# AVAA AMPLIFIER

***Quarterly Newsletter of the Association of VA Audiologists***

Fall 2023: **Research in VA**

## FROM THE PRESIDENT'S DESK:

***Michele Gortemaker, Au.D.***
*AVAA President*

As you will see highlighted in this edition of the AVAA Amplifier, research has been encouraged and funded in VA Audiology over the past seventy years and VA Audiologists have made significant contributions to our profession. The National Center for Rehabilitative Auditory Research was established in 1997 under the direction of Stephen Fausti. The focus of NCRAR is audiologic research, training new audiology scientists and sharing their research with the field. It is also their mission to educate the general public about hearing conservation, how to prevent future hearing loss and how to cope with tinnitus. If you have not explored NCRAR's website recently, I would highly encourage you to do so. You can find patient and clinician materials, information on their conference, and their current areas of research.

In the early 1950s, VA and the Navy jointly funded the development of the W-1, W-2 and W-22 disks by Ira Hirsh and staff at CID. These recordings were the only recorded materials available for speech audiometry for many years. Richard Willison, Chief of Audiology at Mountain Home Tennessee VA Clinic, collected nearly all of the recorded speech materials since these first recordings and compiled them on a compact disk for use within the VA system and for the public at large. These are just two more examples of how VA has contributed to our battery of audiologic tests.

As you will see in the subsequent articles in this newsletter, the VA continues to lead in research in our profession. We have Research Audiologists at the James H. Quillen VA Medical Center in Mountain Home, TN who continue to wear many hats as clinicians and researchers, often taking inspiration from their clinical experiences to fuel their research.

**IN THIS ISSUE:**

## FROM THE PRESIDENT'S DESK: *Continued*

You will find examples of Audiologists at the Pittsburgh VA Medical center taking on a project to improve inpatient care for Veterans with hearing loss, tapping into resources from nearby medical facilities and other VA medical facilities to develop this program. Audiologists and trainees from Pittsburgh VAMC impress me every year at JDVAC with the complex research and performance improvement projects they take on and present on a continual basis.

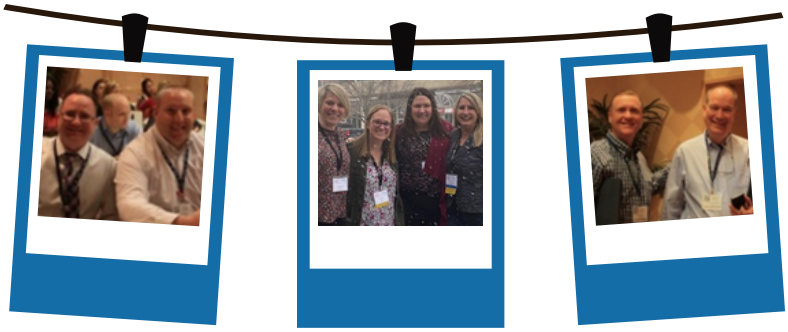
As noted previously, the NCRAR continues to take on research projects in all areas of Audiology and has a public facing website to share this information with VA Audiologists and the general public. NCRAR shared a nice summary of current projects and their implications for this newsletter.

Defense Hearing Center of Excellence (HCE) also contributes significantly to research in our profession and is a joint effort between VA and DOD. The HCE promotes prevention, diagnosis, mitigation, treatment, rehabilitation and research of hearing loss and auditory injury. It supports the development, exchange and adoption of best practices, research, measures of effectiveness and clinical care guidelines to reduce the prevalence and cost of hearing loss and tinnitus among Warriors and Veterans.

While taking on research may seem daunting, I think we can all see the important role VA has played in the foundation of our profession and the continued advancement. I hope we can all take this opportunity to look at our practices and consider what small project we can undertake in our individual clinics to improve processes or services for our Veteran patients. More importantly, share your work! It is likely that another VA Audiologist could benefit from your great ideas and it could spark a revolution in how we provide hearing healthcare as a whole.


It's time to pay your AVAA voluntary dues!

Visit myavaa.org to pay your 2024 AVAA dues



**Do you have old photos of you and your VA Audiology co-workers?**

***If so, we want to see them!***

*Please email Ilana Glick (ilana.glick@va.gov) with your VA Audiology photo memories!*

# SPOTLIGHT On: NCRAR

*Most VA Audiologists have heard of the **National Center for Rehabilitative Auditory Research (NCRAR)**, but many of us do not know the depth and breadth of what NCRAR does to help support our clinical work as VA Audiologists. In this edition of the Amplifier, we shine a spotlight on NCRAR to learn more about their research and how it improves our ability to offer Veterans the best possible audiology care.*

## Hearing and Balance Research at the National Center for Rehabilitative Auditory Research

*by*
*Michelle R. Molis, PhD (NCRAR Research Investigator)*
*M. Patrick Feeney, PhD (NCRAR Director)*
*Dawn Konrad-Martin, PhD (NCRAR Associate Director)*
*Patrick Helt, MA (NCRAR Deputy Director)*
*Christine Kaelin, MBA (NCRAR Education and Outreach Manager)*

Founded in 1997, the National Center for Rehabilitative Auditory Research (NCRAR) receives funding from the VA Rehabilitation Research and Development (VA RR&D) Service to support a substantial infrastructure of shared equipment and facilities resources dedicated to auditory rehabilitation research, research administration, and statistical and engineering support. Since 2006, NCRAR has been housed within a 20,000-square-foot state-of-the-art facility at the VA Portland Health Care System (VAPORHCS).

NCRAR's mission is to improve the quality of life of Veterans and others with hearing and balance problems through clinical research, technology development, and education that leads to better patient care. The Center is unique among auditory research facilities because of its focus on auditory rehabilitation research and the translation of research results into clinical practice.

# SPOTLIGHT On: NCRAR (continued)

The NCRAR serves as a national VA resource by disseminating evidence-based research findings, developing clinical practice guidelines, administering clinical listservs, hosting the American Tinnitus Association help line, facilitating the clinical translation of an NCRAR-developed tinnitus treatment program, and engaging with clinical experts spanning a range of disciplines and global regions to develop a worldwide standard on ototoxicity management. NCRAR further serves Veterans and other patients by providing tinnitus tele-health and rehabilitation education groups, and consultations at VAPORHCS and across the nation.

The research carried out at NCRAR encompasses a continuum that progresses from basic theoretical research to clinical trials focused on technological, therapeutic, and pharmacological advancements. The research is multidisciplinary, combining audiology, engineering, epidemiology, implementation science, neuroscience, otolaryngology, physical therapy, physiology and psychology, with multidisciplinary resources available to each investigator.

Since its inception, the NCRAR has been on the cutting edge of auditory rehabilitation research in the areas of early identification of ototoxic-induced hearing loss, tinnitus evaluation and treatment, central auditory processing disorders associated with traumatic brain injury and/or blast exposure, effects of diabetes and multiple sclerosis on auditory function, hearing loss prevention, health behavior change, and many others.

# SPOTLIGHT On: NCRAR (continued)

***Here are just a few examples of recent and current NCRAR research projects with the potential to impact clinical audiology practice at VA:***

**Clinical Diagnosis and Management of Patients with Auditory Processing Deficits**

Clinical diagnosis and management of patients with auditory processing deficits is the subject of considerable debate with few evidence-based guidelines to direct patient care. A retrospective medical chart review was carried out on a random sample of 100 Veterans who underwent auditory processing assessments across the VA Health Care System between 2008 and 2020. The goals were to gather information about common characteristics among help-seeking patients and to better understand how VA clinicians approach assessment and management of these patients. Overall, the results highlight how ambiguity in the clinical construct of "auditory processing disorders" impacts patient care among help-seeking Veterans. The data reveal a clear need for a widely accepted standardized and evidence-based framework to support clinical management of patients with auditory processing impairments—particularly among patients likely to have comorbidities such as traumatic brain injuries and/or significant blast exposure. NCRAR investigator, **Dr. Melissa Papesh,** has recently received VA RR&D funding to conduct controlled research trials on the use of hearing aids in normally hearing patients identified as having auditory processing deficits to better understand how and why these patients may perceive benefit from the devices.

Papesh, M. A., Fowler, L., Pesa, S. R., Frederick, M. T. (2023). Functional Hearing Difficulties in Veterans: Retrospective Chart Review of Auditory Processing Assessments in the VA Healthcare System, American Journal of Audiology, 1-18. https://doi.org/10.1044/2022_AJA-22-00117

# SPOTLIGHT On: NCRAR (continued)

## Decreased Sound Tolerance, such as Hyperacusis, Among Veterans

Prevalence estimates of self-reported decreased sound tolerance also known as "sound sensitivity" have been reported as high as 15%. Many Veterans experience various degrees of decreased sound tolerance, and yet the prevalence of hyperacusis in Veterans, a specific type of decreased sound tolerance, is not well documented. Hyperacusis describes the experience of ordinary sounds, which most people find tolerable, being perceived as too loud, resulting in discomfort and sometimes pain.

Self-reported estimates of hyperacusis are influenced by the heterogeneity of survey instruments. An alternative way to estimate prevalence is to examine the health statistics of the medical diagnostic code used by clinicians for healthcare purposes. The recent article by **Dr. Sarah Theodoroff** and colleagues took this approach to estimate among Veteran health care users the prevalence of hyperacusis diagnosis.

Results showed what is documented by medical diagnostic codes in Veterans' electronic health records is grossly below self-reported prevalence estimates. This is likely reflective of clinicians' uncertainty when and how to diagnose hyperacusis, when to include the diagnostic code in medical records, and infrequent screening in health care clinics for hyperacusis. Of note, Veterans diagnosed with tinnitus, PTSD, headache, or TBI were between two and seven times more likely to have a diagnostic code for hyperacusis, suggesting that it often co-occurs with these conditions.

Theodoroff, S.M., Reavis. K.M., Norrholm, S.D. (2023). Prevalence of hyperacusis diagnosis in Veterans who use VA health care, Ear & Hearing, Sep 27, Epub ahead of print. https://doi.org/10.1097/aud.0000000000001427

# SPOTLIGHT On: NCRAR (continued)

**Clinically Significant Cochlear Synaptopathy/Deafferentation Among Young Veterans with Tinnitus**

Cochlear synaptopathy, a form of cochlear deafferentation, has been demonstrated in a number of animal species, including non-human primates. Both age and noise exposure contribute to cochlear synaptopathy in animal models, indicating that it may be a common type of auditory dysfunction in humans. Temporal bone and auditory physiological data suggest that age and occupational/military noise exposure also lead to synaptopathy in humans. The predicted perceptual consequences of cochlear synaptopathy include tinnitus, hyperacusis, and difficulty with speech-in-noise perception. However, confirming the perceptual impacts of this form of cochlear deafferentation presents a particular challenge because synaptopathy can only be confirmed through post-mortem temporal bone analysis and auditory perception is difficult to evaluate in animal models.

Data from animal studies suggest that cochlear deafferentation leads to increased central gain, which is expected to increase the likelihood of developing tinnitus. Several human studies have investigated the relationship between physiological indicators of cochlear deafferentation and tinnitus, with mixed findings. This has led to confusion about the extent of the impact of cochlear deafferentation on the probability of developing tinnitus.

**Dr. Naomi Bramhall** has published the first study to investigate the relationship between three different physiological measures of cochlear deafferentation—auditory brainstem response, envelope following response (EFR), and middle ear muscle reflex—and tinnitus in the same sample. The results suggest that of the three measures, EFR magnitude shows the most compelling association with tinnitus in a Veteran population. In addition, the Veteran tinnitus effect on EFR magnitude was compared to age-related reductions in EFR magnitude and synapse numbers observed in previous studies. These analyses suggested that EFR magnitude/synapse counts were reduced in young Veterans with tinnitus by roughly the same amount as would occur over 20 years of aging. Framed this way, it is clear that, on average, young Veterans with tinnitus have a clinically significant degree of cochlear deafferentation.

Bramhall, N.F., Theodoroff, S.M., McMillan, G.P., Kampel, S.D., Buran, B.N. (2023). Associations between physiological correlates of cochlear synaptopathy and tinnitus in a Veteran population. Journal of Speech Language and Hearing Research. https://doi.org/10.1044/2023_JSLHR-23-00234

# SPOTLIGHT On: NCRAR (continued)

**Hearing Aid Use Among Hearing-Impaired Elders is Associated with Lower Falls Risk**

Falls are a frequent and serious problem for the elderly that can result in injuries and death. Older adults with hearing loss have 2.4 times greater odds of falling than their peers with good hearing. **Dr. Timothy Hullar** from the NCRAR and his collaborators at the University of Colorado report that people who consistently wear their hearing aids can significantly reduce their risk for falls. Their study results demonstrate that hearing aid users, regardless of age, have 68% lower odds of being at risk for falls. The greatest risk reduction is achieved for those who wear their hearing aids consistently (at least 4 hours/day). Importantly, substantial risk reduction from consistent hearing aid use was also achieved for the subgroup of older adults in the study, who had 65% lower odds of experiencing a fall. This indicates that older adults may be able to partially offset their risk for falls through consistent hearing aid use. Thus, there may be more benefit to wearing your hearing aids than just making sounds easier to hear.

Campos, L., Prochazka, A., Anderson, M., Kaizer, A., Foster, C., Hullar, T. (2023). Consistent hearing aid use is associated with lower fall prevalence and risk in older adults with hearing loss. Journal of the American Geriatrics Society, 71(10), 3163-71. https://doi.org/10.1111/jgs.18461

This study has garnered national media attention:

This Week in Hearing:
Hearing Aid Use Lowers Fall Risk: Interview with Laura Campos, AuD, PhD

NPR Health News:
Wearing hearing aids may reduce the risk of falls in older adults

# SPOTLIGHT On: NCRAR (continued)

## Development of an Ototoxicity ANNIE Application

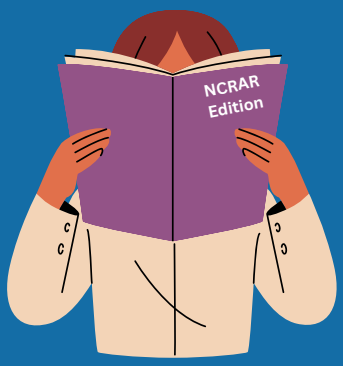
The ANNIE app is an automated SMS (text message) chatbot that provides appointment reminders, information, and alerts to VA patients. NCRAR's **Dr. Dawn Konrad-Martin** was collaborator and mentor for Dr. Trisha Milnes, Chief of Audiology & Speech Pathology at the Augusta VAMC, for a VA Innovation Network, Spark Award.

Together, they worked to build an ANNIE app-based ototoxicity management tool for patients receiving an ototoxic agent as part of their medical treatment. The app prompts the patient to pay attention to auditory and balance function, reminds them when to schedule an appointment with audiology, and provides access to brochures and other relevant information online. Once pilot testing at the at the Charlie Norwood VA in Augusta, GA is complete, the app will be made available to patients across the VA system.


## Development of Online Tinnitus Training Courses on VA Talent Management System (TMS)

Development of tinnitus-care methods has been a research focus at NCRAR for 25 years. Over 10 years ago we began working with VA Employee Education System (EES) to develop educational materials for both Veteran patients and VA clinicians. In 2020, a four-module training course on tinnitus clinical management was posted on TMS. In 2021, a fifth training module was added (TMS #44933, "Setting up a Tele-PTM Program") which provides detailed information and instructions for setting up a telehealth tinnitus management program.

The telehealth version of PTM, Tele-PTM, allows VA clinicians to provide tinnitus counseling and research-based tinnitus services remotely for Veterans with tinnitus. In 2022, a sixth online training course was added (TMS #131002413, "Management of Sound Tolerance Conditions") focused on the clinical management of sound tolerance disorders (e.g., hyperacusis, misophonia, noise sensitivity, and phonophobia).




Where can I find more research publications from NCRAR?

In 2023, Seminars in Hearing published a special issue on VA hearing and balance research. The articles in this special issue are open access and free to download and read.

**Speech-in-Noise Testing: An Introduction for Audiologists**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770155

**VA Hearing, Tinnitus, and Balance Research that Leads to Better Patient Outcomes and Care**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770141

**The Impact of Tinnitus Severity on Work Functioning among U.S. Military Veterans with Tinnitus**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770152

**Clinical Gaps-in-Noise Measures in Blast-Exposed Veterans: Associations with Electrophysiological and Behavioral Responses**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770139

**A Pilot Study to Evaluate a Residual Inhibition Technique in Hearing Aids for Suppression of Tinnitus**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770153

**Imaging the Ear Anatomy and Function Using Optical Coherence Tomography Vibrometry**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770154

**History of Tinnitus Research at the VA National Center for Rehabilitative Auditory Research (NCRAR), 1997–2021: Studies and Key Findings**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770140

**Rehabilitation Service Needs and Preferences among Veterans with Tinnitus: A Qualitative Study**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770138

**Age-Related Changes in Temporal Binding Involving Auditory and Vestibular Inputs**
https://www.thieme-connect.de/products/ejournals/html/10.1055/s-0043-1770137

# SPOTLIGHT On: NCRAR (continued)

***In addition to producing cutting-edge audiology and balance research, NCRAR plays an important role in cultivating the next generation of auditory/vestibular researchers and audiologists through an assortment of education and training programs.***

## NCRAR Biennial Conference Series

The title of NCRAR Biennial Conference in 2023 was "Innovations in Auditory & Vestibular eHealth." The conference commemorated the 20th Anniversary of VA Telehealth Services, with talks from national VA clinical leadership who described how the program was able to pave the way for telehealth excellence in the United States and beyond. Nearly two hundred clinicians, researchers, and students attended virtually to identify and solve barriers to access for individuals living in rural settings or unable to travel to a clinic for care. Lecture and workshop topics focused on eHealth solutions for remote diagnostics for hearing, hearing aids, cochlear implants, as well as for falls prevention in a variety of clinical contexts. Posters and a sponsored technology session allowed researchers and clinicians to share experiences and receive resources to apply eHealth effectively in a variety of clinical contexts. These VA- and NIH-supported conferences, held every two years, provide a multidisciplinary deep dive into timely translational research topics. The program is designed to showcase local, national, and international rising stars, as well as established leaders in the field.

## NCRAR Clinical Research Seminar Series and Marquam Hill Audiology Grand Rounds

From the beginning, one of the NCRAR's primary objectives has been to encourage collaboration among clinicians and researchers to promote the translation of auditory research and development findings into evidence-based practice that will optimize auditory rehabilitation services and outcomes. The Center organizes two monthly virtual seminars that offer ASHA continuing education units (CEUs) to clinical providers. The NCRAR Clinical Research Seminar Series invites renowned research scientists from around the country to lecture on their research topics. The monthly Marquam Hill Audiology Grand Rounds are a forum for discussion of evidence-based case studies as well as discussion of clinical research, with the overall purpose of improving audiological practice. Check our website for upcoming speakers and topics.

# SPOTLIGHT On: NCRAR (continued)

### Audiology 4th-year Externships

The NCRAR began mentoring AuD students in 2007. Since 2013, the NCRAR has collaborated with the Audiology & Speech Pathology Service at the VAPORHCS to obtain funding from the VA Office of Academic Affiliations (OAA) to provide two to three externships each year. Typically, students will spend half of their time within the NCRAR working in the lab of an NCRAR investigator and half their time working in the Audiology Clinic, thus fulfilling their degree requirements by developing clinical skills while also becoming proficient in understanding and implementing research findings into clinical practice.

### NCRAR NIH NIDCD T-35 Summer Research Traineeships for AuD Students

Each summer, the NCRAR awards traineeships to four outstanding students currently enrolled in a graduate program leading to the AuD degree. These traineeships are funded by a Ruth L. Kirschstein Short-term Training Grant (T35) from the National Institutes on Deafness and Other Communication Disorders (NIDCD). Each trainee conducts a mentored research study, engages in discussions about research design and implementation, and participates in classes on research integrity and responsible conduct of research. They also participate in other informal short courses as part of a larger cohort comprised of students from each of the three national T35 AuD programs (NCRAR, Boys Town National Research Hospital and Vanderbilt University). Each student presents the results of their research project to the Center staff during their final week and submits their projects for presentation at the annual American Auditory Society Meeting.

### Get Involved with Research at the NCRAR

Many of the best clinical research questions originate with clinicians themselves. Researchers at the NCRAR are interested in hearing from VA clinicians working in the field to help develop evidence-based studies that address the real clinical challenges faced by VA audiologists. You can get to know us by attending our monthly Seminar Series and Grand Rounds, and our Biennial Conference. You may also see NCRAR investigators participating on clinical listservs and attending JDVAC. Finally, you can visit the staff page on our website, National Center for Rehabilitative Auditory Research (NCRAR), where you can find email addresses for all the investigators. We'd like to hear what's on your mind.

**MANY THANKS TO THE NCRAR TEAM**

**FOR THEIR INFORMATIVE CONTRIBUTIONS!**

# Switching Hats:

## Clinic today, Research tomorrow!

*We have some amazing research audiologists in the VA system who "switch their hats" each day and work both in the clinic and in the research lab. We spoke to some the team members at the* ***Mountain Home Hearing and Balance Research Program*** *to find out what it's like to work with patients in a VA clinic one day and work on grant proposals and data collection the next day!*

**Karah Gottschalk, Au.D., Ph.D.**
*Research Audiologist, Vestibular Clinic Coordinator*
*James H. Quillen VA Medical Center*
*Mountain Home, TN*

***What is your background? How did you become a research audiologist?***

I graduated with my AuD in 2013, and my first audiology job was at a rural hospital in upstate New York. I started that hospital's audiology program from the ground up, and was that hospital's first audiologist. My path to research is actually due to a patient of mine. One of my first patients in NY was this wonderful woman who had just lost her husband. Her husband had made her promise that she would get hearing aids as she had suffered from untreated hearing loss for years. Over the next few months I noticed some changes to her hearing aid use and her confusion over things that we had discussed previously ad nauseum. I just thought that she was forgetting things, but it turned out that she was actually progressing through the mild cognitive impairment (MCI) stage into the beginning stages of dementia. I felt like a terrible clinician because I noticed the changes but did not make the connection that it was an MCI. That was the inspiration I needed to get my PhD in Gerontology, with my focus being on the relationship between cognition and hearing loss.

# Switching Hats: continued

***How do you split your time between clinical care and research work?***
I am lucky enough to have time dedicated to both patient care and research. My current week is broken down by half day of administrative time (I am also the vestibular clinic coordinator), two and a half days of clinic, and two days of research.

***Does your work in the clinic influence your ideas for research projects?***
Absolutely! One of the main reasons why I like doing both clinic and research is because they influence each other so strongly. Working with patients inspires great ideas for research that are clinically relevant.

***How does VA support your work as a research audiologist?***
I am newer to the VA system, but already there are a variety of ways that the VA provides support. First, there is a dedicated research and development team who are here to support you. They help walk you through the system of completing research in the VA system since the process is quite different than a university setting. Another way of support is the variety of different grants/funding opportunities. Additionally, there are plenty of training opportunities one can attend.

***What are some of the benefits of working clinically and in research? Are there challenges?***
As with all things, there are benefits and challenges. As far as challenges are concerned, it can be hard to make sure to keep research time for research and clinic time for clinic. Since I am wearing two different hats, it can be hard to adjust my work habits from clinic to research (especially sitting down to write papers or grants).

***What is your favorite part of being a research audiologist?***
Continuing to learn and improve my knowledge. I like my career motto to be that I am a jack of all trades, but a master of none. Research allows me to continue to learn in a wide variety of areas.

***What advice would give audiology students who are interested in a career as both a clinician and researcher?***
Just continue to put yourself out there and try new things. It is scary to try new things since we are often afraid of failure or rejection. This is especially true when writing articles or grants since rejection will happen at some point in your career. Also, always assume that you do not know everything. This helps you in continuing to grow your knowledge and not just settle with “this is what I learned in school.”

# Switching Hats: continued

***Nicholas Giuliani, Au.D., Ph.D.***
*Research Audiologist*
*James H. Quillen VA Medical Center*
*Mountain Home, TN*

***What is your background? How did you become a research audiologist?***

As an undergraduate, I majored in music and minored in Japanese. I spent my first summer after college working odd jobs like construction and driving a school bus, but later found work with a Minneapolis-based company recording live (mostly classical) music. Fast-forward a few years and I found myself living in the DC suburbs and working for a news organization. One night after a frustrating day at work, I decided I needed a career change. I completed my Au.D. in 2014 and my Ph.D. in 2017 at the University of Iowa. While pursuing my Ph.D., I worked as a clinical audiologist during the day and conducted research after-hours. My clinical practice focused on hearing aids and cochlear implants for both adults and pediatrics while my research focused on listening effort. Out of sheer luck, I found an advertisement for a Research Audiologist position at Mountain Home and in January 2020, I began my work here in Tennessee. This year, I reached a professional milestone by securing my first grant from the American Academy of Audiology.

***How do you split your time between clinical care and research work?***

Currently, I spend half of my week seeing patients and the other half pursuing my research interests.

***Does your work in the clinic influence your ideas for research projects?***

My work in the clinic absolutely informs my research. For example, I am currently looking at listening effort and affective (i.e., emotional) processing in participants with normal hearing, tinnitus, and hearing loss. My goal is to use these findings in a future study that will examine how different audiological interventions alter these processes, particularly in Veterans with bothersome tinnitus.

***How does VA support your work as a research audiologist?***

VA is very supportive of my work as a clinician scientist. Before coming to Mountain Home, I was frequently told that “if you see patients, you will not have time for research” and vice versa. VA was the only institution that supported my desire to become a translational researcher.

***What are some of the benefits of working clinically and in research? Are there challenges?***

Working clinically has allowed me to see what areas of patient care need improvement and hopefully, my research will address these needs. Sometimes, it is challenging to balance patient care with research, but I have found those days are generally the exception rather than the rule.

# Switching Hats: continued

***Earl E. Johnson, Au.D., Ph.D.***
*Audiologist & Amplification Coordinator*
*James H. Quillen VA Medical Center*
*Mountain Home, TN*

***What is your background? How did you become a research audiologist?***

My background is in the mechanics and operation of hearing aids from both a signal processing standpoint as well as a marketing and delivery perspective. It is one thing to build and evaluate hearing aids but another to ensure that hearing aids end up in the ears of people who need them. I became an audiologist, who also conducts research because of the training I received in graduate school. Relevant to VA, I was fortunate enough to work with both Drs. Ricketts and Bratt. Dr. Bratt, now retired, was chief at the Nashville VA hospital during my time as a student in training. He along with other VA audiologists trained me clinically and he was also conducting RR&D Merit Review grant funded research. I participated as a paid research assistant collecting data on a Merit Review pilot that both he and Dr. Ricketts were completing. Dr. Ricketts had additional ongoing hearing aid research and was my Ph.D. advisor. After such experiences, it became natural to be an audiologist who also conducts research.

***How does VA support your work as a research audiologist?***

Earlier in my career, I participated in the RR&D Career Development Award program (CDA) which allowed me to split time between clinical care and research at a 20 to 80% division, respectively. For most of my VA career though, I have worked in a clinical audiologist position and completed research as feasible and mentored Au.D. capstone projects through East Tennessee State University (ETSU) as a VA-affiliate. Since 2012, I have served in a volunteer capacity as Associate Editor for hearing aid operation, benefit, performance, and subjective outcome evaluation articles submitted to International Journal of Audiology (IJA).

***What is your favorite part of being a research audiologist?***

My favorite part of the position is the wearing of multiple hats (i.e., clinician, researcher, educator). I have always been a well-rounded person and even my high school classmates thought so when it came time to vote for class superlatives. I enjoy perhaps the teaching and student training opportunities the most. It is likely the talking, presenting, and more generally the opportunity to share what I have learned from those that trained me as well as my own experiences. I have taught one to two classes on Amplifications Systems for the past 15 years in the evenings with ETSU.

***Thanks to the Mountain Home team for sharing their thoughts for this edition of the Amplifier!***

# BOOTS ON THE GROUND:

## RESEARCH PROJECTS IN OUR VA CLINICS!

***Cambridge Dictionary defines the phrase, 'boots on the ground' as "people who are physically present in a place doing the work to achieve something."*** *In this edition of the AVAA Newsletter, we are highlighting some of our VA Audiologists who have "boots on the ground" and are conducting research projects in conjunction with their every day clinical care of patients. Take a look at what some of the Pittsburgh VA Audiologists are doing to improve the quality of care we offer Veterans!*

**Enhancing Inpatient Care with Bedside Audiologic Services:**
*The Pittsburgh VA's Journey to Improve Inpatient Care for Veterans with Hearing Loss*

The impact of untreated hearing loss on patient outcomes has long been overlooked in healthcare. Recently, the audiology department at the Pittsburgh VA began a program to enhance inpatient care by providing bedside audiologic services. Audiology Inpatient Management (AIM) seeks to address challenges faced by Veterans with hearing loss during their hospital stay and, ultimately, improve their inpatient experience. This article describes the AIM program, exploring its inception, challenges faced, and future direction.

While the negative consequences of untreated hearing loss on healthcare outcomes are well-documented, the literature highlights a gap in awareness among medical providers. Studies cited by McKee et al. (2022) report higher emergency department utilization, increased risk of falls and hospitalizations, longer hospital stays, and elevated risk for adverse events among individuals with untreated hearing loss. Yet, healthcare training programs often neglect topics related to effective communication with hard-of-hearing patients, leaving providers ill-equipped to address the unique needs of this population.

# BOOTS ON THE GROUND: CONTINUED

Inpatients with hearing loss are often without amplification upon admission. Veterans must hear providers to discuss important health-related information, such as treatment options and discharge instructions, during their inpatient stay. The AIM program was created out of a realization that the Pittsburgh VA lacked a standardized approach to proactively manage inpatients with hearing loss.

Providing audiologic services to inpatients is not the standard of care despite a high prevalence of hearing loss among Veterans. Drawing inspiration from initiatives at the University of Pittsburgh Medical Center (Mormer et al., 2017; Zitelli & Palmer, 2017) and the Hershel "Woody" Williams VA, the Pittsburgh VA introduced AIM in March 2021. The overarching goal of AIM is for Veterans to hear and understand their medical providers during a hospitalization. In other words, AIM aspires to confront the role that untreated hearing loss plays in healthcare outcomes.

AIM was first piloted on a single inpatient unit. A daily chart review identified Veterans with previously documented hearing loss who were then visited at their bedside. Services provided include repairing hearing aids, issuing personal amplifiers, counseling on effective communication strategies, and scheduling inpatient audiologic evaluations.

Before AIM, the pilot unit only consulted audiology once in three months. However, from March to December 2021, 45% of new inpatient admissions to the pilot unit had previously documented hearing loss. Additionally, from February to December 2022, 64% of inpatients who previously received hearing aids from the audiology department did not bring them to the hospital upon admission. In the first eight months of AIM, inpatients with hearing loss receiving audiologic services increased by 3900% compared to baseline and saved 80 separate outpatient visits.

The pilot phase wasn't without its challenges. Tracking inpatients, inconsistent documentation, and the need for clear program goals necessitated reassessment. Encouraged by positive feedback from medical providers and a growing number of inpatient consults, modifications were introduced to address these challenges. Every day, one of four staff audiologists were assigned to AIM with time allotted from their outpatient schedule.

# BOOTS ON THE GROUND: CONTINUED

Becoming a familiar face on the inpatient units has fostered stronger interprofessional collaboration, increasing awareness and recognition of audiology's important role in comprehensive patient care. The program's data collection process was also revamped with redesigned spreadsheets, standard operating procedures, and templates for documentation.

Collaboration with medical informatics was a crucial aspect of the program's development. They created a list of current inpatients with hearing loss on their CPRS "problem list," and a specific inpatient audiology consult was designed for nursing staff. A mobile workstation was also created to streamline inpatient visits. Complete with computer access to CPRS, hearing aid supplies, and a NOAH link, it has eliminated the need to shuttle between the audiology clinic and hospital. These changes streamlined the process and paved the way for expansion into every inpatient unit as of May 2023.

A nursing in-service is on the horizon to foster discussion about the program and promote interdisciplinary collaboration. A survey gauging patient and provider satisfaction is also underway, and retrospective analyses of the electronic medical record are planned to further quantify AIM's impact. AIM continues to evolve, and the program hopes to introduce portable tablets for bedside hearing screening as many Veterans arrive at the hospital with undiagnosed hearing loss. There is an unmet need for inpatient audiologic management. AIM highlights an often neglected aspect of inpatient care and the role that audiologists play in enhancing healthcare outcomes.

Bedside audiologic services can transform the inpatient experience of Veterans with hearing loss. Looking ahead, programs like AIM should extend beyond local initiatives and serve as models for other healthcare facilities. Audiologists must guide recommendations on how to ensure that inpatients with hearing loss can effectively participate in their healthcare and access communication on their journey to recovery.

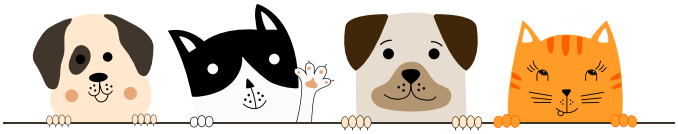
MANY THANKS TO DR. CECELIA LACEY, DR. DAVID JEDLICKA, AND THE PITTSBURGH VA AIM TEAM FOR THEIR CONTRIBUTION!

# Pets of AVAA

**"Willoughby the daring dachshund" turned 3 on Hallo-weenie! Willoughby enjoys snacking on broccoli and belongs to Dr. Danielle Crawford, AVAA President-Elect and Audiology Supervisor from the Phoenix VA.**

**Meet Kate! She is an Arizona shelter kitty that was adopted in 2022. She is the most talkative cat you will ever meet. Her favorite thing to do is yell at birds. She makes the rules in her house as she will cuddle you, but humans cannot cuddle back. Kate belongs to Dr. Ashley Zambetti from the Pittsburgh VA.**

**Tom Hagen belongs to former AVAA President, Dr. JR McCoy, from the Little Rock VA. Any fans of "The Godfather" will know that his name comes from one the most loyal characters in movie history! This pup sure is loyal and was a very good Audiology patient when Dr. McCoy practiced doing BAERs on him!**



# AVAA Soundbites

Days are cooler, so AVAA Soundbites is here to warm you up with this great chili recipe from **Dr. Kelly Esparza** from Hines VA.

## Super-Duper Chili

1 pound pork sausage (in a roll, like Jimmy Dean)
1 pound ground beef
2 cans (15.5 oz each) hot chili beans
1 jar (16 oz) salsa (use hot if you want a kick!)
1 can (16 oz) kidney beans, rinsed and drained
1 can (15 oz) pinto beans, rinsed and drained (unseasoned)
1 can (14.5 oz) diced tomatoes, undrained
1 can (10.5 oz) condensed cream of mushroom, undiluted
1 can (8 oz) tomato sauce
8 oz. Velveeta Cheese, cubed
1.5 tsp chili powder
0.5 tsp cayenne pepper

In a soup pot or Dutch oven, cook the sausage and beef over medium heat until no longer pink; drain grease. Stir in remaining ingredients. Bring to a boil. Reduce heat; cover and simmer for 30 minutes or until heated through out.
Yields 14 servings (3.5 quarts).

**For some extra heat, Dr. Esparza recommends adding some jalapenos!*

**In the next AVAA Amplifier:**

**JDVAC 2024 Preview**

Join us March 4th-6th in Valley Center, CA!

**https://myavaa.org/conference/**