Best Practices in Hearing Aid Dispensing: An Interview with Michael Valente, PhD

By DOUGLAS L. BECK, AuD

Michael Valente, PhD, has been one of the leaders in moving the field of audiology and hearing healthcare into Best Practices. As professor of Otolaryngology-Head and Neck Surgery, and the director of Adult Audiology at Washington University School of Medicine in St Louis, Dr Valente is the author and co-author of four books, and is a well-known authority on audiologic testing, hearing aid fitting, research, and single-sided deafness.

With the increasing focus on Best Practices in hearing healthcare, we thought it would be a great opportunity to catch up with Dr Valente and get his perspectives on the subject.

Beck: Good morning, Mike. It's a joy to speak with you, and thanks very much for your time today.

Valente: Thanks for the kind invitation, Doug. I appreciate the opportunity to address the readers of *The Hearing Review* and the chance to speak about Best Practices as they relate to hearing aid dispensing in adults.

Beck: Perfect. And let me point out that you were the chair of the Task Force and lead author for the ASHA and AAA Best Practice Guidelines[1-3] for dispensing hearing aids to adults—and readers can access these documents via the links in the references of this article. These guidelines serve as the peer-reviewed and seminal foundation for hearing aid fitting—that is, the scientific approach as to how professionals should conduct hearing aid dispensing to achieve the highest possible patient satisfaction.

Douglas L. Beck, AuD, is Executive Director of Academic Sciences at Oticon Inc, Somerset, NJ. He has served as Editor In Chief at AudiologyOnline, and Web Content Editor for the American Academy of Audiology (AAA). Dr Beck is an adjunct professor of audiology at Lamar University, and adjunct clinical professor of communication disorders and sciences at State University of New York, Buffalo. He also serves as Senior Editor of Clinical Research for the *Hearing Review's* Inside the Research column.

Valente: Correct. Those were the goals we set each time we assembled the members of the Task Force.

Beck: To be honest, and I do ask this question weekly as I lecture around the country: Why are so few hearing care professionals (HCPs) using Best Practices for hearing aid dispensing? If I were to guess as to how many HCPs adhere to all the Best Practice Guidelines, I would have to guess it is fewer than 10%. Does that sound about right from where you sit?

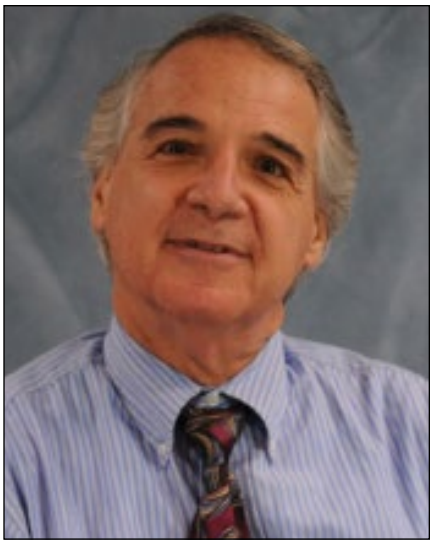
Valente: Well, honestly, I don't know the exact number, but I suspect you're in the ballpark. I think it may be closer to 20% or 30%, which is still unacceptable.

Beck: OK, given the likelihood that most HCPs appear not to follow Best Practices, are there some key points from the ASHA and AAA Best Practice Guideline documents which you might define as *the most important*, must-do,cannot-dispense-professionally-without—or a Best Practices' "Greatest Hits?"

Valente: Absolutely. I do recommend that HCPs read and work from these documents, but then again, we've been recommending that for decades—starting with the ASHA document[1] in 1998—with relatively low compliance. Further, and of note, the AAA guidelines[2] were supposed to be updated every 5 years, and to my knowledge, there are no updates—it never happened and that's unfortunate because the technology and evidence has changed dramatically since that document was published in 2006.

Beck: I'm glad you said that because this is a major concern regarding professional involvement, growth, and education. Simply stated, we have to be lifelong learners, and must pay attention to new findings; we need to allow and nurture our profession to grow and change and evolve. OK, so back to the Best Practices' "Greatest Hits."

Valente: To me, the "Greatest Hits" would include:



Michael Valente, PhD

- A thorough audiologic evaluation;
- A Needs Assessment, including unaided speech recognition in noise and perhaps an unaided questionnaire assessing the patient's perception of his/her unaided performance in a variety of listening situations;
- A Hearing Aid Evaluation to determine which hearing aids, earmolds, and accessories to order;
- Coupler measurements of the ordered hearing aids to verify they adhere to manufacturer specifications, which include assessing the directional microphones and noise reduction;
- A Hearing Aid Fitting which *must* include real-ear measures (REM) and aided speech-in-noise testing, and
- Validation measures to assess outcomes.

Beck: That all sounds very familiar! That is, the "Greatest Hits'" recommendations are and should be very familiar to all HCPs.

Valente: Right. None of these recommendations are shocking or out of left field; they're just solid and well-researched protocols that identify the very best way to go about hearing aid dispensing in 2017 and 2018. And, yet, I have to admit, the data I've seen indicates fewer than 30% of all HCPs use real-ear measures.

Beck: Earlier this year [July 2017], I did an interview for *The Hearing Review* with Gus Mueller, PhD. Dr Mueller stated:

> "Directional technology, digital noise reduction, bilateral beamforming, and streaming technology all can be verified in the real ear. Perhaps the special feature where real-ear assessment is the most critical is frequency lowering. If the lowered signal isn't audible (which is too often the case), there isn't much use of applying lowering in the first place."[4]

In fact, we speculated that perhaps only 20-25% of all HCPs actually use REMs. To which Dr Mueller added:

> "There is considerable evidence to show… patients have the best chance for optimal performance when we fit them with a validated prescriptive method (eg, NAL-NL2 or DSL 5.0). The only way to know if we have the desired output is to measure it in ear canal SPL. To do otherwise is a disservice to our patients and our profession."[4]

Valente: I agree with Dr Mueller. It makes absolutely no sense that licensed HCPs don't verify and validate their fittings with REM, and, frankly, practicing without REM is, to me, unconscionable.

And I don't say that lightly. In fact, we're about to publish an article in the *JAAA* which clearly shows that—when one uses REM to guide their programming—the results are vastly improved with regard to patient preference, sound quality, and validation outcomes.[5] In fact, we found that, when one uses the manufacturer's first-fit versus fitting to target using REM, there are statistically significant improvements in favor of real-ear protocols. Most importantly, this was a double-blind randomized controlled trial. At the conclusion of the study, 19 of the 24 participants [79%], when given the chance to select one fitting method over the other, selected the programmed fit!

Think about the impact of this upon why user satisfaction and market penetration have not been as impressive as we'd like, and how that relates to about 70-80% of dispensed hearing aids going out the door fit using the manufacturers' first-fit algorithms. That article will be out very soon.

Beck: I'll look forward to reading it! In 2007, Jennifer Duffy and I wrote "In short, the only way to know what's really going on in the ear canal is to measure it!"[6] In that article, we referred to a somewhat famous finding from Aarts and Caffee[7] in which they reported 41 subjects with measured REMs as compared to predicted REMs. They found fewer than 12% of the predicted REMs were comparable to actual measured REMs.

Valente: Yes, and so we have work to do. There really is no argument about the merits of REM, there's just a lack of compliance! Maybe we should do what they do in England, Australia, Norway, Canada, and many other countries, and mandate REMs as a necessary part of the fitting protocol. What if states mandated verification of the use of REM in order to receive and maintain a license to practice? Another option is to have the manufacturers discount their bill by 1-2% when the REM outcomes are demonstrated by their accounts! That would be inspirational; it would lower the returns for credit (RFC) and almost certainly increase user satisfaction, so everyone would win!

Beck: Fair enough and certainly food for thought! Earlier in the interview you mentioned validation and verification, and I know these can be confusing. Would you explain what you mean by those terms, and give a few examples?

Valente: Absolutely. According to the AAA document,[2] verification means *objective* proof, or objective measures such as 2cc coupler measures, REMs, measuring speech intelligibility in quiet and speech in noise, and more. *Validation*, on the other hand, are questionnaires which measure the patient's perception of what it is they wanted from the hearing aid, and if they received it. These might reflect benefit, satisfaction, improved quality of life, decreased disability, and might be measured using tools like the Client Oriented Scale of Improvement (COSI), Abbreviated Profile of Hearing Aid Benefit (APHAB), Hearing Handicap Inventory for the Elderly (HHIE), and others.

Beck: And please tell me what do you recommend with regard to a Listening Needs Assessment or perhaps a Communication Assessment?

Valente: Among my favorites is the COSI because it reveals the 4 or 5 things the patient really wants the hearing aids to do. The Characteristics of Amplification Tool (COAT) from the Cleveland Clinic is also highly regarded, as it asks the patient what they want and need....These two are probably among my favorites.

Beck: What about the articles which have come out in the last year or more indicating there are no differences in basic and premium hearing aids? Do you agree?

Valente: First, we need more articles that actually compare and contrast outcomes with different levels of hearing aids, as there are very, very few! However, the article I believe you're speaking about is a study by Cox et al[8] that compared participants having a slight to moderately severe gradually sloping high-frequency hearing loss. For this audiometric configuration, I don't know that I would expect significant differences between levels of technology. Although the research is extremely intriguing, I think the article needs to be replicated using a *variety* of audiometric configurations to determine if differences are present in outcomes. As you know, an article that you and Nicolas Le Goff [9] published earlier this year suggests that differences might be present.

Beck: I think those are fair comments, and I agree we need to publish more real-world data. We also need to replicate published results, internally and externally. This has been a historic problem in our profession and industry, as it takes years to design, execute, and publish a peer-reviewed study, and by the time it is published, the next generation of hearing aids are commercially available.

Valente: Agreed, but I don't know how you can get around that. In addition, we need to acknowledge there are patients who just want the least expensive devices and there are others who will always want the best technology—so all of these factors weigh into the final acquisition decision the patient makes.

Beck: And, so when I hear people say, "all hearing aids are the same," that sounds to me terribly dismissive and non-inclusive. I think this generalization is likely incorrect for the broader population of people and products, although it certainly may have been true for the homogenous group of patients in that study.

Valente: I agree, and I've said publicly: we need to repeat this study with a broader spectrum of patients, using complete Best Practice protocols, and using the most sophisticated hearing aids available, and then let's see how things shake out. However, the overall con-

clusion of the article should not be ignored: Well-fit quality hearing aids help people hear better.

Beck: OK, and so what are your thoughts on speech-in-noise (SIN) tests?

Valente: We do QuickSIN on every patient as part of our Hearing Aid Evaluation (HAE) and fitting. We perform unaided HAE, aided HAF, and QuickSIN aided. Moreover, as you know, the QuickSIN aided may be better than unaided, but we have to realize they still have a hearing loss that would benefit from an additional remote microphone, and the vast majority of my patients acquire a wireless remote mic. In my view—and as shown in the literature—the use of the wireless remote mic clearly addresses the number one complaint of listeners: the need for better understanding of speech in noise.

Beck: I think the general impression is that adult patients won't use remote mics, but I suspect that excellent counseling and an excellent demo would go a long way to prove to the patient the value of a remote mic.

Valente: That is absolutely true. When I complete a HAE, and again at the hearing aid fitting, I demonstrate the remote mic by walking about 50-70 feet away, usually while talking about the St Louis Cardinals, and they hear every word. It takes about 5 minutes or less to demo this technology, and most patients purchase a remote mic to use with their hearing aids.

Beck: Mike, it's always a total joy chatting with you. Thanks for your time and energy, and thanks for a pragmatic update on Best Practices in hearing aid fittings!

Valente: My pleasure, Doug. Thanks for the kind invitation, and thanks for keeping Best Practices in the news!

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