audiologist provided a complete evaluation, an explanation of his hearing loss problem, and a summary of what might be helpful to him. Most important, she stated she would work with him until they both were satisfied. She emphasized that the problem would not be solved overnight and he would need to go through a trial and error period until they resolved the situation. His hearing loss was not magically cured, but, now, he had confidence that he was receiving the highest level of scientifically based treatment.

I hope that the public will come to look for the AuD credential when seeking help with hearing problems. Our responsibility is to assure them that every AuD is a product of a university program that adheres to the highest standards. I am pleased to report that through the accreditation process already established by ACAE, that assurance is in place. 

Doris Gordon, MS, MPH, is the executive director of the Accreditation Commission for Audiology Education (ACAE).



Values: A Personal and Professional Path to Improving Our Workplace Culture

By Cheryl DeConde Johnson

Values represent those components of our daily life that we find important to our personal satisfaction. Susan Heathfield, a human resources expert who writes a column for about.com, defines values as “traits or qualities that are considered worthwhile; they represent an individual’s highest priorities and deeply held driving forces” (Heathfield, 2006). Values may also be referred to as core values. Values that are important to individuals are also the basis of organizational values—the beliefs that serve as a foundation for the work that is representative of a profession, e.g., audiology.

The Board of Directors of the American Academy of Audiology charged the Professional Standards and Practices Committee with the task of updating the professional values of the Academy, with specific focus on values that would be embodied by the Academy’s members. At that time, the Academy values were integrity, commitment, excellence, and professionalism. The committee began in the fall of 2008, reviewing the values of 28 health and professional organizations. These values were categorized under several themes, revised to reflect audiological practice, and consolidated to 15 values statements. In March 2009, these value statements were posted on SurveyMonkey for Academy membership input. The resulting feedback was instructive

to further consolidation and revision of the statements. A second survey in May 2009 asked members to rank their top five values from a list of 11. Membership response was high—950 members responded with rankings and provided 272 comments. The committee thought the strong response was indicative of the importance the Academy membership places on core values. After reviewing the rankings and comments, 10 core values emerged—patient advocacy, activism, cultural sensitivity and diversity, evidenced-based practice, accountability and competency, integrity, quality, professionalism, public relationships, and innovation. These core values were then aligned with the Academy’s organizational pillars of leadership, advocacy, education, public awareness, and research, as shown in the Core Values chart. The Board of Directors approved the core values in July 2009.

Okay, We Have Values, Now What?

The next step is to build awareness among Academy members and future audiologists to understand the core values and how they can be used to guide our individual practice behavior as well as that of our Academy. Values statements can also be powerful marketing tools for our audiology services. You can start by printing a copy of the Core Values chart. The next step is to review the values to see

how they support your daily audiology practices. For workplaces that have multiple employees, a discussion to identify examples of how your workplace currently embodies these values is an opportunity to develop a healthy workplace culture. This culture includes identifying expected behavior and treatment of patients and consumers, and decision-making processes based on the workplace priorities.

The Professional Standards and Practices Committee is proud of this product and the process by which these core values were developed. The process included, and benefited from, the widespread peer review method for membership input. We hope that these values will become a central guiding force for all audiologists and our Academy. 

Cheryl DeConde Johnson, EdD, served as the chair of the Professional Standards and Practices Committee during the core values development process.

Acknowledgments. Professional Standards and Practices Committee members during the development of the core values: Saunja Burt, Sandra Gabbard, Wafaa Kaf, Laura Kepler, Jaime Lanois, Jennifer Leddy, Joscelyn Martin, Craig Newman, Marcia Raggio, Eileen Rall, Alice Sette, and Martha Wilder Wilson.

AMERICAN ACADEMY OF AUDIOLOGY CORE VALUES	
ADVOCACY	<p>PATIENT ADVOCACY</p> <ul style="list-style-type: none"> To advocate for the hearing and balance health care of all persons by speaking on their behalf, furthering their treatment progress, protecting their rights, helping them obtain information, and promoting accessible, individualized, understandable, and cost-effective hearing care. <p>ACTIVISM</p> <ul style="list-style-type: none"> To commit to the greater community on issues related to hearing health care through clinical service, education, research, and input on public policy. <p>CULTURAL SENSITIVITY AND DIVERSITY</p> <ul style="list-style-type: none"> To value diversity and to treat all patients fairly and equally without discrimination on the basis of race, ethnicity, creed, religion, disability, sex, age, sexual orientation, or national origin.
EDUCATION	<p>EVIDENCE-BASED PRACTICE</p> <ul style="list-style-type: none"> To practice according to best clinical practices for making decisions about the diagnosis, treatment, and management of persons with hearing and balance disorders, based on the integration of individual clinical expertise and the best available research evidence. <p>ACCOUNTABILITY AND COMPETENCY</p> <ul style="list-style-type: none"> To accept the responsibility and obligation of the profession to produce research, to apply theoretical knowledge to practice, and to display competence in a specialized body of knowledge and skills.
LEADERSHIP	<p>INTEGRITY</p> <ul style="list-style-type: none"> To behave in a trustworthy manner, adhering to ethical conduct, and acting honestly and responsibly in interactions with patients. <p>QUALITY</p> <ul style="list-style-type: none"> To provide consistent, cost-effective, high-quality care that is compliant with professional standards, applicable laws, and regulations for individuals with hearing and balance disorders. <p>PROFESSIONALISM</p> <ul style="list-style-type: none"> To practice so that one's behaviors, attitudes, actions, and inactions demonstrate respect for patients, colleagues, and other professionals, to ensure a team approach in the provision of hearing and balance health-care services.
PUBLIC AWARENESS	<p>PUBLIC RELATIONSHIPS</p> <ul style="list-style-type: none"> To be involved in community and professional organizations to improve access to information, quality of services, and quality of life while adhering to our professional <i>Code of Ethics</i>.
RESEARCH	<p>INNOVATION</p> <ul style="list-style-type: none"> To support innovative research and to implement new or modified technology, diagnostic/treatment methods, or practice management processes as a means for improving audiological services and care.

Reference

Heathfield S. (2006) Build a Strategic Framework: Mission Statement, Vision, Values ... For Life, For Work. <http://humanresources.about.com/b/2006/09/10/build-a-strategic-framework-mission-statement-vision-values.htm> (accessed September 17, 2009).

What Is a “Lobbyist”?

By Melissa Sinden

If you were to look up "lobbying" in the *Merriam-Webster* dictionary, it would be defined as:

- Promoting (as a project) or securing the passage of (as legislation) by influencing public officials.
- Attempting to influence or sway (as a public official) toward a desired action.

According to the Center for Responsive Politics, there are nearly 13,000 registered lobbyists in Washington, DC. What do all of these lobbyists have in common?

- They are all pushing an agenda and,
- Most of them are not constituents of the congressional districts they are seeking to persuade. This means they cannot vote for the member of Congress they are lobbying, and their opinions may not reflect the views of the voters back in the district.

While most of us regard lobbyists as individuals who are paid to promote the introduction, enactment, or modification of legislation, each of us can, and in fact should, be a lobbyist. We all have a stake in various areas of public policy, particularly those issues that impact the practice of audiology and the patients we serve.

The American Academy of

Audiology represents more than 10,000 audiologists in all 50 states. In essence, the Academy has over 10,000 lobbyists that stand ready to ensure that the voice of audiology is heard. By getting to know your member of Congress and voicing your opinion, you can help shape public policy with minimal effort.

While there are different approaches, legislative lobbying is the most common. Legislative lobbying entails contacting your legislator and sharing your views on a specific piece of legislation, and/or asking them to sponsor or cosponsor a bill or vote a specific way on a measure. We often ask Academy members to “lobby” a specific piece of legislation by calling their member of Congress or sending a letter. While this can be effective in the short term, the goal of “lobbying” is to create a relationship that outlasts a single piece of legislation.

A more subtle form of lobbying involves simply providing information and educating legislators on a more routine basis. Members of Congress vote on a tremendously diverse number of bills and simply cannot be experts on every issue. While they often look to professional associations, nonprofits, and other groups for research and knowledge on issues, they greatly appreciate their own constituents providing this information to them. This is where you, first as an audiologist but also

as a member of the largest organization of, by, and for audiologists, come in. You can be a resource for issues related to hearing care.

Erin L. Miller, AuD, chair of the Academy’s Government Relations Committee (GRC), has developed a relationship over time with her representative, Charlie Wilson (OH-6), and his office. Rep. Wilson is a two-term legislator and a cosponsor of direct access legislation in both the 110th and the 111th Congress.

Dr. Miller offers these simple tips for your lobbying efforts to help influence public policy:

- Don’t be intimidated by the prospect of developing a relationship with your member of Congress. The member and his or her staff is especially interested in constituent comments...just make the first phone call.
- When possible, arrange to meet the member when Congress is not in session and he or she is likely back in his or her district. Keep in mind members are often very busy even when Congress is in recess, so don’t be disappointed if a meeting doesn’t happen the first or even the fourth time you ask! If you can’t meet directly with the member, do schedule a meeting with the member’s staff...your message will be delivered.

Just Joined

New Members of the American Academy of Audiology

Bandale Altidis

Lais Ama

Christina Barnard, AuD

Rory Cernik, AuD

Jeremy Floyd, MS

Vicki Ford, MA

Mahboobeh Hatefi, AuD

Tammy Kordas, AuD

Geraldine McClumpha, AuD

Zachary Miller, AuD

Maria Newall

Ashleigh Payne, AuD

Shareka Pentony, MS

Michael Petroka, MA

Christina Pina, AuD

Miriam Rafferty, AuD

Emily Saunders-Sears, AuD

Chelsea Simmons, AuD

Beverley Thering

Leslie Walker, MS

Zachary Wanjohi

New Members of the Student Academy of Audiology

Alyssa Baker

Brittany Carrier

Yun Gong

Lalisse Mardassa

Alexa Murzyn

Hilleary Parker

Caitlin Rivet

Ruchi Sharma

Leslie Smelcer

Cristina Vallejo

Talah Wafa

Laura Wagoner

Tiffany Warren

Ben Wightman

- Be concise when there is a specific request.
- Offer your assistance with any issues related to hearing and balance care. Become his or her “go-to” expert on these issues, and don’t be afraid you won’t have all the answers. It’s okay to admit you will research an issue and get back to them. (You can also put them in contact with Academy staff for additional information.)
- Develop a good relationship with the congressional member’s staff.
- Keep in mind you won’t ideologically agree with your member of Congress on all issues. The goal is to cultivate areas of mutual interest.

Our full-time lobbyists have helped advance the Academy’s agenda. However, they cannot accomplish these goals without the support of the membership. The GRC continues their efforts to create a key contact database of individuals willing to take the steps to develop a relationship with their members of Congress, and has developed materials available on the Academy Web site to assist you in beginning your new role as a “lobbyist.” For further information about this program, contact Kate Thomas, senior manager of government relations, at kthomas@audiology.org.

Each of us can make a difference! 

Melissa Sinden is the senior director of government relations for the American Academy of Audiology. Erin Miller, AuD, is chair of the Academy’s Government Relations Committee and also contributed to this article.



Dionne Receives Community Service Award from Lamar University

Vickie Dionne, AuD, an assistant professor at Lamar University in Beaumont, TX, a Fellow of the American Academy of Audiology, and chair of the Academy's Professional Development Committee, was recently honored as one of four recipients of Lamar's Julie and Ben Rogers Community Service Award for 2009.

Among her acts of community service, Dionne has worked with Lions Club International's Hearing Aid Reclamation Program to provide quality used hearing aids to low-income individuals. She has also served as a chairperson and member of the Safe Ears program and volunteered with the Children's Miracle Network, where she was involved in raising funds for hearing-impaired children in Southeast Texas.

Before becoming chair of the Academy's Professional Development Committee in 2009, Dionne served as a member on the committee, beginning in 2006.

Additionally, Dionne has served on the Nederland, TX, PTA for 20 years. She has also been a board member for the Nederland Education Foundation, as well as a member of the Nederland High School and Central Middle School Band Booster Club.

"I'm humbled to receive the Julie and Ben Rogers Community Service Award," Dionne said. "This is just stuff that I do, not stuff that I ever expected to be honored for."

The Rogers family established the Julie and Ben Rogers Community Service Award in 1979, as a way to encourage Lamar University faculty and staff members to volunteer their services for the benefit of the community.

Chute Named Dean of Mercy College Health and Natural Sciences School

Patricia Chute, EdD, a Fellow of the American Academy of Audiology and a developer of the American Board of Audiology's Cochlear Implant Specialty Certification, has been named dean of the School of Health and Natural Sciences at Mercy College in Dobbs Ferry, NY.

Dr. Chute has been with Mercy College since 2000, first as associate professor and audiology coordinator for the speech and hearing center. Later, she served as professor and chair of the division of health professions natural sciences. She earned her EdD in audiology from Columbia University, as well as a BA in communication disorders and an MA in speech pathology from City University of New York.

Prior to joining Mercy College, Dr. Chute had a 27-year career in clinical audiology. She has coauthored three books and over 40 journal articles. An expert in the field of cochlear implantation, Dr. Chute has served as director of the Cochlear Implant Centers at Lenox Hill Hospital and Manhattan Eye, Ear, and Throat Hospital.

"As Dr. Chute takes leadership of the School of Health and Natural Sciences, we embark upon a pivotal moment in time for this institution," said Mercy College President Dr. Kimberly R. Cline. "With five newly created schools, which have been established, in part, to address the growing demand for degree programs that help meet the needs of the job market, we are poised for future growth. Dr. Chute's wealth of academic and administrative experience will be invaluable to Mercy College."

Hearing Assistance Technologies DVD Is Back

We are excited to announce that the *Hearing Assistance Technologies (HAT) Clinical Practice Guidelines for Children and Youth from Birth to 21 Years* DVD set is back and available free (shipping and handling is at cost) to members through the online Academy Store. This new reproduction of the DVD set was underwritten by the American Academy of Audiology Foundation (AAAF) with support from Oticon and Phonak.

The DVD set made its debut in Dallas at AudiologyNOW!® 2009. Only a limited number of DVD sets were produced in 2009, and we quickly saw the need to reproduce this educational and informative DVD.

In 2008, the Academy's HAT Task Force, chaired by Cheryl D. Johnson, EdD, developed and published the *Clinical Practice Guidelines: Remote Microphone Hearing Assistance Technologies for Children and Youth Birth-21 Years*. As a follow-up, the Academy partnered with Boys Town National Research Hospital to develop a training DVD that demonstrates the fitting and verification procedures listed in the document.

To view the guidelines, visit www.audiology.org/resources/documentlibrary and click on "Hearing Assistance Technologies." Or, order the DVD set through the online Academy Store (www.audiology.org/pages/store.aspx). 📄

The Foundation Celebrates Philanthropy in November

November 15th is National Philanthropy Day, a time to celebrate giving and those who give! So it's with heartfelt thanks that the board and staff of the American Academy of Audiology Foundation recognize those who make philanthropy possible in the audiology community: our many generous donors.

To all who made a charitable gift to the Foundation in the past year—thank you! We honor your commitment and generous spirit. We hope you'll take time to read our *Annual Report 2008–09* (enclosed with this issue of *AT*), where you'll discover an overview of how we put your donation dollars to work, and a list of your fellow philanthropists.

Mother Theresa once said, "To keep a lamp burning, we have to keep putting oil in it." With your ongoing contributions we can continue to do great things for audiology, so thank you for your past *and future* support, and thanks for being a Foundation philanthropist!

Make a Gift to HearAfter Society

Did you know that 85 percent of planned gifts made to charitable organizations are simple bequests or beneficiary designations? Find out how easy it is to make an estate gift to the AAAF by calling Kathleen Devlin Culver at 800-222-2336 ext 1049. ANYONE can leave a legacy!



Top 10 Reasons to Be a Foundation Philanthropist

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- 2 Your gift supports education.
- 3 Your gift supports public awareness.
- 4 It is easy to give (visit our Web site), and even more fun to participate in our special events (the Auction4Audiology and 2010 Happy Hour with a View).
- 5 It is an investment in the future of audiology.
- 6 It is a great way to provide your grateful patients with an opportunity to make a tribute gift.
- 7 See your name in print! You (and our other donors) are recognized in our annual report and on the Foundation Web site.
- 8 Your gift is tax-deductible.
- 9 When you give to the HearAfter Society, you can leave a legacy to audiology that keeps giving for many years into the future.
- 10 Philanthropy makes you feel good! Research indicates that people who give to charity are happier than those who don't!

Apply Now the for Member Assistance Program (MAP) 2010

Audiologists who wish to attend AudiologyNOW!® 2010 but are experiencing financial hardship (for medical, family, professional, or other personal reasons) are encouraged to apply for convention travel and registration support through the Foundation's MAP. Assistance can include hotel accommodations, convention registration, and/or a travel stipend.

The MAP application will be available after December 1, 2009, at www.audiologynow.org. Applications received by the January 22, 2010,

deadline will be evaluated and reviewed by the award committee. Notification of awards will be made in early February. For more information, visit www.audiologyfoundation.org.

At last year's AudiologyNOW! in Dallas, the AAAF funded 21 nights of lodging, five convention registrations, and two travel stipends. If you would like to help us expand this important initiative by making a restricted gift, please contact Kathleen Devlin Culver at 800-226-2336 x1049 or kculver@audiology.org. 

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Pennsylvania

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Contact Christy Hanson at chanson@audiology.org or 703-226-1062 for more information or to place an ad.



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Contact Vanessa Scherstrom at vscherstrom@audiology.org for more information.

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