



**Cochlear Center for
Hearing and Public Health**



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Hearing and Public Health**

**2020-2021
ANNUAL REPORT**



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LETTER FROM THE CENTER DIRECTOR

As we eventually achieve some distance from 2020 much will be said about the extraordinary year.

Yet despite the unprecedented upheaval caused by the global COVID-19 pandemic, the 2020-21 academic year feels like the year the Johns Hopkins Cochlear Center for Hearing and Public Health really hit its stride. Our training and mentoring opportunities are sought-after, and we have had exceptional cohorts of trainees. Our large epidemiological studies and clinical trials continue, with one randomized trial testing the efficacy of a community health worker model of hearing care delivery completed this past year. And we are optimistic that this year the Food and Drug Administration will finalize their regulatory classification for over-the-counter hearing aids which were due to be released in August 2020 but delayed due to the COVID-19 pandemic.

Some things remain necessarily paused: The Longitudinal Aging Study in India (LASI), National Health and Aging Trends Study (NHATS), and other large epidemiological studies where we’ve led the addition of hearing assessments are on hold until face-to-face interactions with research participants can be restarted safely. Other studies including the ACHIEVE trial, ARIC study, and a study of inpatient hearing care provision at Johns Hopkins are just now resuming in-person study visits after being on pause for the past year.

Some things we expanded or improved: We developed an online format for our Fellows Program in Aging, Hearing, and Public Health which is designed for overseas clinicians and researchers, and in June 2021 we will debut this program with the Latin American fellows who were accepted to last summer’s in-person program which had to be cancelled. Rather than forego our annual Research Day for a second year, in March 2021 we hosted a week’s worth of 30- to 60-minute daily research briefings, trainee presentations, and a keynote talk via Zoom. Technology now also enables us to remotely offer our epidemiological course on hearing loss and aging in the Johns Hopkins Epidemiology and Biostatistics Summer Institute, removing travel time and expense from students’ considerations in taking this course.

Some new ventures were begun: Along with other researchers interested in sensory function and aging, we launched the SENSE Network, an international consortium that draws researchers from a dozen countries to collaborate on studying the role of sensory functioning - vision, hearing, olfaction, touch & taste - in health and aging. We've now engaged a communications partner to launch our Center's first-ever national public health campaign to establish the pure tone average as a neutral, actionable hearing metric that will be rolled out over the next 2-3 years in partnership with diverse stakeholders. We are also now beginning to plan and seek out a communications agency partner to expand our role as a trusted voice of science and research in hearing healthcare policy at the national level as we work toward our policy goal of reforming Medicare's coverage of hearing loss treatment. And with the early growing pains of starting a new center behind us we tackled the task of clarifying our strategic vision for the next 10 years. The resulting Strategic Vision, detailed in the next pages, outlines where hearing-related issues stand now, where we want to see them in the future, and the strategies and initial tactics that will get us there.

We don't know what the future holds. But we do know that flexibility and creativity will continue to rule the day. I'm proud of the resilience of Cochlear Center faculty, staff, and trainees, and am delighted to share this academic year Annual Report synopsizing our work at the intersection of aging, hearing, and public health.



Frank R. Lin, MD, PhD

Director, Johns Hopkins Cochlear Center for Hearing and Public Health

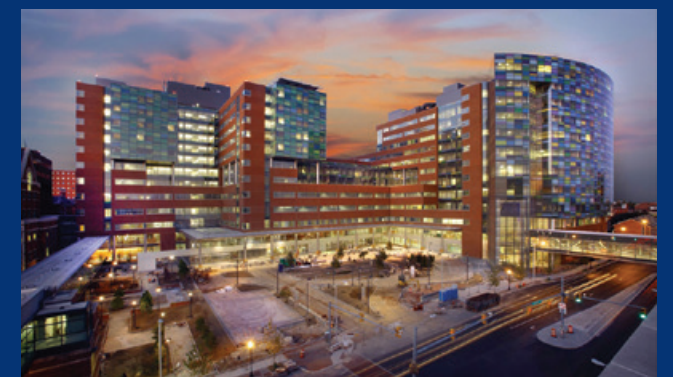
About the Center

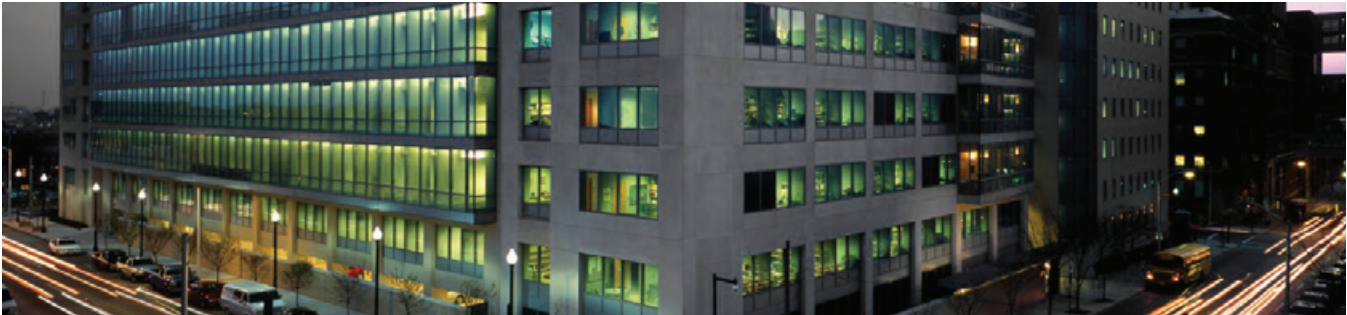
HISTORY

The Cochlear Center for Hearing and Public Health is based in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health and is closely affiliated and co-located with both the Johns Hopkins Center on Aging and Health and the Welch Center for Prevention, Epidemiology, and Clinical Research. The Center was launched in 2018 with more than \$20 million in existing grant funding from the National Institutes of Health focused on Center-mission areas, a \$10 million gift from Cochlear Ltd., and other philanthropic funding. The Center draws on the expertise of faculty members and trainees from a broad array of disciplines in order to advance the mission areas of the Center, in the U.S. and globally.

MISSION

Ensuring that older adults can effectively hear and engage with the people and world around them is key to optimizing health and wellbeing. The Cochlear Center for Hearing and Public Health is dedicated to recruiting and training a generation of researchers, clinicians, and public health experts who can study the impact that hearing loss has on public health, develop and test strategies to address hearing loss, and help implement effective policies for hearing loss at the local, national, and global levels.





VISION

The Cochlear Center for Hearing and Public Health will work to effectively optimize the health and functioning of an aging society and become the premier global resource for ground-breaking research and training on hearing loss and public health.

IMPACT

The Johns Hopkins Cochlear Center for Hearing and Public Health is the only global research institution focused exclusively on issues related to hearing loss and public health in older adults. Our researchers are interested in understanding the impact of hearing loss on public health, crafting and testing solutions, and supporting and working to advance medical, public health, and governmental understanding of these issues all around the world.

The impact of the Cochlear Center for Hearing and Public Health will ultimately be measured by the accomplishments of the individuals and trainees who comprise the Center and whose research, advocacy, and academic pursuits will advance Center mission areas. These accomplishments will take place at the macro level (e.g., public policy legislation) to the micro level (e.g., programs to deliver hearing care to individuals in a particular community) and everywhere in between (e.g., acquiring grant funding for Center mission areas, influential research publications, etc.). Common to all these accomplishments will be the foundational understanding that strategies and solutions that allow older adults with hearing loss to communicate and effectively engage with their environment are fundamental to optimize human health and aging.

FUNDING

The Cochlear Center for Hearing and Public Health is supported by NIH grants to Center faculty, a gift from Cochlear Ltd., other philanthropic funding, and infrastructural support and resources from the Johns Hopkins Bloomberg School of Public Health and the Johns Hopkins University School of Medicine.

Grants for which Cochlear Center for Hearing and Public Health core faculty are principal investigators:

02/01/19 – 01/31/23 Contribution of sensorimotor function to risk and pathogenic mechanisms of Alzheimer’s disease and related dementias NIA/NIH, R01AG061786; \$ 3,668,824 Co-PI: Frank Lin, Jennifer Schrack, Yuri Agrawal	09/01/19 – 08/31/21 Services Not Covered by Medicare: Unmet Beneficiary Needs and Potential Policy Reforms Commonwealth Fund, 20192345; \$362,353 PI: Amber Willink
02/01/19 – 07/30/19 Supplemental Benefit Availability and Uptake in Medicare Advantage The Commonwealth Fund; \$45,953 Co-PI: Amber Willink and Eva DuGoff	08/15/17 – 05/31/22 Role and mechanism of hearing impairment in cognitive decline and dementia NIA/NIH, K01AG054693; \$673,807 PI: Jennifer Deal
09/01/18 – 05/31/23 Hearing loss, brain aging, and speech-in-noise performance in the ACHIEVE study NIA/NIH, R01AG060502; \$3,165,191 PI: Frank Lin	06/01/17 – 05/31/22 Aging, Cognition, and Hearing Evaluation in Elders (ACHIEVE) Randomized Trial NIA/NIH, R01AG055426; \$15,426,522 Co-PI: Frank Lin and Josef Coresh
08/15/18 – 04/30/23 Accessible hearing care for reduction of disruptive behaviors and caregiver burden in dementia NIA/NIH; K23AG059900; \$991,505 PI: Carrie Nieman	12/01/15 – 11/30/20 Implementing a Community Health Worker Model of Providing Hearing Health Care Services to Older Adults NIDCD/NIH, R21/R33DC015062; \$2,494,615 PI: Frank Lin
08/01/18 – 07/31/20 Loan Repayment Program NIDCD/NIH; \$62,000 PI: Nicholas Reed	Administrative Supplement: Community-Delivered, Affordable, Accessible Hearing Care to Reduce Symptom Burden in Alzheimer’s Disease: Adaption of the HEARS Intervention NIA/NIH, R33 DC015062-03S1; \$404,580 PI: Frank Lin

Diversity Supplement: Extending Affordable, Accessible, Community-Delivered Hearing Care to Home Care
NIDCD/NIH , R33 DC015062-05S1; \$87,749
PI: Frank Lin

04/01/19 – 03/31/21 Measurement of Cognitive Function in Older Adults with Sensory Loss NCE to 03/31/22
NIA/NIH, R21AG060243; \$275,000
Co-PI: Jennifer Deal and Bonnielin Swenor

02/01/19 – 01/31/24 Sensorimotor predictors of preclinical AD
NIA/NIH, 1R01AG061786; \$2,279,600
MPI: Schrack, Agarwal, Lin

09/01/2019-02/28/2021
Services Not Covered by Medicare: Unmet Beneficiary Needs and Potential Policy Reforms
Commonwealth Fund, 20192345; \$362,353
PI: Amber Willink

12/01/20 – 11/30/21 Maximizing Inclusion of Researchers with Visual Impairments R13
NEI/NIH, 13 EY031927; \$50,000
PI: Bonnie Swenor

03/01/17 – 02/28/22 Vision Loss and Cognition: Testing the sensory loss consequence hypothesis
NIA/NIH, 1K01AG052640-01; \$672,260
PI: Bonnie Swenor

ONGOING PHILANTHROPIC SUPPORT

Cochlear Ltd.

A transformational \$10 million gift from Cochlear Ltd. to the Johns Hopkins Bloomberg School of Public Health provides funding for core Center infrastructure and personnel, research trainees, and faculty to carry out the mission areas of the Center.

Eleanor Schwartz Charitable Foundation

The Foundation provides annual support to Center faculty and trainees to carry out research and training related to hearing loss, public health, and aging.

Estate of Miriam Hardy

Miriam Hardy was a world-renowned speech pathologist and audiologist at Johns Hopkins who, with her husband, William Hardy, revolutionized the process of identifying and educating children with hearing and speech disorders. A gift from her estate continues to support research trainees interested in the interface of hearing and public health.

William and Judith Borten American Delirium Society Junior Investigator Award

Core faculty Esther Oh received the funding to establish the William and Judith Borten American Delirium Society Junior Investigator Award which will provide \$40,000 over 10 years (two \$2,000 awards per year).

Strategic Vision

Our Strategic Vision for the next 10 years focuses on what can be done now across five core areas – population health evidence, public awareness, care models, healthcare policy, and hearing technology – to address hearing loss in older adults at scale.

Our ability to hear and engage with others and the environment around us is foundational to healthy aging. And the widespread prevalence of hearing loss, which affects two-thirds of all adults 70 and older, is not going away. Preventive interventions, like reducing noise exposure, and research into future neurorestorative therapies, like gene therapies, are all needed but are in no way a panacea.

This Vision will inform decisions about growth, research directions, new opportunities we create or join, partnerships we seek or deepen, and where we invest time and funds.

POPULATION HEALTH EVIDENCE



AT PRESENT

Hearing is not routinely considered in epidemiological and health economic studies, and population health methods for hearing assessment and analysis are often flawed.

STRATEGIES AND INITIATIVES

Develop robust population health evidence on hearing loss through Center-led research and through facilitating routine inclusion of hearing into population health studies.

- ▶ The Cochlear Center is leading research and clinical trials like the ACHIEVE study, slated for completion in 2022.
- ▶ We are integrating hearing assessment & analytic protocols into large population health studies. By the end of 2021 the Center will have overseen 30,000 unique hearing tests.
- ▶ We launched the SENSE Network in 2020 with other researchers to support international sensory aging research efforts.

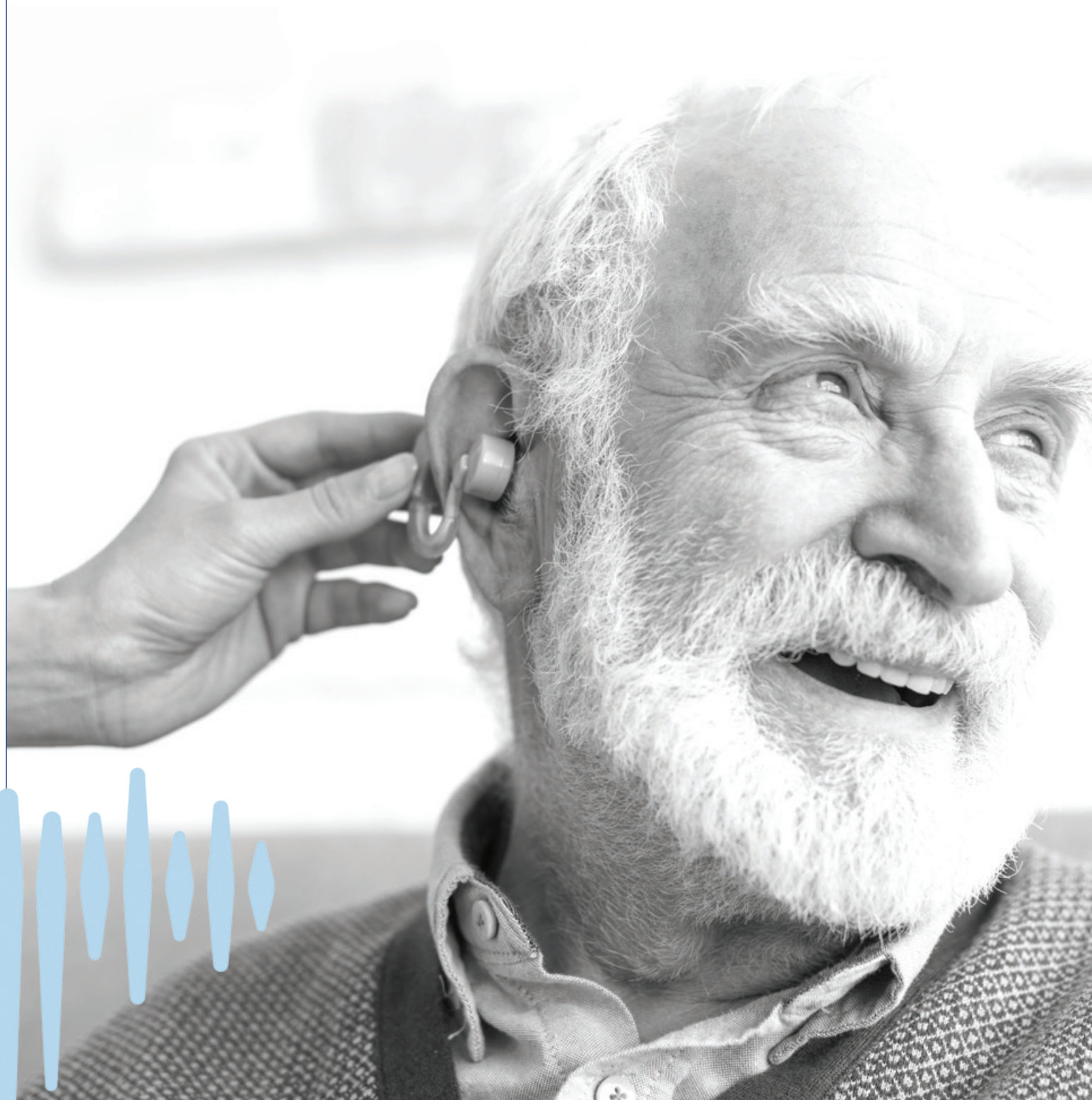
Brazilian Longitudinal
Study of Adult Health
(ELSA-Brasil)

LASI
DAD

IN THE FUTURE

Hearing is routinely considered in studies of older adults resulting in robust evidence. Established methodologies for hearing measurement and analysis are routinely used.

PUBLIC AWARENESS



AT PRESENT

There is poor awareness of what hearing loss is, what one's own hearing is, how to obtain care, and how to address hearing loss.

STRATEGIES AND INITIATIVES

Establish a common language and metric for understanding and discussing hearing loss.

We have engaged a communications partner to help us launch the first phase of a Know Your PTA public health campaign that establishes the pure tone average as an anchor point for describing hearing test results. A neutral, widely understood metric destigmatizes hearing loss and improves understanding of hearing loss as a public health issue, which supports our efforts to change policies around Medicare and insurance coverage of hearing care and hearing aids. Over time we will target:

- ▶ Audiologists/other clinicians, to embrace and push out the metric.
- ▶ Patients, to discuss their PTA with clinicians.
- ▶ Industry, to use this common metric to communicate clearly the functional improvement their products offer.

IN THE FUTURE

Everyone knows their PTA. General principles are known around what hearing loss is, how it can influence other issues in aging, and how to address it.

A black and white photograph of a healthcare worker, likely a nurse or doctor, wearing a white lab coat and a surgical mask. She is leaning over a patient, examining their ear with a small instrument. The patient's head is in the foreground, and the worker's hands are visible. The background is bright and out of focus.

CARE MODELS

AT PRESENT

The clinical model of in-person 1:1 care between patient and clinician is the dominant model. There are massive economic and racial disparities in access to and utilization of hearing care.

STRATEGIES AND INITIATIVES

Develop, test, and disseminate other models of care, particularly those focused on task sharing to expand workforce.

The Cochlear Center is leading two large studies to test different models of care:

➤ **HEARS model:** The HEARS program is a first-in-kind affordable, accessible hearing care intervention delivered by community health workers that is uniquely designed for older adults with hearing loss. HEARS incorporates education on age-related hearing loss, basic principles of aural rehabilitation, and the provision and step-by-step fitting of over-the-counter hearing technology. Data are being analyzed for publication in 2022.

➤ **ENHANCE model:** ENHANCE is designed to deliver a simple, scalable program that is compatible with healthcare workflow to identify and address hearing loss with amplifiers and communication strategies. The core principle of ENHANCE is that hearing loss and communication modifications that address patient-provider communication is required by the provider – it should not fall on the patient.

IN THE FUTURE

Diverse models of care at all levels of accessibility and affordability are available to consumers/patients depending on their preferences and needs.



HEALTHCARE POLICY

AT PRESENT

Healthcare policy is outdated with respect to the current understanding of importance of hearing to health and functioning of older adults, technology advances, role of services vs. devices in hearing care.

STRATEGIES AND INITIATIVES

Be a go-to resource for decision makers regarding hearing care and funding policy.

- We developed policy briefs that illustrate the gaps and opportunities in Medicare coverage of hearing care and hearing aids, and are in routine contact with policy makers and elected officials who are addressing Medicare reform.
- We will engage a policy communications partner that can identify/create opportunities to amplify the science-based evidence that supports the Medicare reforms that will make hearing care coverage available, and hearing aids more accessible and affordable.
- We actively engage influential national and international advisory bodies to address hearing loss, including the National Academies of Sciences, Engineering, and Medicine and the World Health Organization.

IN THE FUTURE

Insurance policies routinely cover hearing care and distinguish between the role of hearing care services versus technology. Healthcare policies and guidelines routinely account for importance of effective hearing to optimize health outcomes and promote patient autonomy.



HEARING TECHNOLOGY

AT PRESENT

There is a highly consolidated hearing aid market focused on high-margin segments. Hearing aids and hearing technologies are considered niche products.

STRATEGIES AND INITIATIVES

Champion hearing technologies that incorporate principles of universal design.

The Cochlear Center was instrumental in passage of the 2017 Over-the-Counter Hearing Aid Act. While the COVID-19 pandemic has delayed the FDA implementing a regulatory classification for over-the-counter hearing aids, we anticipate those being issued this year, which will dramatically alter access to and the cost of hearing technologies in this country.

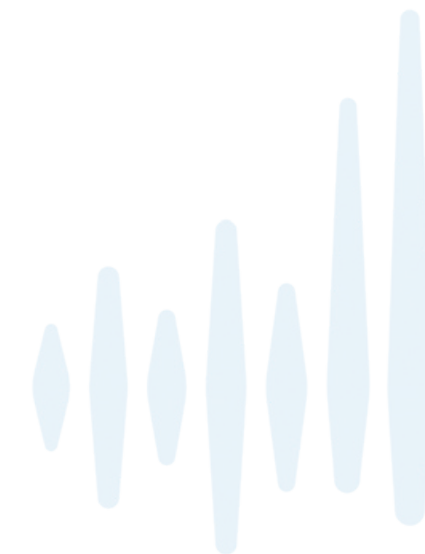
- Support market-shaping regulations around OTC hearing aids that can ensure safety and efficacy.
- Investigate the efficacy and effectiveness of hearing technologies incorporating universal design principles.
- Support development and implementation of Bluetooth LE audio standards for broadcast sound transmission.

IN THE FUTURE

Broad technology choices exist for hearing. Effective hearing is incorporated into all aspects of life through universal design of technologies.

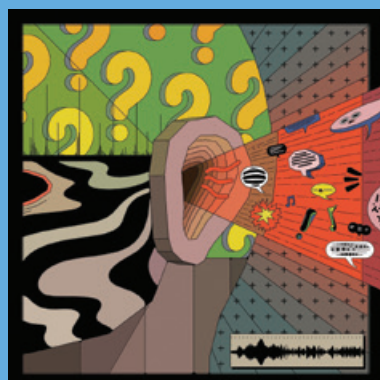
2020-2021

The Year In Review



FEBRUARY 2020

- Frank Lin describes his research in the New York Times - Can Hearing Aids Prevent Dementia?



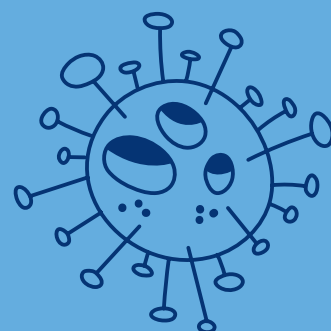
Illustrator: Ori Toor

MARCH 2020

- Jennifer Deal, Carrie Nieman, Jon Suen, Anna Jilla, and Danielle Powell attend Population Hearing Health Care (PopHHC) meeting at American Auditory Society in Scottsdale, AZ.



- The Covid pandemic spurs widespread closures in the U.S. and around the world. All Cochlear Center activities go remote.



APRIL 2020

- Jennifer Deal and trainee Danielle Powell lead four students in the Epidemiology of Sensory Loss course to contribute to a Wikipedia assignment. The JHSPH students added 7.23K words to Wikipedia, edited 10 articles, created 4 new entries, added 66 references, and received about 85.7K page views as part of a cohort of 409 courses whose 7464 students contributed 5.27M words to Wikipedia.

- Carrie Nieman awarded Johns Hopkins Alzheimer's Disease Resource Center for Minority Aging Research 2020-2021 Pilot Project Award.

MAY 2020

- Trainee Jon Suen was interviewed by The Hearing Journal on "Social isolation, loneliness, and hearing loss during COVID- 19."

- Amber Willink lent expertise to Reuters Health article: "Few Medicare Advantage plans cover social needs for chronically ill patients" and weighed in on "The Reality of Hearing Care in Nursing Homes" in The Hearing Journal.



Hearing THE Journal

JUNE 2020

- Frank Lin and Nicholas Reed selected as members of a National Academies of Medicine Consensus Study on evaluating hearing loss for individuals with cochlear implants.



AUGUST 2020

- Bonnielin Swenor, PhD, MPH joins the core faculty, bringing disability health expertise to Center research.



- National press coverage (Wired, HealthDay, Medscape, MedPage Today, US News) in response to *Annals of Internal Medicine* article "Connecting with Older Adults via Telemedicine" by Esther Oh and Carrie Nieman.

SEPTEMBER 2020

- We clarify our Strategic Vision for the next 10 years, outlining where hearing-related issues stand now, where we want to see them in the future, and the strategies and initial tactics that will get us there.
- The 2020-2021 Cochlear Center Seminar Series begins - remotely - with a webinar by Willa D. Brenowitz, PhD, MPH from the University of California San Francisco.

- SENSE Network founded by faculty Bonnie Swenor, Jennifer Deal, Frank Lin and other researchers as an international consortium that collaborates on research examining the role of sensory functioning on health and aging.



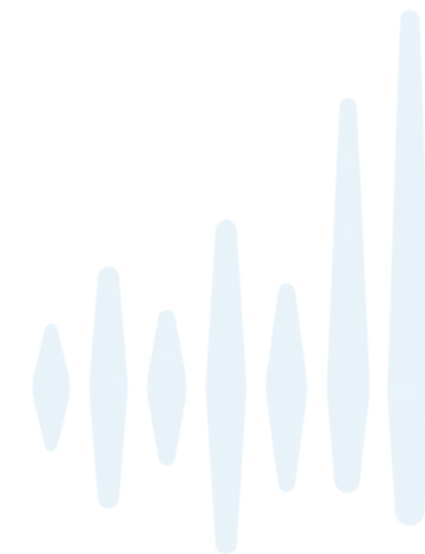
OCTOBER 2020

- Frank Lin authors "Hear & Now" for the Dana Institute's *Cerebrum* magazine.
- Baltimore HEARS, led by Carrie Nieman, named one of 21 winners of the National Academy of Medicine's Healthy Longevity Catalyst Awards — a component of the Healthy Longevity Global Competition.

- Access HEARS, a non-profit cofounded by Carrie Nieman and Frank Lin to deliver affordable and accessible hearing care, named a runner-up for the Johns Hopkins Urban Health.
- Bonnie Swenor and Nick Reed launch the podcast "Included: The Disability Equity Podcast" to share stories, data, and news that challenge stereotypes and expand views of disability.

2020-2021

The Year in Review



NOVEMBER 2020

- Center faculty and trainees present research, lead or participate in symposia, and give seminars about sensory loss at the Gerontological Society of America meeting.



DECEMBER 2020

- JAMA Otolaryngology Head Neck Surgery publishes Frank Lin and Nick Reed's editorial "The Pure-Tone Average as a Universal Metric—Knowing Your Hearing."
- Frank Lin contributes to "Hearing Aids Could Use Some Help" for Paula Span's column The New Old Age in *The New York Times*.



*The
New York
Times*

- The Cochlear Center publishes policy briefs and fact sheets on aging, hearing loss, and Medicare - concise, high-level summaries for Congressional budget analysts, Congressional policy staff, non-profit leadership and others.

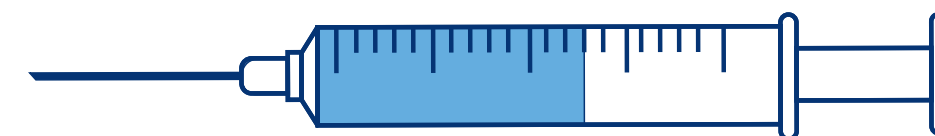
JANUARY 2021

- Frank Lin is interviewed about hearing aid deregulation on "Top of Mind With Julie Rose" for BYU Radio, and by Alison Biggar for "New Metric Could Help Reduce Stigma Around Hearing Loss" in *Generations* (American Society of Aging).



FEBRUARY 2021

- Center faculty Bonnielin Swenor and team launch the COVID-19 Vaccine Prioritization Dashboard to begin understanding how the disability community is prioritized in COVID-19 vaccine distribution and to help people with disabilities determine when they qualify for a COVID-19 vaccine in their state. The tool gains widespread media coverage.
- Nick Reed and trainees Danielle Powell and Jon Suen were panelists for ASHA professional panel titled "Audiology With An Emphasis on Public Health Applications."



MARCH 2021

- The World Health Organization publishes its first-ever World report on hearing - with significant contributions from Cochlear Center faculty and trainees.
- Cochlear Center Research Week!
- 48th Annual American Auditory Society Scientific and Technology meeting: faculty and trainees present posters or research talks; Center faculty Nick Reed recognized with the 2021 Early Career Research Award.
- Nick Reed serves as guest editor for the quarterly review journal *Seminars in Hearing*.
- Frank Lin invited as a workgroup member for the National Alzheimer's Project Act charged with evaluating and developing recommendations for risk reduction strategies for dementia.
- Trainee Jon Suen nominated and voted into executive council membership for the American Society of Geriatric Otolaryngology.

APRIL 2021

- Cochlear Center selects Hager Sharp as communications partner for the Center's first public health campaign, focused on establishing a common hearing metric.
- Nick Reed contributes to "Hearing Aids for the Masses" for Shira Ovide's ON TECH column in the *New York Times*.
- Bonnielin Swenor serves as a commissioner on the Lancet Global Health Report on Global Eye Health.
- Carrie Nieman interviewed by Public News Service for "COVID Masks Disrupt Connections for Hearing Loss Patients."



MAY 2021

- The Cochlear Center's first PhD students graduate, along with two MPH students!
- Trainee Danielle Powell interviewed in *Today's Geriatric Magazine*.
- Trainees Jon Suen and Danielle Powell interviewed by WedMD Connect to Care about "Signs Your Loved One May be Hearing Impaired."
- Nicholas Reed recognized with an Advising, Mentoring, Teaching Recognition Award by students at The Johns Hopkins Bloomberg School of Public Health.
- Bonnie Swenor spoke at the Biden-Harris COVID-19 Health Equity Taskforce about disability data gaps in the COVID-19 response.



JUNE 2021

- Inaugural roll out of the online version of the Fellows in Aging, Hearing, and Public Health Program with fellows previously selected for the cancelled 2020 Latin American Fellows program.
- Inaugural offering of the revamped CHAMPS 1-week summer research program, and the inaugural offering of 340.690.11 - Epidemiologic Approaches to Hearing Loss and Public Health.
- Esther Oh elected 2022-2023 President of the American Delirium Society, an organization dedicated to advancing research and improving care in delirium.
- Amber Willink interviewed by the *New York Times* about the lack of Medicare coverage for dental, vision, or hearing care in "On Medicare and Need Dental Work? Beware a Big Bill."
- Carrie Nieman among the research team that published the first international recommendations about sensory health in dementia.
- Nick Reed and Carrie Nieman interviewed for Bobbi Dempsey's *Washington Post* Perspective piece "My mom can't afford hearing aids. The pandemic reminded us why she needs them."

New Ventures

EXPANDING COLLABORATION WITH THE SENSE NETWORK

The SENSE Network, founded by Cochlear Center faculty Bonnie Swenor, Jennifer Deal and Frank Lin; Joshua Ehrlich at the University of Michigan; and Jay Pinto at University of Chicago, is a consortium of researchers that meets monthly to collaborate on research examining the role of sensory functioning - vision, hearing, olfaction, touch, and taste - on health and aging. Launched in September 2020, this international network will accelerate research in this area via new collaborations, create novel resources, including a sensory databank, and generate tangible scientific studies. Meetings have attracted attendance from 20 to 40 researchers monthly from all around the world.

Organizers aim for SENSE to be a diverse and inclusive network, and encourage researchers from all backgrounds and underrepresented groups, including researchers with disabilities, to participate in monthly meetings.

Speakers since the SENSE Network's inception include:

- September 2020, group discussion: Introductions, Overview, Mission
- October 2020, group discussion: GSA Interest Group Meeting
- November 2020, group discussion: Impact of COVID on People with Sensory Impairments
- January 2021, Amber Willink, PhD, "Sensory Loss: A Policy Perspective"
- February 2021, Heather E. Whitson, MD, MHS, "Of Sight and Mind: Brain Connectivity Patterns in People With and Without Age-Related Macular Degeneration."
- March 2021, Piers Dawes, PhD, "Ears, Eyes and Mind: The 'SENSE-Cog Project' to improve mental well-being for elderly Europeans with sensory impairment"
- April 2021, Shelly Chadha, PhD (World Report on Hearing) and Stuart Keel, PhD (World Report on Vision), Global Health - WHO Hearing & Vision Reports
- May 2021, Alden Gross, PhD, "Mode of Assessment Effects in Cognitive Performance"
- June 2021, D.P. Devanand, MD, PhD, "Intact olfaction predicts lack of transition to dementia"



CLARIFYING OUR STRATEGIC VISION

Detailed in a previous spread, we tackled the task of clarifying our strategic vision for the next 10 years, focusing on what can be done now across five core areas (population health evidence, public awareness, care models, healthcare policy, hearing technology) to address hearing loss in older adults at scale. This guidance outlines where hearing-related issues stand now and where we want to see them in the future, and the strategies and initial tactics give us a roadmap for how we will get there. This Vision will inform decisions about growth, research directions, new opportunities we create or join, partnerships we seek or deepen, and where we invest time and funds.

INITIATING THE "KNOW YOUR PTA" PUBLIC HEALTH CAMPAIGN

A major gap in discussing hearing is the lack of a consistent, conversational metric around hearing health. The Cochlear Center's "Know Your PTA" public health campaign would establish the four-frequency pure tone average, or PTA, as an anchor point for describing hearing test results, much in the way that visual acuity, blood glucose, total cholesterol, and blood pressure are commonly used health metrics that are familiar to both clinicians and the lay public. We shared our request for proposals with three select health communications agencies; after vetting proposals and meeting with each agency we selected DC-based Hager Sharp as our partner for this effort.

Why mount a public health campaign establishing the PTA as a hearing metric? Embracing a neutral metric for hearing is a step toward destigmatizing hearing loss. Framing the PTA in the context of how it can help improve function will make the knowledge actionable. And introducing an approachable, widely understood metric for hearing improves fluency in hearing loss as a public health issue which supports our efforts to change policies around Medicare and insurance coverage of hearing care and hearing aids.

A similar effort called "Hearing 2020," which targeted a consumer audience, was begun by Cochlear Ltd. in 2020. We are coordinating with Cochlear Ltd's US-based marketing team on ways to complement each other's efforts.



2018 photo



INCREASING OUR NATIONAL EFFORTS TO INFLUENCE HEARING CARE POLICY

Healthcare policy in the U.S. is outdated with respect to how it reflects the importance of hearing to the health and functioning of older adults, how it accounts for advances in hearing technology, and how it discerns between the roles of services vs. devices in hearing care. Ahead of what we expect to be a renewed federal government focus on healthcare in 2021 and in the context of anticipating new FDA regulations of over-the-counter hearing aids, we prepared high-level summaries for Congressional policy staff or others looking for concise summaries of hearing and policy topics that are often hard to find the best references or background for. We've shared these policy briefs with legislative directors and health policy advisors for Senators and Representatives; budget analysts at the Congressional Budget Office; the National Academies of Sciences, Engineering, and Medicine; veteran health, science, and policy journalists; and leadership at the Hearing Loss Association of America, AARP, the Center for Medicare Advocacy and others.

As well, we are initiating a search for a health policy communications agency partner who can help insert our trustworthy, science-based, public-health based voice into hearing care policy discussions. We aim to persuade influential national policy makers to include hearing treatments in proposed expansion of Medicare, with the goals, ultimately, of reaching the point that insurance policies distinguish between – and cover – hearing care services and hearing technology, and that healthcare policies and guidelines routinely account for the importance of effective hearing in optimizing health outcomes and promoting patient autonomy.

This policy work follows on previous efforts by Center faculty on the Over-The-Counter Hearing Aid Act, passed with bipartisan support as a rider to the Food and Drug Administration Reauthorization Act and signed into law in 2017. This law required the FDA to develop a separate regulatory classification and standards for over-the-counter hearing aids that are intended for adults with perceived mild-to-moderate hearing losses. We also played a role in the language of the Medicare Hearing Act of 2019 (H.R. 4618) which was later incorporated into the broader Elijah Cummings Lower Drug Costs Now Act (H.R. 3) and passed by the House of Representatives in December 2019. While that bill did not advance to the Senate, it is being actively considered again by Congress for the FY2022 budget.

LAUNCHING “INCLUDED: THE DISABILITY EQUITY PODCAST”

Cochlear Center Core faculty members Bonnielin Swenor and Nicholas Reed created and launched “Included: The Disability Equity Podcast” to share stories, data, and news that challenge stereotypes and expand views of disability. Weekly episodes of “Included” look at disability issues, like voting and healthcare, from personal, advocacy, and research perspectives. A sampling of topics covered on “Included” include: disability in higher education, in medicine, and in policy; disability identity; the economic cost of ableism and racism; and bioethics and disability. You can find Included: The Disability Equity Podcast on Amazon, Apple, Spotify, or wherever you download your favorite podcasts.



STAY IN TOUCH!

Stay current with Cochlear Center initiatives, research, and events with our newsletter (new in 2020!) and on Twitter. Join our newsletter list by emailing JHSPHCochlearCenter@jh.edu, and follow us on Twitter [@JHSPH_Hearing](https://twitter.com/JHSPH_Hearing).



Research Areas

OVERVIEW

Effective hearing and communication are critical for optimizing the health and functioning of older adults. However, hearing is rarely the focus of public health research and interventions. The Cochlear Center for Hearing and Public Health aims to change this paradigm not only through research to better understand how hearing problems affect health, but by identifying and implementing viable and scalable solutions. The broad research underway at the Center includes understanding the impact of hearing loss in older adults on public health; developing and testing strategies to mitigate these effects; and helping to implement policies at the local, national, and global levels to address hearing loss. This work spans diverse fields including otolaryngology, audiology, epidemiology, health economics, neuropsychology, cognitive neuroscience, and biostatistics.

COGNITION AND BRAIN AGING

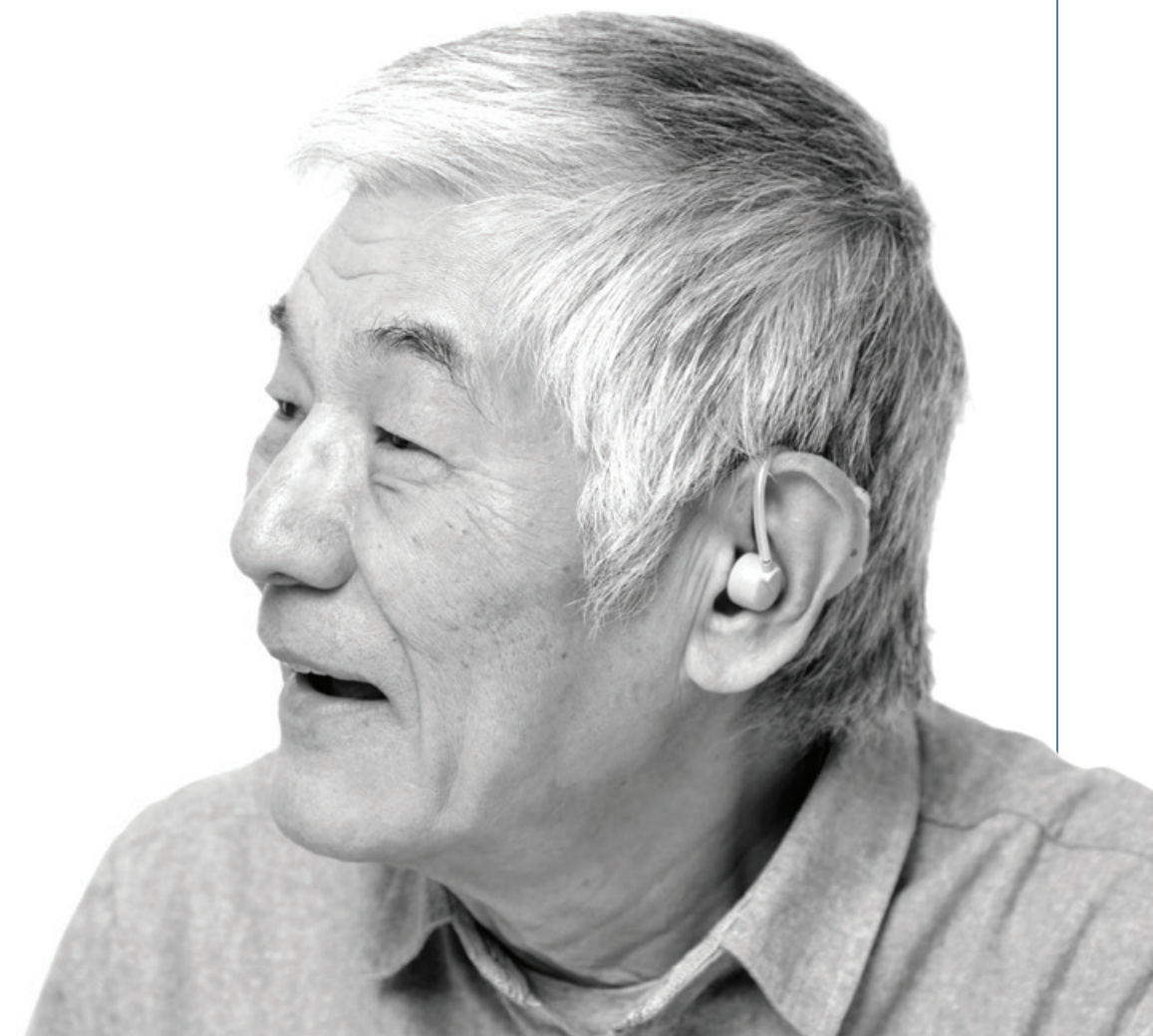
Epidemiologic research since 2010 led by Center faculty has established the contribution of hearing loss to the risk of cognitive decline and dementia in older adults. Reports from the Lancet Commission in 2017 and 2020 identified hearing loss as the dominant risk factor for dementia that was based on three landmark studies, two of which were authored by faculty at the Cochlear Center. This epidemiologic research has led to the Aging and Cognitive Health Evaluation in Elders (ACHIEVE) study which is an ongoing, large-scale randomized controlled trial. This first-in-kind trial led by Center faculty is designed to definitively determine if treating hearing loss in older adults reduces the risk of cognitive decline and dementia. This study is sponsored by the National Institute on Aging (Clinicaltrials.gov Identifier: NCT03243422). The original study recruitment target of N=850 was reached on schedule in July 2019, but additional NIA funding for an extension of enrollment until October 2019 resulted in a final sample size of 977 participants. Final study results are anticipated in 2023.

- Research by Center faculty, including Jennifer Deal and Frank Lin, is actively focused on the mechanism underlying the relationship between hearing, cognition, and brain aging in population-based studies.
- Ongoing work includes investigating the relationship of hearing to Alzheimer's disease biomarkers and how hearing may affect brain structure and networks, as measured through structural and functional brain magnetic resonance imaging (MRI).

HEALTH ECONOMIC OUTCOMES

Hearing loss has both direct and indirect economic implications for individuals and society. The cost of hearing aids is well documented as a substantial barrier to accessing the devices among older Americans. Cochlear Center Director Frank Lin was instrumental in the passage of the Over-the-Counter Hearing Aid Act of 2017 to make hearing aids more accessible and affordable, and these regulations should be disseminated by the FDA in 2021. At present, hearing aids can typically be purchased by consumers only when bundled together with associated professional services, which may or may not be needed. Center research, led by Amber Willink, highlighted how many Medicare beneficiaries are now enrolling in Medicare Advantage plans with hearing aid benefits. Another recent publication from the group has shown how out-of-pocket costs for hearing aids remain very high for people in these plans. Center faculty involved in these health economic studies are working closely with policy makers to design a hearing aid benefit that would improve access to hearing treatment under Medicare, while also optimizing the benefits of the Over-the-Counter Hearing Aid Act. This research laid the foundation of the hearing aid benefit (Medicare Hearing Act of 2019) which was later incorporated into the Elijah E. Cummings Lower Drug Costs Now Act (H.R.3) that was passed by the House of Representatives.

- In 2021, the activities of the health economics outcomes workgroup will continue to explore hearing health services, the health economic consequences of hearing loss and opportunities for better care.
- There is also great policy interest in examining different models of coverage for hearing care services and their effectiveness in providing care at both the federal (Medicare Advantage) and state level.



EPIDEMIOLOGY OF HEARING LOSS

Epidemiologic research led by members of the Center has highlighted the substantial impact of hearing loss in society. Center researchers and trainees are continuing to investigate the prevalence of hearing loss and the impact that hearing loss has on functional domains, such as loneliness and physical functioning, using epidemiologic datasets. To support and enrich hearing research in the greater scientific community, the Cochlear Center implements and manages high-quality audiometric data collection in several large epidemiologic studies. The Center has overseen data collection in the Baltimore Longitudinal Study on Aging (n~375) and the Atherosclerosis Risk in Communities Study (ARIC) (n=3626). In addition, Nicholas Reed has led the protocol development and technician training in the National Health and Aging Trends Study (n~15000), the Baltimore Epidemiologic Catchment Area Study (n~1070), the BIOCARD study (n~222), and the Longitudinal Aging Study in India Diagnostic Assessment of Dementia (~4500). By the end of 2021 the Center will have overseen 30,000 unique hearing tests. Ongoing efforts over the past year by Nicholas Reed have led to pilots to explore similar integration of hearing measures in the Women’s Health Initiative and National Longitudinal Study of Adolescent to Adult Health cohorts. Through these efforts, high quality clinical auditory information will be linked to health data, including claims data, employment, neurological, cardiovascular, psychosocial, physical and lifestyle measures.

- Ongoing work led by Jennifer Deal is investigating the modifiable vascular contributors to hearing loss in older adults.
- A new line of work by Cochlear Center health economist Emmanuel Garcia is exploring the impact of hearing loss on key economic outcomes.
- Jennifer Deal, Nicholas Reed, and Frank Lin continued to mentor several trainees in epidemiological analyses of hearing with cognitive, physical, and social functioning outcomes using data from ARIC.

HEARING LOSS AND HEALTH CARE

The National Academies of Sciences, Engineering, and Medicine recognize optimal patient-provider communication as a key to improving health care outcomes. Despite the impact of hearing loss on communication, hearing is rarely addressed in the context of patient-provider communication. Patient-provider communication has been associated with improved patient satisfaction, treatment adherence, and other health outcomes. Center researchers Nicholas Reed, Amber Willink, and Esther Oh oversee work to understand the impact of hearing loss on key health care utilization outcomes and lead initiatives to address hearing loss as a barrier to communication in health care settings via screening and intervention programs embodied in the ENHANCE intervention. These include universal screening of adults admitted to the hospital and the provision of amplification and/or use of communication strategies among hospital providers.

- Nicholas Reed and Esther Oh are leading a pragmatic trial of Johns Hopkins patients to better understand the association of hearing loss on delirium in the hospital and whether addressing hearing loss via the ENHANCE program mitigates the prevalence of delirium.
- Nicholas Reed and Amber Willink are continuing their efforts to explore hearing loss and patient-centered health care outcomes, such as satisfaction and perception of care, through planned analyses in the Medicare Current Beneficiary Survey, National Health and Aging Trends Study, and Health and Retirement Study. Their work was recently featured in Health Affairs in a spotlight article on age-friendly health care systems.

COMMUNITY-BASED SOLUTIONS TO HEARING CARE PROVISION

The established model of hearing health care delivery in the U.S. and much of the world is based on clinic-based audiologic and hearing needs assessment, rehabilitative counseling, and education, and sensory management with the provision of amplification and other assistive devices. This model of care is associated with improvements in communication and overall domain-specific quality of life, but these services are beyond the resources of many older adults. Center researchers, led by Carrie Nieman, are committed to incorporating public health practices in order to develop new models for the delivery of hearing care and provide access to all older adults. One model is through the HEARS program which incorporates over-the-counter hearing technologies as well as key principles in designing materials and technology that are accessible to all older adults, regardless of education, literacy level, or cognitive status. Much of this work is done in partnership with the Center for Social Design, led by associate faculty Mike Weikert at the Maryland Institute College of Art.

- An NIH-funded randomized trial of the efficacy of the HEARS intervention in improving self-reported communication function is ongoing in Baltimore. Enrollment in the trial closed in October 2019 with 151 participants randomized and follow-up is ongoing. Results of the clinical trial will be available in 2021-2022.
- Access HEARS, a non-profit co-founded by Carrie Nieman, is continuing to provide community-based hearing care services throughout Baltimore and the region with funding from AARP Foundation and other philanthropic partners. Beginning in 2020, Access HEARS, in partnership with HASA and the Baltimore City Health Department Division of Aging, established a first-in-the-nation Hearing Health Collaborative. The Collaborative is led by a Hearing Health Navigator who is embedded within the Health Department and works to connect older adults with needed hearing services and support while building capacity around hearing health within the local Area Agency on Aging.

- HEARS was named among the 2020 winners of the National Academy of Medicine’s Healthy Longevity Catalyst Awards — a component of the Healthy Longevity Global Competition, a multiyear, multimillion-dollar international competition seeking breakthrough innovations to improve physical, mental, and social well-being for people as they age. As well, the study was named a runner-up for the Johns Hopkins Urban Health Institute’s Henrietta Lacks Award, given annually to organizations and initiatives which prioritize health equity in Baltimore.



INVESTIGATING OVER-THE-COUNTER HEARING TECHNOLOGIES

Gold-standard hearing rehabilitative care typically comprises one-on-one sessions with an audiologist for an auditory needs assessment, fitting and programming of hearing aids and related technologies, and educational counseling and rehabilitation. While this model is the gold standard, not all individuals, particularly adults with milder forms of hearing loss, may require or desire this level of care. At present, however, hearing aids in the U.S. and most countries in the world remain medically regulated devices that can only be dispensed or sold through a licensed provider. However, by 2020-21, FDA-regulated hearing aids that meet explicit performance and safety criteria for mild to moderate hearing loss will be available to the public as over-the-counter products. Nicholas Reed, Joshua Betz, and Peggy Korczak are currently focused on investigating over-the-counter technologies and how to integrate them into hearing care. Their research has focused on comparative effectiveness of technologies, the ability of consumers to adjust devices, and approaches to servicing over-the-counter technology in audiology clinics.

- The Cochlear Center team oversaw the development and execution of an industry-sponsored Food and Drug Administration trial of an investigative self-fitting, direct-to-consumer hearing aid.
- New efforts by Nicholas Reed, Joshua Betz, and Laura Sherry are examining the comparative effectiveness of various self-testing software vital to a robust over-the-counter hearing aid market.
- Peggy Korczak and Nicholas Reed are currently mentoring a Towson University audiology doctoral student conducting thesis research on attitudes towards over-the-counter hearing care among audiologists to better understand steps needed to integrate over-the-counter devices into future clinical practice.



AUDIOLOGY CORE

The Cochlear Center Audiology Core, led by Nicholas Reed, supports Center work that spans any aspect of audiology including hearing measurement, hearing device use, and hearing care. The primary responsibility of the Audiology Core is leading the integration of hearing measures into large epidemiologic cohort studies around the globe. This includes the development of customized protocols, staff training, study support and ongoing quality assurance. To date, the Audiology Core has integrated measures into the Baltimore Longitudinal Study of Aging, the BIOCARD Study, the Epidemiologic Catchment Area Study, the Atherosclerosis Risk in Communities Study, the National Health Aging and Trends Study, the Women's Health Initiative Study, the National Longitudinal Study of Adolescent to Adult Health, the Brazilian Longitudinal Study of Adult Health, and the Longitudinal Aging Study in India. By the end of 2021, we anticipate that the Center will be directly responsible for hearing measures in over 30000 individuals across research studies with longitudinal measures on approximately 5000 individuals. Secondly, the Audiology Core maintains a database of measures on over-the-counter hearing devices and consults with Cochlear Center trainees and faculty on understanding various hearing measures.

ANALYTICS CORE

The Cochlear Center Analytics Core, led by Joshua Betz, brings together expertise from epidemiology (Jennifer Deal), biostatistics (Josh Betz), economics (Emmanuel Garcia Morales), and data management (Tara Thallmayer) to provide data expertise to Center faculty and trainees. Core members support new and ongoing projects across the research lifecycle, including study design considerations and grant preparations; monitoring ongoing data collection; creation of high-quality analytic data and accompanying documentation; data visualization and analysis; and effectively communicating quantitative results. For trainee-led analyses, the Analytic Core provides support and oversight for data management and analysis done as part of thesis and capstone projects, both to supplement didactic training and ensure quality of results. The analytic core also provides a didactic clinic, where trainees can bring questions about various aspects of quantitative research. In addition to serving the Cochlear Center, the Analytic Core will also focus on a broader didactic mission to promote best practices in quantitative research to visiting students and faculty as well as the broader research community.



Training

TRAINING OPPORTUNITIES

At the Johns Hopkins Cochlear Center for Hearing and Public Health, we are training a generation of clinicians and researchers to study the impact that hearing loss in older adults has on public health and to develop and implement public health strategies and solutions for hearing loss. The Cochlear Center's trainees are graduate students, audiologists, physicians, and medical students drawn from around the world who work with Cochlear Center mentors on research that illuminates the connections between sensory loss and healthy aging.

The Cochlear Center provides research fellowships for pre- and post-doctoral trainees, as well as several funded training programs open to students enrolled in the Johns Hopkins Bloomberg School of Public Health, and to students and faculty from other academic institutions.

Fellowships for postdoctoral trainees, visiting pre-doctoral students and visiting faculty from other academic institutions can range from 1 month to 2 years. Fellows work with Cochlear Center faculty on research projects related to the Center's mission.

BY THE NUMBERS

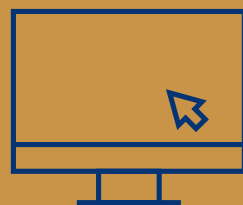
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Trainees



22

Presentations
made



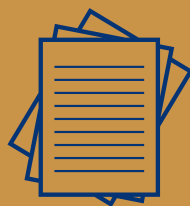
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Papers published by
Trainees in Cochlear
Center mission areas



15

Upcoming/close to submission
papers by Trainees in Cochlear
Center mission areas



SCHOLARS IN HEARING AND AGING RESEARCH PROGRAM - SHARP

About

The Scholars in Hearing and Aging Research Program (SHARP) is designed for individuals who are enrolled in a Master's or doctoral degree program (for example, MPH, MHS, PhD) at the Johns Hopkins Bloomberg School of Public Health and are interested in aging, hearing, and public health. SHARP trainees are assigned an academic and research mentor at the Cochlear Center and take part in all Center training activities.

Who

Individuals enrolled in a JHSPH Master's or doctoral degree program with a strong interest in aging, hearing, and public health.



THE FELLOWS PROGRAM IN AGING, HEARING, AND PUBLIC HEALTH

About

The Fellows Program in Aging, Hearing, and Public Health is designed to provide an overview of public health concepts, methods, and strategies to assist clinicians and researchers in different regions of the world who are pursuing public health research and projects focused on addressing hearing loss in older adults. The one-week program is held once per year, and each year’s program is targeted to a specific world region. Typically, accepted applicants come to Baltimore for a week of in-depth, didactic training and mentoring.

The pandemic forced us to postpone hosting the Latin American fellows in 2020 and challenged us to reconsider how we offer our international training programs in the future. Over the last year, we collaborated with the Johns Hopkins Center for Teaching & Learning to organize our Fellows Program into a new format. This international training program offers a blended classroom pedagogy of asynchronous online lectures and synchronous “in-person” discussions facilitated by Cochlear Center faculty.

We initially plan to reengage with the Latin American Summer Fellows who were accepted for the 2020 program, but this modified, virtual approach also allows us to continue our international training work regardless of ongoing or future travel restrictions, and its inherent efficiencies make it scalable to a larger number of clinicians.

Who

Established clinicians and researchers in different regions of the world who are interested in an intensive survey program of public health concepts and methodologies related to hearing loss in older adults.

The Latin American Fellows slated for participation in the updated 2021 program hail from Argentina, Brazil, Chile, and Mexico and include:

Patricia Abramides, MD, PhD, San Paulo University, Brazil	Tatiane Campos, MD, PhD, Hospital das Clinicas, School of Medicine Brazil	Patricia Mano, Hospital Federal dos Servidores do Estado, Brazil	Tatiana Sadowski, AuD, Clinical Hospital of Medicine School of USP, Brazil
Raquel Agostinho, AuD, PhD, University of Sao Paulo, Brazil	Sirley Carvalho, PhD, Speech, Language and Audiology Department, UFMG, Brazil	Fernanda Yasmin Miguel Padilha, AuD, University of Sao Paulo, Brazil	Alessandra Samelli, PhD, University of Sao Paulo, Brazil
Katia Alvarenga, AuD, PhD, Universidade de Sao Paulo, Brazil	Bárbara Niegia de Goulart, PhD, Universidade Federal do Rio Grande do Sul, UFRGS Brazil	Matias Parreno, MD, PhD, Hospital de Buenos Aires, Argentina	Livia Santiago, SLP, Federal University of Rio de Janeiro, Brazil
Roberto Beck, PhD, University of Sao Paulo School of Medicine, Brazil	Carolina Delgado, MD, MSc, University of Chile, Chile	Luciana Resende, PhD, AuD, Universidade Federal de Minas Gerais (UFMG), Brazil	Tyuana Sassi, AuD, Universidade de Sao Paulo, Brazil
Wanderleia Blasca, AuD, PhD, University of Sao Paulo, Brazil	Denise Goncalves, MD, PhD, Clinical Hospital, Federal University of Minas Gerais (UFMG), Brazil	Janaina Rodrigues, PhD, Federal University of Sao Paulo, Brazil	Natalia Tamblay Narvaez, MD, PhD, Life Cycle Department, Ministry of Health of Chile, Chile
Byanka Buzo Cagnacci, PhD, Cochlear Latino America, Brazil	Lilian Cassia Jacob Corteletti, AuD, PhD, Universidade de Sao Paulo, Brazil		Mariela Torrente, MD, Hospital Clinico Universidad de Chile, Chile

COCHLEAR CENTER HEARING & AGING MENTORING PROGRAM (CHAMPS)

About

The CHAMPS program is an intensive, multidisciplinary, summer program designed for pre-doctoral audiology, medical, or public health doctoral students to gain a foundation in concepts and methods that will lead to research careers addressing hearing loss, aging, and public health.

In response to pandemic travel restrictions CHAMPS was postponed in 2020 and reconfigured from a four-week program to a one-week virtual program. Students will begin the June 2021 program with a one-day intensive summer course, Epidemiologic Approaches to Hearing Loss and Public Health (340.690.11), which includes didactic lectures covering epidemiology, biostatistics, clinical trials, gerontology, and intervention concepts in hearing loss. The rest of the week-long program will include additional didactic lectures, seminars, and journal clubs with Cochlear Center faculty. During the entirety of the program, students will work in cross-disciplinary teams under the mentorship of Cochlear Center faculty to produce a final research project.

Who

Pre-doctoral audiology, medical, or public health PhD students, typically after the 1st, 2nd, or 3rd year of graduate school. Early career clinicians still in clinical training (for example, medical/surgical residents) are also eligible. If selected as a CHAMP, students receive complimentary tuition for required didactic coursework and there is no cost to participate.

The CHAMPS participants slated to join the updated 2021 program include:

Teresa Anthony, MA, CCC-SLP, University of South Florida	Natalie Lenzen, AuD, CCC-A, FAAA, Boys Town National Research Hospital
Sahar Assi, American University of Beirut, Lebanon	Marjan Majid, Rice University



OTHER OPPORTUNITIES:
COURSES, SEMINARS, AND JOURNAL CLUBS

Courses

Cochlear Center faculty offer two didactic courses each academic year through the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health.

340.699.01 Epidemiology of Sensory Loss in Aging is a 3-credit course offered from January to March. This course introduces the biologic, epidemiologic, and clinical aspects of aging-related declines in the auditory, visual, and vestibular systems, demonstrates methods of assessment of sensory function for epidemiologic studies, and reviews current epidemiologic knowledge of sensory function and aging-related outcomes in older adults, including the epidemiology and consequences of dual sensory loss.

340.699.11 Epidemiologic Approaches to Hearing Loss and Public Health is typically a 1-week intensive course offered in June as part of the Graduate Summer Institute of Epidemiology and Biostatistics in Baltimore, Maryland, compressed to one day in 2021. This course is a subset of 340.699.01 focusing only on hearing and may be taken for academic credit or for non-credit/professional development.

Seminars

The Cochlear Center offers monthly seminars highlighting research related to the Cochlear Center’s core mission. In September 2020 we resumed the series as Zoom webinars, and hosted speakers from Johns Hopkins University and other academic and professional institutions who share expertise on a variety of topics around hearing, aging, and public health including social isolation, consumer hearing technologies, task sharing for hearing care, delirium, and dementia.

Journal Clubs/Research-In-Progress meetings

To provide an opportunity for students to engage with Center faculty, fellow students, and postdoctoral fellows, Cochlear Center student trainees lead monthly discussions of a peer-reviewed published article, or present ongoing research. Journal clubs/research-in-progress meetings are open to all Johns Hopkins students and faculty, and Cochlear Center trainees.

POSTDOCTORAL TRAINEE



Anna Marie Jilla, AuD, PhD

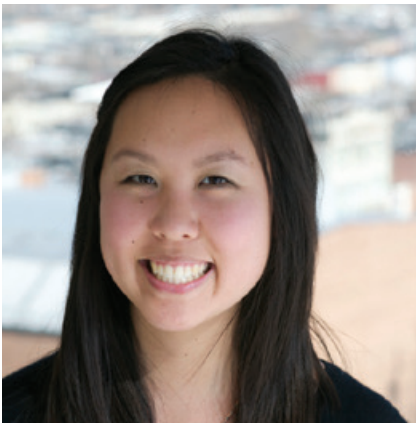
Anna Marie Jilla, AuD, PhD, is a clinical and research audiologist at the University of Texas Health Science Center at Houston. Her clinical interests are in adult management of hearing and vestibular disorders. Her research interests include applications of health economics for improving hearing health care accessibility and shaping health policy for adults with hearing impairment. She currently serves as the Chair of the American Academy of Audiology’s Coding and Reimbursement Committee.

DOCTORAL STUDENTS



Pablo Martinez Amezcua, MD, PhD

Pablo Martinez Amezcua, MD, PhD received his medical degree from the National Autonomous University of Mexico, and his PhD in 2021 from the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health. Martinez Amezcua is a postdoctoral research scientist in the Department of Medicine, Division of General Medicine at the Columbia University Irving Medical Center in New York City. He is interested in studying social determinants of health, physical activity and prevention of diseases associated with age, including hearing loss, cardiovascular disease, and physical and cognitive decline.



Alison Huang, MPH

Alison Huang, MPH, is a PhD student in the Department of Mental Health. She studies the associations between concurrent hearing and vision impairment, social isolation, and dementia. Prior to coming to John Hopkins University, Huang worked for several years at a social behavioral firm studying early life risk factors for dementia in later life. She currently holds an MPH and a Certificate in Survey Methodology. Huang is co-advised by George Rebok, PhD, and Jennifer Deal, PhD.

DOCTORAL STUDENTS, CONT.



Perry Kuo

Perry Kuo is a physician from Taiwan and currently a visiting fellow with Luigi Ferrucci, MD, PhD in the Longitudinal Studies Section, Translational Gerontology Branch at the National Institute on Aging after completing his PhD training in Epidemiology at the Johns Hopkins Bloomberg School of Public Health. In addition to uncovering the mechanisms of aging, his research interests include investigating potential modifiable risk factors for age-related hearing loss, evaluating the effect of hearing loss on physical activity and physical functions, and assessing the impact of hearing aids on physical activities and physical fuctions.



Danielle Powell, AuD, PhD

Danielle Powell, AuD, PhD, completed her PhD from Johns Hopkins Bloomberg School of Public Health’s Department of Epidemiology in April 2021 with her dissertation on “Hearing Loss and Late-life Mental Health,” mentored by Cochlear Center director Frank Lin, MD, PhD and core faculty Jennifer Deal, PhD. She received her AuD in 2013 from the University of North Carolina - Chapel Hill. Powell will continue at the Bloomberg School as a post-doctoral T32 fellow within the Department of Health Policy and Management at the Johns Hopkins University, mentored by Jennifer Wolff, PhD and core faculty Esther Oh, MD, PhD, with research interests in hearing loss and communication on health services and outcomes research, dementia, and caregiving.



Jonathan J. Suen, AuD

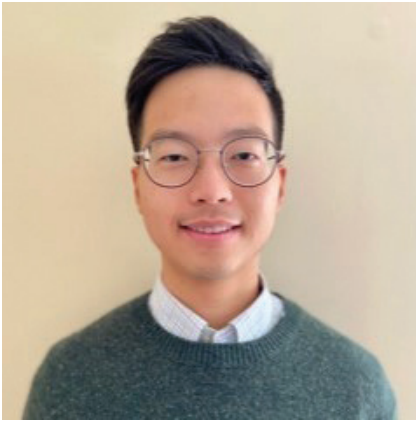
Jonathan J. Suen, AuD is currently a PhD candidate at the Johns Hopkins University School of Nursing where his research examines the relationship between hearing loss and loneliness in older adults through a mixed methods design. Following his clinical studies in audiology at Gallaudet University, Suen completed a postdoctoral fellowship with Frank Lin, MD, PhD where he developed a novel community-based delivery model of hearing care through innovative academic-community partnerships. Through his activities at the School of Nursing’s Center for Innovative Care in Aging, he fostered an interest in healthy aging, health equity, and behavioral interventions. Suen is currently co-advised by Jennifer Wenzel, PhD, MS, RN at the School of Nursing and Frank Lin, MD, PhD at the Cochlear Center for his PhD training.

MASTER OF PUBLIC HEALTH STUDENTS



Lama Assi, MD

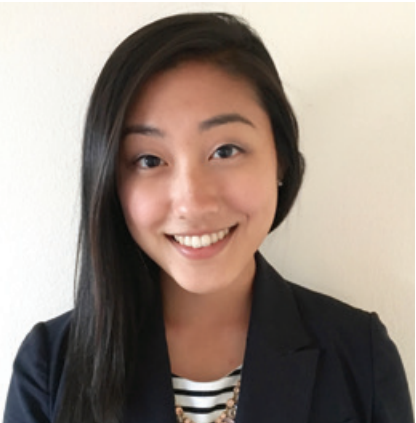
Lama Assi, MD completed her MPH studies at the Johns Hopkins Bloomberg School of Public Health as a trainee at the Cochlear Center for Hearing and Public Health, where she worked on projects related to sensory loss and health care utilization under the mentorship of core faculty Nicholas Reed, AuD. Prior to joining the Center, she received her medical degree from the American University of Beirut in Lebanon and completed a postdoctoral research fellowship with core faculty Bonnielin Swenor, PhD, MPH at the Dana Center for Preventive Ophthalmology, Wilmer Eye Institute. Assi will now complete her ophthalmology residency training at LSU New Orleans and hopes to later combine her clinical and research interests by working on improving access to care for older adults with sensory loss.



John Shin

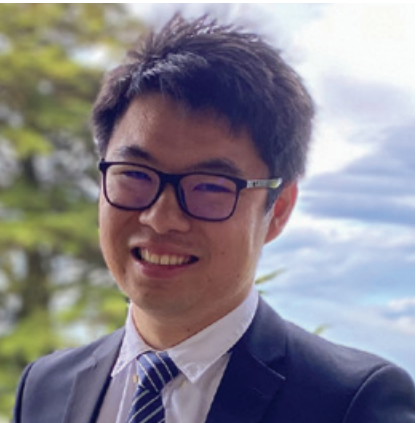
John Shin is a SHARP fellow at the Johns Hopkins Cochlear Center for Hearing and Public Health. Before arriving at the Center, Shin spent two years at the National Institute on Aging as a post-baccalaureate Intramural Research Training Award Fellow in Susan Resnick’s lab. Working with his mentor, Murat Bilgel, PhD he implemented a retrospective study design looking at the associations between amyloids, brain atrophy, and cognition in the Baltimore Longitudinal Study of Aging. Shin received his Bachelor of Science degree in neuroscience from Johns Hopkins University in 2018, and in May 2021 completed a Master of Public Health degree with a concentration in epidemiological and biostatistical methods for public health and clinical research at the Johns Hopkins Bloomberg School of Public Health.

MEDICAL STUDENTS



Julie Yi

Julie Yi is a 4th year medical student at Johns Hopkins University School of Medicine. She was a trainee at the Johns Hopkins Cochlear Center for Hearing and Public Health during the 2020-2021 academic year and worked with core faculty Carrie Nieman, MD, MPH on projects related to hearing health care among minority populations. Yi plans on applying for residency positions in Neurology.



Harry Wu

Harry Wu is a final year medical student at the University of Otago in New Zealand. He was a short-term visiting trainee at the Johns Hopkins Cochlear Center for Hearing and Public Health during the 2020-2021 academic year and worked with center director Frank Lin, MD, PhD. His manuscript describing temporal trends in the increasing prevalence of hearing aid use in the U.S. was accepted at JAMA-Otolaryngology. Harry is now completing his medical training in New Zealand and plans to pursue a residency in otolaryngology.

UNDERGRADUATE STUDENTS



Ethan Wang

Ethan Wang is an undergraduate sophomore majoring in Public Health at Johns Hopkins University. With the Woodrow Wilson Fellowship, he is currently working with his mentor Jennifer Deal, PhD, on studying the association between dual sensory impairment and depressive symptoms and anxiety in older adults in India from the Harmonized Diagnostic Assessment of Dementia for the Longitudinal Aging Study in India.

Events

COCHLEAR CENTER RESEARCH WEEK, MARCH 23-26 & 29, 2021

With travel out of the question and Zoom fatigue a reality, we devised a lightning-fast, intensive, and engaging format to share our research, and replaced our annual in-person Cochlear Center Research Day with Cochlear Center Research Week. We promoted Research Week on Twitter using hashtag #JHSPH_Hearing2021, and used that platform along with a “better poster” model from user experience designer Mike Morrison (@mikemorrison), to create a “Tweet storm” highlighting additional research that we couldn’t include in the daily presentations. We hosted 71 unique attendees during the week’s presentations.

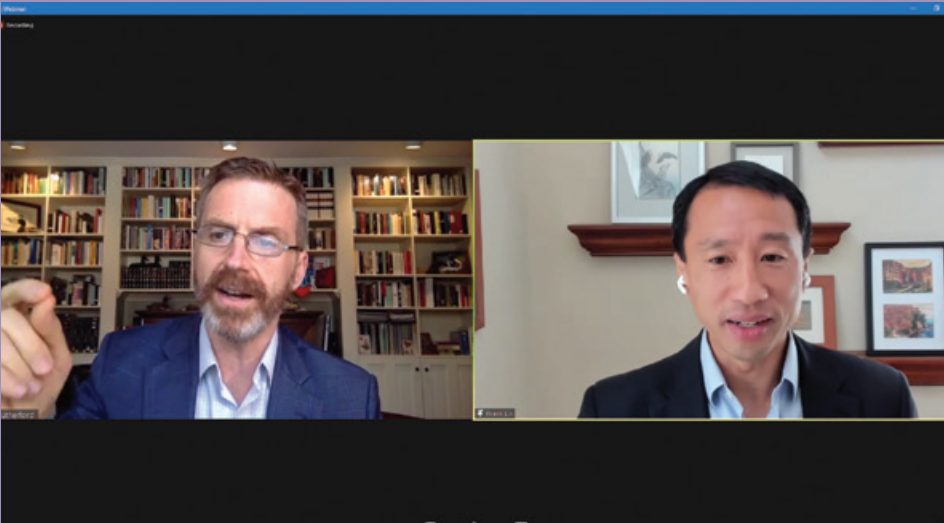
During Research Week, we offered daily, tightly coordinated, 30-minute, midday virtual presentations from Cochlear Center Core Faculty and poster sessions by trainees addressing various aspects of our research work. Research Week culminated with a keynote webinar address by Bret Rutherford, MD, of the Columbia University Vagelos College of Physicians and Surgeons and New York State Psychiatric Institute. Rutherford shared his lecture “Addressing Hearing Loss to Improve Mood Disorders and Neurocognitive Health in Later Life” with 73 participants.

Research Week “Lightning Rounds,” Noon - 12:30 pm:

- Tuesday, March 23: Jennifer Deal, PhD, “Hearing Loss and the Aging Brain”
- Wednesday, March 24: Carrie Nieman, MD, MPH, “HEARS: An RCT of Community-Delivered Hearing Care for Older Adults”
- Thursday, March 25: Nicholas Reed, AuD, “Hearing Loss and Preventable Hospitalization”
- Friday, March 26: Bonnielin Swenor, MPH, PhD, “The Interconnection Between Vision, Hearing, and Aging”

Exactly how lightning fast were “lightning rounds”? Each session was tightly coordinated to be 30 minutes:

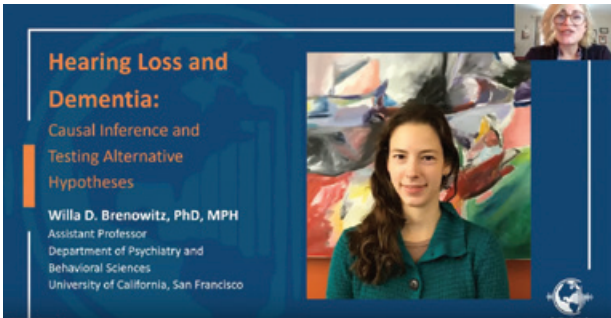
- Noon (ET): Welcome and Orientation
- 12:05 pm: Cochlear Center Trainee Poster Presentation
- 12:08 pm: Core Faculty Presentation
- 12:22 pm: Cochlear Center Trainee Poster Presentation
- 12:25 pm: Q&A Moderated by Cochlear Center Director Frank Lin, MD, PhD



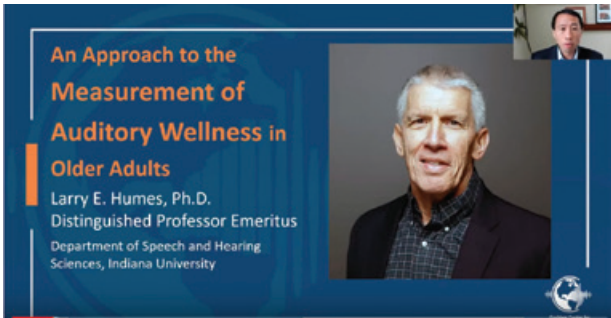
Bret Rutherford, MD and Center Director Frank Lin take questions at the end of Rutherford’s keynote address

WEBINARS

During the 2020-2021 academic year our monthly seminars became remote webinars. Speakers shared their expertise on a variety of topics around hearing, aging, and public health including social isolation, consumer hearing technologies, task sharing for hearing care, delirium, and dementia, including:



“Hearing Loss and Dementia: Causal Inference and Testing Alternative Hypotheses”
Willa D. Brenowitz, PhD, MPH, University of California San Francisco, 9/28/2020



“An Approach to the Measurement of Auditory Wellness in Older Adults”
Larry E. Humes, PhD, Indiana University Bloomington, 10/26/2020



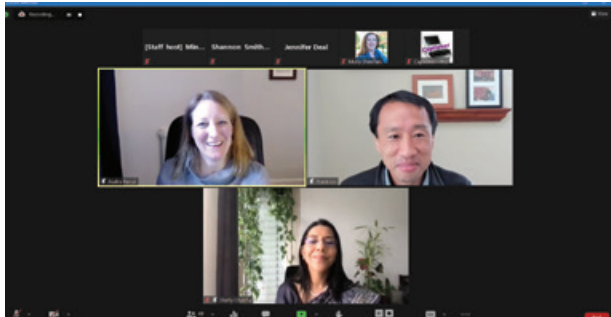
“Connecting, Aging, and Crisis: Challenges and Opportunities”
Thomas KM Cudjoe MD, MPH, Johns Hopkins Health System, 11/23/2020

“Reducing Disparities in Access to Hearing Healthcare on the US-Mexico Border”
Nicole Marrone, PhD, CCC-A, Aileen Wong, AuD, CCC-A, Laura Coco, AuD, CCC-A, University of Arizona, 1/25/2020

“Hospital Elder Life Program (HELP): development, testing, implementation, and dissemination”
Sharon K. Inouye MD, MPH, Harvard Medical School, 2/22/2020

“Addressing Hearing Loss to Improve Mood Disorders and Neurocognitive Health in Later Life”
Bret Rutherford, MD, Columbia University Vagelos College of Physicians and Surgeons, and New York State Psychiatric Institute. This webinar was the keynote address at the conclusion of Cochlear Center Research Week 2021, 3/29/21

“Ear and Hearing Care For All: Inventing the Future”
Shelly Chadha, MBBS, MS, PhD, World Health Organization



“An Approach to Equitable Provision of Hearing Care”
Audra Renyi, BSc, BA, World Wide Hearing, 4/26/2020

JOURNAL CLUBS/RESEARCH-IN-PROGRESS MEETINGS 2020-2021

Jennifer Deal & Danielle Powell, “Johns Hopkins Cochlear Center for Hearing & Public Health: Welcome and Overview” 09/14/2020

Pablo Martinez Amezcua, “The Association Between Age-Related Hearing Loss and Physical Function and Activity” 10/12/2020

Alison Huang, “Impact of Concurrent Hearing and Vision Impairment on Risk for ADRD and Social Isolation in Older Adults” 11/9/2020

Jon Suen, “Hearing Loss & Loneliness in Community-Dwelling Older Adults: Investigating the Relationship & Ideating Solutions” 12/14/2020

Dr. Moyses Szklo, “Semantic and Other Challenges in Translational Epidemiology” 02/8/2021

Elizabeth Linton, Kristin McArthur, “Can we prevent falls by treating age-related hearing loss? A scoping review;” Emmanuel Morales Garcia “Hearing Loss and Early Retirement: Evidence from the Health Retirement Study” 03/8/2021

Lama Assi, “Hearing Loss and Health Care Utilization;” John Shin, “Role of hearing impairment on progression to dementia in the ARIC study” 04/12/2021

Julie Yi, “Hearing Care Disparities;” Kening Jiang, “Cross-sectional associations of peripheral hearing, MRI measures and cognition with speech-in-noise performance at ACHIEVE baseline and ARIC Visit 6/7;” and Audrey Mossman, HEARS Teacher Photovoice Project flashtalk 05/10/2021

SENSE NETWORK WEBINARS

September 2020, group discussion: Introductions, Overview, Mission

October 2020, group discussion: GSA Interest Group Meeting

November 2020, group discussion: Impact of COVID on People with Sensory Impairments

January 2021, Amber Willink, PhD, “Sensory Loss: A Policy Perspective”

February 2021, Heather E. Whitson, MD, MHS, “Of Sight and Mind: Brain Connectivity Patterns in People With and Without Age-Related Macular Degeneration”

March 2021, Piers Dawes, PhD, “Ears, Eyes and Mind: The ‘SENSE-Cog Project’ to improve mental well-being for elderly Europeans with sensory impairment”

April 2021, Shelly Chadha, PhD (World Report on Hearing) and Stuart Keel, PhD (World Report on Vision), Global Health - WHO Hearing & Vision Reports

May 2021, Alden Gross, PhD, “Mode of Assessment Effects in Cognitive Performance”

June 2021, D.P. Devanand, MD, PhD, “Intact olfaction predicts lack of transition to dementia”

Faculty & Staff

FACULTY

Frank R. Lin, MD, PhD

Frank R. Lin, MD, PhD is the Director of the Cochlear Center for Hearing and Public Health and a Professor of Otolaryngology, Medicine, Mental Health, and Epidemiology at the Johns Hopkins University School of Medicine and the Johns Hopkins Bloomberg School of Public Health. Lin completed his undergraduate degree in biochemistry at Brown University and his medical education, residency in otolaryngology, and PhD at Johns Hopkins. He completed further otologic fellowship training in Switzerland. Lin joined the faculty at Johns Hopkins in 2010 and is a practicing otologist with expertise in the medical and surgical management of hearing loss. His epidemiologic research established the impact of hearing loss on the risk of cognitive decline, dementia, and brain aging in older adults and served as the basis of the 2017 Lancet Commission on dementia conclusion that hearing loss was the single largest potentially modifiable risk factor for dementia. Lin currently leads the ACHIEVE study which is a \$20M NIH-funded randomized trial investigating if treating hearing loss can reduce the risk of cognitive decline in older adults. As the founder and inaugural director of the Cochlear Center for Hearing and Public Health, Lin leads a first-in-kind research center resulting from an academic-industry collaboration that is dedicated to training a generation of clinicians and researchers to understand and address the impact of hearing loss on older adults and public health.



Lin has worked extensively with the National Academies of Sciences, Engineering, and Medicine to address the need for more accessible and affordable hearing care for adults in the United States. From 2014-2016, Lin served on sequential NASEM committees (workshop, consensus study) to investigate this issue and concurrently advised the White House President's Council of Advisors on Science and Technology on their report. Recommendations from these groups led to the subsequent introduction and bipartisan passage of the Over-the-Counter Hearing Aid Act of 2017, on which Lin testified before Congress. This law overturns 40 years of established regulatory precedent in the U.S. and reflects the direct result of Lin's prior research and broader policy work on hearing loss and public health. Lin currently serves as a member of the Board on Health Sciences Policy at the National Academies.

FACULTY, CONT.



Joshua Betz, MS

Josh Betz, MS, is biostatistician in the Johns Hopkins Biostatistics Consulting Center and is a research associate in the Department of Biostatistics at the Johns Hopkins Bloomberg School of Public Health. Betz leads the Cochlear Center's Analytics Core. He obtained his MS in biostatistics from the University of Maryland Baltimore County in 2012 and joined Johns Hopkins shortly afterwards. Betz has worked on epidemiological studies, clinical trials, software for data visualization and study design and providing statistical consulting to public health researchers. Much of his work has involved studying associations between hearing loss and health outcomes in older adults, as well as developing pilot studies for hearing loss interventions. Betz's interests are in statistical education and practice in science, understanding and mitigating the impact of hearing loss, public health, gerontology and clinical trials.



Jennifer Deal, PhD

Jennifer A. Deal, PhD, is an epidemiologist and gerontologist with expertise in cognitive aging. She is an assistant professor in the Departments of Epidemiology at the Johns Hopkins Bloomberg School of Public Health and Otolaryngology-Head and Neck Surgery at the Johns Hopkins University School of Medicine. Trained in the epidemiology of aging, Deal studies the effects of hearing loss on an aging brain and how hearing loss influences cognitive function to inform strategies for the primary prevention of cognitive decline and dementia in older adults.



Carrie L. Nieman, MD, MPH

Carrie L. Nieman, MD, MPH is an assistant professor in the Department of Otolaryngology-Head and Neck Surgery at the Johns Hopkins University School of Medicine and co-founder of Access HEARS, a nonprofit committed to the delivery of affordable, accessible hearing care. As a clinician, researcher and social entrepreneur, her commitment to social justice is inseparable from her drive to provide innovative solutions to address disparities in hearing care. Her epidemiological work documents widespread disparities in hearing health care. In order to move toward innovative, evidence-based and sustainable solutions, Nieman works across disciplines and translates research and approaches in gerontology, social design, behavioral intervention research, community-based participatory research and human factors to advance hearing health equity and bring innovation to underserved communities.

FACULTY, CONT.



Esther Oh, MD, PhD

Esther Oh, MD, PhD, is an associate professor in the Division of Geriatric Medicine and Gerontology, and an associate director of the Johns Hopkins Memory and Alzheimer’s Treatment Center. Oh’s research interest is in Alzheimer’s disease and related disorders including delirium. Oh actively collaborates with members of the Center on projects related to enhancing communication and improving hearing care for older adults with dementia and hearing loss. In addition to her clinical and research work, in June 2021 Oh was elected 2022-2023 president of the American Delirium Society, an organization dedicated to advancing research and improving care in delirium, which also collaborates closely with the European and

the Australasian Delirium Associations. As part of this role, Oh will co-chair the planning committee for the 2022 American Delirium Society Annual Conference.



Nicholas Reed, AuD

Nicholas Reed, AuD is an assistant professor in the Department of Epidemiology at Johns Hopkins Bloomberg School of Public Health with a joint appointment in the Department of Otolaryngology-Head and Neck Surgery at Johns Hopkins School of Medicine.

Reed is core faculty at the Cochlear Center for Hearing and Public Health where he is the director of the Audiology core. In this capacity, he oversees the integration of hearing measures and hearing care into cohort studies and clinical trials. This includes selection of appropriate measures, grant preparation support, development of hearing data collection protocols, technician training procedures, quality assurance,

data management, and quality control. He currently manages hearing data collection the Baltimore Longitudinal Study of Aging, the Atherosclerosis Risk in Communities Neurocognitive Study, the BIOCARD Study, the Baltimore Epidemiologic Catchment Area Study, and National Health Aging and Trends Study. He is a co-investigator in the Aging and Cognitive Health Evaluation in Elders (ACHIEVE) trial where he is a member of the hearing intervention subcommittee and co-chairs the recruitment subcommittee.

He approaches his intervention work through an implementation science lens with a focus on sustainable interventions to create a more equitable health care system for the millions of adults with hearing loss.

This approach was informed by his training as a clinical audiologist, when he became concerned with the current state of hearing care in the United States, where less than 20% of adults with hearing loss own and use hearing aids, and whether the barriers hearing loss places on communication in health care settings impact health care outcomes for adults with hearing loss. His research focuses on direct-to-consumer hearing care, understanding hearing aid use in the United States, the relationship between hearing loss and health care outcomes/interactions (e.g., satisfaction with care, inpatient safety, quality of care, delirium, etc.), and whether interventions targeting hearing loss can mitigate these associations.

FACULTY, CONT.



Bonnielin Swenor, PhD, MPH

Bonnielin Swenor, PhD, MPH is the founder and director of the Johns Hopkins Disability Health Research Center and an associate professor of ophthalmology at the Wilmer Eye Institute. She is also an associate professor of epidemiology at the Johns Hopkins Bloomberg School of Public Health, as well as a core faculty member at the Johns Hopkins Center on Aging and Health.

Swenor’s research aims to improve the health of people with disabilities and is fueled by her personal experience with vision impairment. To achieve this, Swenor and her group have concentrated on three interrelated areas:

- Aging: This research aims to improve the health and well-being of individuals with visual impairment and other disabilities across the lifespan.
- Access to Care: This area of research focuses on identifying health care disparities and improving healthcare utilization, quality, and access for people with disabilities.
- Disability Inclusion: By identifying and addressing barriers for people with disabilities across society, Swenor and her team are working to increase disability inclusion.

The overarching goal of Swenor is to maximize health, equity, and inclusion of people with all types of disabilities and shift the paradigm from ‘living with a disability’ to ‘thriving with a disability.’

Swenor received her Master of Public Health and doctorate degrees in epidemiology from the Johns Hopkins Bloomberg School of Public Health and completed a postdoctoral research fellowship at the National Institute on Aging prior to joining the faculty at Johns Hopkins University.



Amber Willink, PhD

Amber Willink, PhD is an associate professor at the University of Sydney and adjunct associate professor in the Department of Health Policy and Management at the Johns Hopkins Bloomberg School of Public Health. Her research focuses on the economic and health service utilization implications of gaps in health policy benefits on older adults. At the Cochlear Center for Hearing and Public Health, Willink will be examining the economic impacts of hearing loss on older adults and the Medicare program as well as health services utilization outcomes associated with treated and untreated hearing loss.

She is interested in the practice and policy changes that can better support older adults with hearing loss and has published research on the options for the inclusion of hearing services under the Medicare program.

ASSOCIATE FACULTY



Marilyn Albert, PhD

Marilyn Albert, PhD, is director of the Division of Cognitive Neuroscience, a professor in the Department of Neurology at Johns Hopkins University School of Medicine, and director of the Johns Hopkins Alzheimer’s Disease Research Center. Albert’s research focuses on the early identification of Alzheimer’s disease and the cognitive and brain changes associated with aging. Albert is actively engaged in collaborations with center faculty exploring the impact of hearing loss on cognition and brain changes in older adults.



Josef Coresh, MD, PhD

Josef Coresh, MD, PhD, is the George W. Comstock Professor of Epidemiology, Biostatistics and Medicine at the Johns Hopkins University Bloomberg School of Public Health. Coresh serves as the co-principal investigator of the Aging and Cognitive Health Evaluation in Elders (ACHIEVE) study and works closely with center faculty exploring data from the Atherosclerosis Risk in Communities Study (ARIC) to investigate the relationships between hearing loss and other health variables. He is a recognized leader in the epidemiology of kidney disease, big data and biomarker research which has impacted clinical practice guidelines and policies.



Luigi Ferrucci, MD, PhD

Luigi Ferrucci, MD, PhD, is the Scientific Director of the National Institute on Aging and conducts research on the causal pathways of age-related declines in health and functioning. Ferrucci collaborates with and mentors members of the Center exploring the relationships between hearing loss and health outcomes.

ASSOCIATE FACULTY, CONT.



Adele Goman, PhD

Adele Goman, PhD is a research associate in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health. She holds a doctorate in psychology from the University of York, UK and completed postdoctoral training in epidemiology and clinical trials at Johns Hopkins University. Goman’s research focuses on the basic epidemiology of hearing loss with respect to the prevalence of hearing loss and the impact hearing loss is expected to have in the coming decades.



Margaret Korczak, PhD

Margaret Korczak, PhD, is a professor in the Department of Audiology, Speech-Language Pathology & Deaf Studies at Towson University. Korczak works closely with Center faculty on projects exploring the efficacy of technology products for individuals with hearing loss.



Christine Mitchell, ScM

Christine Mitchell, ScM is a research associate in the Department of Epidemiology at the Johns Hopkins Bloomberg School of Public Health, where she earned her master’s degree in 2009. Her expertise is in project management of multicenter clinical research studies to ensure their successful conduct. She has been involved in overseeing and coordinating all aspects of research including design and grant writing, implementation, data collection and cleaning, and data analysis and manuscript preparation. Christine has assumed the role of project manager for the ACHIEVE study, a randomized trial testing whether hearing intervention can reduce the risk of cognitive decline in older adults. Her prior research has focused on quality of life and developmental outcomes following pediatric cochlear implantation in the CDaCI Study.

ASSOCIATE FACULTY, CONT.



Susan Resnick, PhD

Susan Resnick, PhD, is a senior investigator in the Laboratory of Behavioral Neuroscience at the National Institute on Aging. Resnick actively collaborates with Center staff and mentors Center trainees on brain imaging to explore the impact of hearing loss on the brain.



Sarah Szanton, PhD

Sarah Szanton, PhD, is the Patricia M Davidson Health Equity and Social Justice Endowed Professor and the director of the Center for Innovative Care in Aging in the Johns Hopkins School of Nursing. She collaborates with members of the Center on projects addressing disparities in hearing health care and community-delivered hearing care interventions.

ASSOCIATE FACULTY, CONT.



Moyses Szklo, MD, MPH

Moyses Szklo, MD, MPH, is a native of Rio de Janeiro, Brazil. He received his medical degree from the State University of Rio de Janeiro and both his Master of Public Health and Doctor of Public Health degrees from the Johns Hopkins University Bloomberg School of Public Health. He is a professor of Epidemiology and Medicine at the Johns Hopkins University, editor-in-chief emeritus of the *American Journal of Epidemiology*, and a visiting professor at the Federal University of Rio de Janeiro (UFRJ) Institute of Public Health. Szklo has published more than 300 articles in peer-reviewed journals and is the main author of an advanced epidemiology textbook. Szklo has been principal investigator of two of

the largest cohort studies of the natural history of atherosclerosis: the Atherosclerosis Risk in Communities (ARIC) study – of which he was also chair of the Steering Committee – and the Multi-Ethnic Study of Atherosclerosis (MESA) study. Currently, he chairs the Presentations and Publications Committee of the MESA. Since 1983 he has directed the Summer Institute of Epidemiology and Biostatistics at Hopkins. Szklo is currently working closely with Cochlear Center faculty to extend the work of the Cochlear Center to Latin America by developing research and training collaborations throughout the region.



Mike Weikert, MFA

Mike Weikert, MFA, is the founding director of the Center for Social Design and the Master of Arts in Social Design graduate program at the Maryland Institute College of Art (MICA). He and his team actively collaborate with members of the Center to design programs to improve the accessibility and affordability of hearing care for older adults.

STAFF



Vidisha Agarwalla, MA, MICA Social Design Fellow

Vidisha Agarwalla is the Cochlear Center’s Social Design Fellow and an alumna of the Center for Social Design graduate program at Maryland Institute College of Arts, Baltimore. During her time at MICA, she developed a holistic understanding of community-centered, collaborative design processes and learned how to promote the value of design in advancing equity and social justice. Agarwalla is interested in working at the intersection of social justice, civic innovation, and systems design.

Before graduate school, she worked as a product designer with a social enterprise called BEMPU Health to develop life-saving health products aimed at giving every child a chance to live a full and healthy life,

especially in low resource areas. Agarwalla worked on the “KangaSling,” a wrap that enables parents to easily provide prolonged “kangaroo care” (or skin-to-skin contact) to their newborn. Her product is used in many hospitals in India and was also showcased at the World Health Assembly.



Mindy Dmuchowski, Academic Program Coordinator

Mindy Dmuchowski is the Cochlear Center’s Academic Program Coordinator, where she assists trainees and staff, and provides administrative support to the Center’s core faculty. Dmuchowski received her bachelor’s degree in Communication Studies from West Virginia University.



Emmanuel E. Garcia, PhD, Biostatistician

Emmanuel E. Garcia, PhD, joined the Cochlear Center for Hearing and Public Health as a Biostatistician. He obtained his PhD in Economics from Johns Hopkins University. Garcia’s research experience includes studying the effects of assistance programs on the health and human capital of youth with disabilities. His current research explores the economic consequences of age-related hearing loss.

STAFF, CONT.



Kening Jiang, MHS, Biostatistician

Kening Jiang, MHS, joined the Cochlear Center as a biostatistician. She is a graduate of Johns Hopkins University with a Master of Health Science degree in epidemiology. Jiang received training in the epidemiology of aging, and is interested in the health of older adults, especially in determinants and consequences of hearing loss, cognitive decline, and sleep disturbances.



Christina Kohn, MS, Research Program Coordinator

Christina Kohn is a research program coordinator, supporting the work of the Audiology Core and assisting with data collection for the ACHIEVE pilot study. She earned her Bachelor of Science degree in biology from William Paterson University, and a Master of Science degree in biotechnology from Johns Hopkins University. Kohn’s research interests are the correlation between hearing loss and cognitive decline and increasing health equity in underserved communities. She plans to apply to graduate programs.



Audrey Mossman, Research Program Assistant

Audrey Mossman a research program assistant for the Baltimore HEARS study and a Doctoral Diversity Scholar working toward completing a post-baccalaureate program at Johns Hopkins School of Medicine. Her research interests include recognizing and addressing healthcare disparities and working toward solutions to improve health equity for these populations. Mossman recently graduated from University of Colorado with a BS in Biology and will be attending medical school beginning Fall 2021, continuing her journey in science and medicine.

STAFF, CONT.



Clarice Myers, AuD, Audiology Core Coordinator

Clarice Myers, AuD, is currently the Audiology Core Coordinator for the Cochlear Center and an assistant faculty audiologist in the Department of Otolaryngology-Head & Neck Surgery, Division of Research at the Johns Hopkins University, School of Medicine. She received her clinical doctorate from Texas Tech University Health Sciences Center. Myers’ research interests include alternative methods of device delivery models in inpatient settings and improving patient-provider communication.



Molly Sheehan, Communications Specialist

Molly Sheehan joined the Cochlear Center in Spring 2020 to organize and expand its communications efforts. She draws on her years of experience in healthcare communications at Ketchum’s Washington, DC office, and subsequent work as director of communications for the nonprofit National Aquarium in Baltimore to amplify the Cochlear Center’s research, education, and policy efforts. Sheehan’s interest is in mining the Cochlear Center for compelling stories about research and policy advocacy work, and telling those stories in ways that are relevant and timely.



Laura Sherry, AuD, Research Audiologist

Laura Sherry, AuD, received a clinical doctorate from Towson University in 2017. She is a research audiologist in the Department of Otolaryngology-Head & Neck Surgery, Division of Research at the Johns Hopkins University, School of Medicine. Her research interests include the correlation between hearing loss and cognitive decline, as well as improving accessibility to hearing healthcare. Sherry is currently the lead study audiologist at the Washington County field site for the Aging and Cognitive Health in Elders (ACHIEVE) study, a randomized trial seeking to determine whether a best-practice hearing intervention can reduce the risk of cognitive decline in older adults.

STAFF, CONT.



Shannon Smitherman, Senior Academic Program Coordinator

Shannon Smitherman received her bachelor’s degree in human services from the College of Notre Dame of Maryland (now Notre Dame of Maryland University). She currently works as the senior academic program coordinator for the Cochlear Center where she coordinates and helps advise Center trainees, oversees all administrative and operational aspects of Center activities, and assists the director.



Tara Thallmayer, MPH, Research Data Manager

Tara Thallmayer, MPH, is a research data manager for the Cochlear Center. She supports faculty, staff, and students with their data management needs. Thallmayer is a graduate of Temple University with a Master of Public Health degree in Epidemiology and Biostatistics.



Jami Trumbo, MSPH, Cochlear Center Administrator

Jami Trumbo, MSPH, oversees day-to-day operations and manages Cochlear Center projects and initiatives as the Center Administrator. She is also the research coordinator for the Baltimore HEARS study and future center research studies. Trumbo recently partnered with the Johns Hopkins Center for Teaching and Learning to develop an online format for the Center’s Fellows Program in Aging, Hearing, and Public Health, which is designed for clinicians and researchers outside the US; this program will debut in June 2021. She received her Master of Science in public health degree in health education and health communication from the Johns Hopkins Bloomberg School of Public Health.

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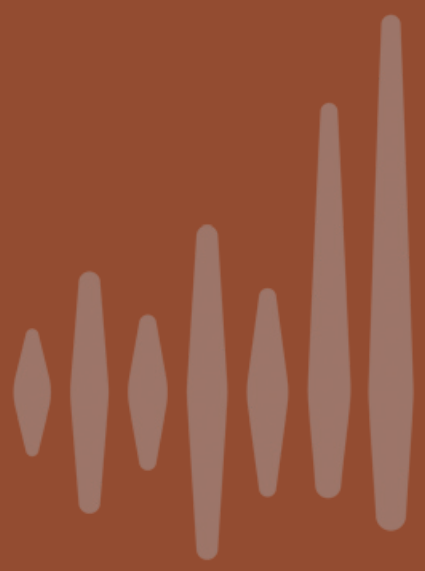
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News & Media



Feb 2020

Frank Lin discussed the connection between hearing loss and dementia with Kim Tingley of the *New York Times* for a “Studies Show” article “Can Hearing Aids Prevent Dementia?”

“The relationship seems to be ‘very, very linear,’ Lin says, meaning that the greater the hearing deficit, the greater the risk a person will develop the condition.”

May 2020

Amber Willink lent her policy expertise to discussion of supplemental benefits that were added to the Medicare program in 2018, for the Reuters Health article: “Few Medicare Advantage plans cover social needs for chronically ill patients.”

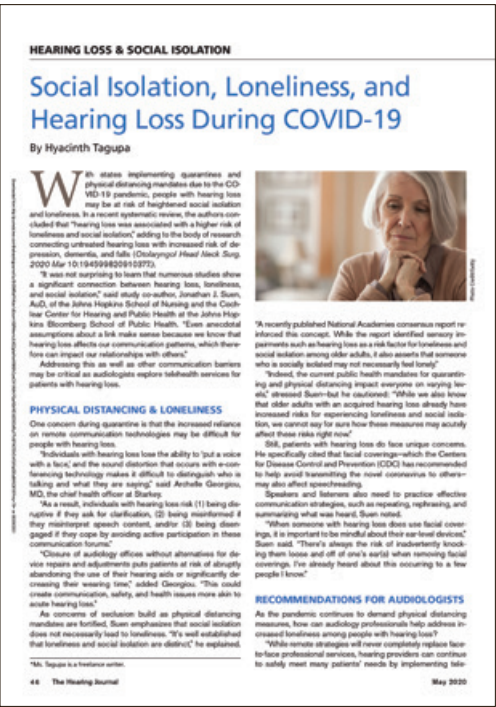
“This is important for Medicare beneficiaries and families, as many may assume that because MA plans now can provide supplemental benefits that they will,” Willink added. “The plan benefit fine print is more important than ever.”

May 2020

Amber Willink weighed in on “The Reality of Hearing Care in Nursing Homes” in The Hearing Journal.

“Hearing treatment is excluded from the Medicare program, so I began to look at what impact that was having on access to services and hearing aids,” said Willink... “It’s very hard to address hearing loss if it isn’t considered a priority by care providers or nursing home administrators,” said Willink. “It’s also very hard to address hearing loss if it requires treatment to be paid for completely by the individual.”

Trainee Jon Suen was interviewed by The Hearing Journal on “Social isolation, loneliness, and hearing loss during COVID- 19.”



“It was not surprising to learn that numerous studies show a significant connection between hearing loss, loneliness, and social isolation,” said study co-author, Jonathan J. Suen, AuD, of the Johns Hopkins School of Nursing and the Cochlear Center for Hearing and Public Health at the Johns Hopkins Bloomberg School of Public Health. “Even anecdotal assumptions about a link make sense because we know that hearing loss affects our communication patterns, which therefore can impact our relationships with others.”

August 2020

National press coverage (Wired, Health Day, Medscape, MedPage Today, US News) in response to Annals of Internal Medicine editorial “Connecting with Older Adults via Telemedicine” by Esther Oh and Carrie Nieman.



October 2020

Frank Lin authored “Hear & Now” for Cerebrum magazine about what we’ve learned and what we still need to know about the relationship between hearing loss and cognitive decline in older adults.



Illustrator: Anna Godeassi

December 2020

Frank Lin contributed to “Hearing Aids Could Use Some Help,” for writer Paula Span’s column The New Old Age in the *New York Times*.

“The Hopkins team has been testing whether trained community health workers could help low-income seniors improve their hearing. (A pilot study indicates they can.) Their research protocol uses an effective PSAP from Sound World Solutions that retails for about \$700 a pair. But, Dr. Lin said, ‘most of what you see out there — ‘\$50 miracle device!’ — is complete garbage. People can’t tell which to trust.”



Illustrator: Isabel Seliger

January 2021

Frank Lin joined interviewer Julie Rose for the program Top Of Mind on BYU Radio for a thoughtful conversation on hearing aid deregulation: why hearing aids are so expensive, the lack of Medicare funding for hearing health generally, and the potential of the US OTC Hearing Aid Act of 2017 to reduce costs and increase access.

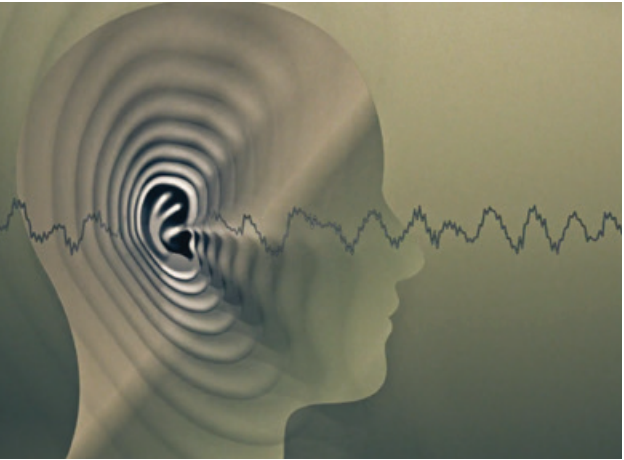
“No one wants to know they have hearing loss,” he said. “But when you’re given a metric you’re not labeling it, instead you’re alerting them to a change. It’s a metric about yourself you would know and could respond to. That number is meaningful and actionable,” he said.

For a piece in *Generations*, the magazine of the American Society of Aging called “New Metric Could Help Reduce Stigma Around Hearing Loss” writer Alison Biggar spoke with Center director Frank Lin about the value of the pure tone average as a universal metric for hearing.

April 2021

Core faculty member Nick Reed described the quality of OTC hearing aids in “Hearing Aids for the Masses,” for the *New York Times*’ ON TECH column by Shira Ovide.

“Dr. Reed’s research, however, has found that some hearing helpers for \$350 or less were almost as good as prescription hearing aids for people with mild-to-moderate hearing loss. Dr. Reed described the best lower-cost devices as the Hyundai of hearing help. (This was a compliment.) They aren’t flashy, but they will get many people safely and effectively where they need to go. He also imagines that the F.D.A. rules will create the conditions for many more people to buy hearing aids — both over the counter and by prescription.”



Illustrator: Yoshi Sodeoka

Carrie Nieman interviewed for “COVID Masks Disrupt Connections for Hearing Loss Patients” by Public News Service, an independent news services in 37 states that reaches a weekly audience of 30-50 million.

“Dr. Carrie Nieman, assistant professor for the Cochlear Center for Hearing and Public Health at Johns Hopkins University in Baltimore, said a survey shows 95% of people living with hearing loss in the U.S. say masks are creating serious communication barriers.”

May 2021

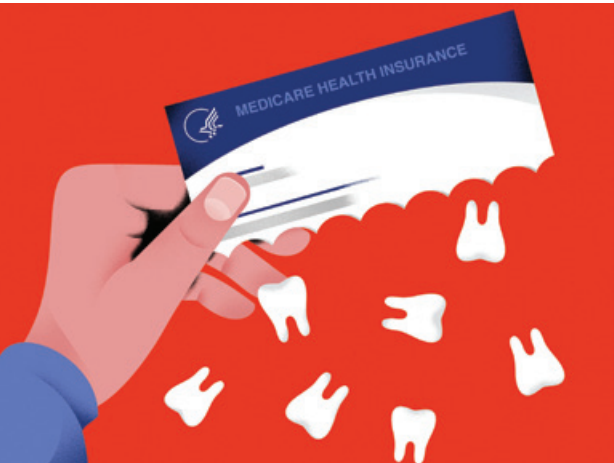
Trainee Danielle Powell, AuD, PhD weighed in on untangling the connection between hearing loss and dementia in Today’s Geriatric Magazine.

Trainees Danielle Powell, AuD, PhD and Jon Suen, AuD were interviewed by WedMD Connect to Care, to describe “Four signs your loved one may be hearing impaired.”



June 2021

Core faculty member Amber Willink, PhD, was interviewed by the *New York Times*’ Mark Miller about the lack of Medicare coverage for dental, vision, or hearing care in “On Medicare and Need Dental Work? Beware a Big Bill.”



Illustrator: Nathalie Lees

“These areas of health are really fundamental parts of our everyday living,” said Amber Willink...
“Good oral health, hearing and vision are things that we often just take for granted, but they are so fundamental to our daily needs, especially when it comes to improving and maintaining our health as we get older.”

June 2021

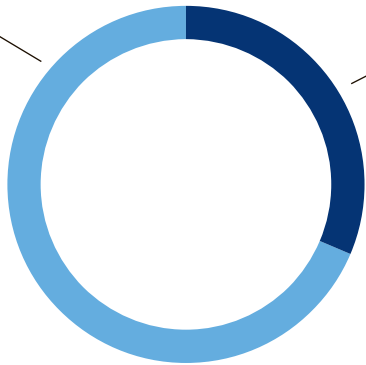
About Medicare, Nicholas Reed, AuD explains, “Vision, hearing and dental all sort of got left out.” Bobbi Dempsy’s Perspective piece in the *Washington Post* includes Carrie Nieman and puts a human face to Medicare failure to cover hearing care: “My mom can’t afford hearing aids. The pandemic reminded us why she needs them.”

Cochlear Center Website

2020-June 2021



~70% viewers from United States



Other viewers from China, India, Canada, Brazil, United Kingdom, Australia, Germany, Japan, Taiwan

Cochlear Center Twitter feed

In 2020-June 2021



370,249
Tweet Impressions

Presentations & Publications

PUBLICATIONS BY CENTER FACULTY AND TRAINEES

1. **Assi L**, Chamseddine F, Ibrahim P, et al. A Global Assessment of Eye Health and Quality of Life: A Systematic Review of Systematic Reviews. *JAMA Ophthalmol*. 2021;139(5):526-541. doi:10.1001/jamaophthalmol.2021.0146
2. **Assi L**, Reed NS, Swenor BK. Vision Impairment and Its Association with Preventive Care Use-Reply [published online ahead of print, 2021 May 13]. *JAMA Ophthalmol*. 2021;10.1001/jamaophthalmol.2021.1236. doi:10.1001/jamaophthalmol.2021.1236
3. **Assi L**, Rosman L, Chamseddine F, et al. Eye health and quality of life: an umbrella review protocol. *BMJ Open*. 2020;10(8):e037648. Published 2020 Aug 30. doi:10.1136/bmjopen-2020-037648
4. **Assi L**, Shakarchi AF, Sheehan OC, Deal JA, Swenor BK, Reed NS. Assessment of Sensory Impairment and Health Care Satisfaction Among Medicare Beneficiaries. *JAMA Netw Open*. 2020;3(11):e2025522. Published 2020 Nov 2. doi:10.1001/jamanetworkopen.2020.25522
5. **Assi L**, Varadaraj V, Shakarchi AF, et al. Association of Vision Impairment with Preventive Care Use Among Older Adults in the United States. *JAMA Ophthalmol*. 2020;138(12):1298-1306. doi:10.1001/jamaophthalmol.2020.4524
6. Cai Y, Schrack JA, Wang H, et al. Visual Impairment and Objectively Measured Physical Activity in Middle-Aged and Older Adults [published online ahead of print, 2021 Apr 10]. *J Gerontol A Biol Sci Med Sci*. 2021;glab103. doi:10.1093/gerona/103
7. Croll PH, Vernooij MW, Reid RI, et al. Hearing loss and microstructural integrity of the brain in a dementia-free older population [published correction appears in *Alzheimers Dement*. 2021 Feb;17(2):293]. *Alzheimers Dement*. 2020;16(11):1515-1523. doi:10.1002/alz.12151
8. Davis K, Willink A. COVID-19 and Affordability of Coverage and Care for Medicare Beneficiaries. COVID-19 and Affordability Coverage Care Medicare Beneficiaries | Commonwealth Fund. <https://www.commonwealthfund.org/publications/issue-briefs/2020/sep/covid-19-affordability-coverage-care-medicare-beneficiaries>. Published September 2020. Accessed June 28, 2021.
9. Davis K, Willink A. Mixed Support for Medicare for All Among Clinicians, Clinical Leaders, and Executives. NEJM Catalyst Innovations in Care Delivery. <https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0490>. Accessed June 28, 2021.
10. Deal JA, Betz J, Lin FR, Reed NS. Interpreting Results from Epidemiologic Studies. *Semin Hear*. 2021;42(1):3-9. doi:10.1055/s-0041-1725996
11. Deal JA, Gross AL, Sharrett AR, et al. Hearing impairment and missing cognitive test scores in a population-based study of older adults: The Atherosclerosis Risk in Communities neurocognitive study [published online ahead of print, 2021 Apr 12]. *Alzheimers Dement*. 2021;10.1002/alz.12339. doi:10.1002/alz.12339
12. Deal JA, Reed NS, Petersen EC, Lin FR. In: Aging and Hearing: Causes and Consequences. Vol 72. Springer; 2020.
13. Epstein S, Ayers K, Swenor BK. COVID-19 vaccine prioritisation for people with disabilities. *Lancet Public Health*. 2021;6(6):e361. doi:10.1016/S2468-2667(21)00093-1
14. Epstein S, Campanile J, Cerilli C, Gajwani P, Varadaraj V, Swenor BK. New obstacles and widening gaps: A qualitative study of the effects of the COVID-19 pandemic on U.S. adults with disabilities [published online ahead of print, 2021 Mar 30]. *Disabil Health J*. 2021;101103. doi:10.1016/j.dhjo.2021.1011032
15. Fioravante N, Deal JA, Willink A, Myers C, **Assi L**. Preventive Care Utilization among Adults with Hearing Loss in the United States. *Semin Hear*. 2021;42(1):37-46. doi:10.1055/s-0041-1725999

16. Goldstein JE, Guo X, Boland MV, Swenor BK. Low Vision Care - Out of Site. Out of Mind. *Ophthalmic Epidemiol*. 2020;27(4):252-258. doi:10.1080/09286586.2020.1717546
17. Goman AM, Gao T, Betz J, et al. Association of Hearing Loss with Physical, Social, and Mental Activity Engagement. *Semin Hear*. 2021;42(1):59-65. doi:10.1055/s-0041-1726001
18. **Huang AR**, Deal JA, Rebok GW, Pinto JM, Waite L, Lin FR. Hearing Impairment and Loneliness in Older Adults in the United States [published online ahead of print, 2020 Aug 4]. *J Appl Gerontol*. 2020;733464820944082. doi:10.1177/0733464820944082
19. **Jilla AM**, Reed NS, Oh ES, Lin FR. A Geriatrician's Guide to Hearing Loss. *J Am Geriatr Soc*. 2021;69(5):1190-1198. doi:10.1111/jgs.17073
20. Kim AS, Betz JF, Goman AM, et al. Prevalence and Population Estimates of Obstructive Eustachian Tube Dysfunction in US Adolescents. *JAMA Otolaryngol Head Neck Surg*. 2020;146(8):763-765. doi:10.1001/jamaoto.2020.0962
21. Kim AS, Garcia Morales EE, Amjad H, et al. Association of Hearing Loss with Neuropsychiatric Symptoms in Older Adults with Cognitive Impairment. *Am J Geriatr Psychiatry*. 2021;29(6):544-553. doi:10.1016/j.jagp.2020.10.002
22. **Kuo PL**, Di J, Ferrucci L, Lin FR. Analysis of Hearing Loss and Physical Activity Among US Adults Aged 60-69 Years. *JAMA Netw Open*. 2021;4(4):e215484. Published 2021 Apr 1. doi:10.1001/jamanetworkopen.2021.5484
23. **Kuo PL, Huang AR**, Ehrlich JR, et al. Prevalence of Concurrent Functional Vision and Hearing Impairment and Association with Dementia in Community-Dwelling Medicare Beneficiaries. *JAMA Netw Open*. 2021;4(3):e211558. Published 2021 Mar 1. doi:10.1001/jamanetworkopen.2021.1558
24. Lee MJ, Varadaraj V, Tian J, Bandeen-Roche K, Swenor BK. The Association between Frailty and Uncorrected Refractive Error in Older Adults. *Ophthalmic Epidemiol*. 2020;27(3):219-225. doi:10.1080/09286586.2020.1716380
25. Leinbach LI, Willink A. Oral Health in Medicare: Considerations for 21st-Century Coverage. *JAMA*. 2020;324(13):1288-1289. doi:10.1001/jama.2020.3003
26. Lin HH, Willink A, **Jilla AM**, et al. Healthcare-Seeking Behaviors Among Medicare Beneficiaries by Functional Hearing Status [published online ahead of print, 2021 Apr 29]. *J Aging Health*. 2021;8982643211011799. doi:10.1177/08982643211011799
27. Lin FR. Hear and Now. *Cerebrum*. 2020;2020:cer-07-20. Published 2020 Oct 1.

28. **Martinez-Amezcu P, Kuo PL**, Reed NS, et al. Association of hearing impairment with higher level physical functioning and walking endurance: Results from the Baltimore Longitudinal Study of Aging (BLSA) [published online ahead of print, 2021 May 18]. *J Gerontol A Biol Sci Med Sci*. 2021;glab144. doi:10.1093/gerona/144
29. **Martinez-Amezcu P, Powell D, Kuo PL**, et al. Association of Age-Related Hearing Impairment with Physical Functioning Among Community-Dwelling Older Adults in the US. *JAMA Netw Open*. 2021;4(6):e2113742. Published 2021 Jun 1. doi:10.1001/jamanetworkopen.2021.13742
30. Meeks LM, Poulos P, Swenor BK. Creative Approaches to the Inclusion of Medical Students with Disabilities. *AEM Educ Train*. 2019;4(3):292-297. Published 2019 Dec 24. doi:10.1002/aet2.10425
31. Nichols E, Deal JA, Swenor BK, et al. Assessing Bias in Cognitive Testing for Older Adults with Sensory Impairment: An Analysis of Differential Item Functioning in the Baltimore Longitudinal Study on Aging (BLSA) and the Atherosclerosis Risk in Communities Neurocognitive Study (ARIC-NCS) [published online ahead of print, 2021 Apr 26]. *J Int Neuro-psychol Soc*. 2021;1-12. doi:10.1017/S1355617721000400
32. Nieman CL, McMahon CM. The World Health Organization's World Report on Hearing: a call to action for hearing care providers. *J Laryngol Otol*. 2020;134(5):377-378. doi:10.1017/S0022215120000663
33. Nieman CL, Oh ES. Connecting with Older Adults via Telemedicine. *Ann Intern Med*. 2020;173(10):831-832. doi:10.7326/M20-1322
34. Nieman CL, Oh ES. Hearing Loss. *Ann Intern Med*. 2020;173(11):ITC81-ITC96. doi:10.7326/AITC202012010
35. Pittman C, Nieman CL, Reed N, Swenor BK, Willink A. Sensory Impairment and the Odds of Adverse Consequences of Unmet Needs for Care Among Older Adults [published online ahead of print, 2021 Apr 16]. *J Gerontol B Psychol Sci Soc Sci*. 2021;gbab065. doi:10.1093/geronb/1065
36. Pittman CA, Roura R, Price C, Lin FR, Marrone N, Nieman CL. Racial/Ethnic and Sex Representation in US-Based Clinical Trials of Hearing Loss Management in Adults: A Systematic Review [published online ahead of print, 2021 Apr 22]. *JAMA Otolaryngol Head Neck Surg*. 2021;10.1001/jamaoto.2021.0550. doi:10.1001/jamaoto.2021.0550
37. Pittman CA, Ward BK, Nieman CL. A Review of Adult-Onset Hearing Loss: a Primer for Neurologists. *Curr Treat Options Neurol* 23, 20 (2021). <https://doi.org/10.1007/s11940-021-00674-4>

38. Pittman CA, Willink A, Nieman CL. Hearing Loss and Home Health: An Unmet Need and an Opportunity for Action. *Home Healthc Now*. 2021;39(2):72-80. doi:10.1097/NHH.0000000000000938

39. **Powell DS**, Deal JA, Goman AM. Reconsidering Individuals With Normal Hearing. *JAMA Otolaryngol head Neck Surg*. 2020;146(1):67-68. doi:10.1001/jamaoto.2019.3372

40. **Powell DS**, Deal JA. Hearing and Dementia- A Look Ahead. Minnesota Academy of Audiology Annual Newsletter; January 2021.

41. **Powell DS**, Morales EEG, Pletnikova S, Deal JA, Reed NS. Self-Report Hearing and Injury or Falls in Older Adults from the National Health and Information Survey. *Semin Hear*. 2021;42(1):66-74. doi:10.1055/s-0041-1726016

42. **Powell DS**, Oh ES, Lin FR, Deal JA. Hearing Impairment and Cognition in an Aging World [published online ahead of print, 2021 May 18]. *J Assoc Res Otolaryngol*. 2021;10.1007/s10162-021-00799-y. doi:10.1007/s10162-021-00799-y

43. Reed NS, **Assi L**, Horiuchi W, et al. Medicare Beneficiaries With Self-Reported Functional Hearing Difficulty Have Unmet Health Care Needs. *Health Aff (Millwood)*. 2021;40(5):786-794. doi:10.1377/hlthaff.2020.02371

44. Reed NS, **Assi L**, Pedersen E, et al. Accompaniment to healthcare visits: the impact of sensory impairment. *BMC Health Serv Res*. 2020;20(1):990. Published 2020 Oct 29. doi:10.1186/s12913-020-05829-8

45. Reed NS, Boss EF, Lin FR, Oh ES, Willink A. Satisfaction With Quality of Health Care Among Medicare Beneficiaries With Functional Hearing Loss. *Med Care*. 2021;59(1):22-28. doi:10.1097/MLR.0000000000001419

46. Reed NS, Garcia-Morales E, Willink A. Trends in Hearing Aid Ownership Among Older Adults in the United States From 2011 to 2018. *JAMA Intern Med*. 2021;181(3):383-385. doi:10.1001/jamainternmed.2020.5682

47. Reed NS, Meeks LM, Swenor BK. Disability and COVID-19: who counts depends on who is counted. *Lancet Public Health*. 2020;5(8):e423. doi:10.1016/S2468-2667(20)30161-4

48. Reed NS, Stolnicki W, Gami A, Myers C, Kohn C, Willink A. Association of Self-Reported Trouble Hearing and Patient-Provider Communication with Hospitalizations among Medicare Beneficiaries. *Semin Hear*. 2021;42(1):26-36. doi:10.1055/s-0041-1725998

49. Shakarchi AF, **Assi L**, Ehrlich JR, Deal JA, Reed NS, Swenor BK. Dual Sensory Impairment and Perceived Everyday Discrimination in the United States. *JAMA Ophthalmol*. 2020;138(12):1227-1233. doi:10.1001/jamaophthalmol.2020.3982

50. Shakarchi AF, **Assi L**, Gami A, et al. The Association of Vision, Hearing, and Dual-Sensory Loss with Walking Speed and Incident Slow Walking: Longitudinal and Time to Event Analyses in the Health and Retirement Study. *Semin Hear*. 2021;42(1):75-84. doi:10.1055/s-0041-1726017

51. Shan A, Lin FR, Nieman CL. Age-related Hearing Loss: Recent Developments in Approaching a Public Health Challenge. *Curr Otorhinolaryngol Rep* 8, 24-33 (2020). <https://doi.org/10.1007/s40136-020-00271-0>

52. Shan A, Ting JS, Price C, et al. Hearing loss and employment: a systematic review of the association between hearing loss and employment among adults. *J Laryngol Otol*. 2020;134(5):387-397. doi:10.1017/S0022215120001012

53. Shukla A, Cudjoe TKM, Lin FR, Reed NS. Functional Hearing Loss and Social Engagement Among Medicare Beneficiaries. *J Gerontol B Psychol Sci Soc Sci*. 2021;76(1):195-200. doi:10.1093/geronb/gbz094

54. Shukla A, Harper M, Pedersen E, et al. Hearing Loss, Loneliness, and Social Isolation: A Systematic Review. *Otolaryngol Head Neck Surg*. 2020;162(5):622-633. doi:10.1177/0194599820910377

55. **Suen JJ**, Betz J, Reed NS, Deal JA, Lin FR, Goman AM. Prevalence of Asymmetric Hearing Among Adults in the United States. *Otol Neurotol*. 2021;42(2):e111-e113. doi:10.1097/MAO.0000000000002931

56. **Suen JJ**, Han HR, Peoples CY, et al. A Community Health Worker Training Program to Deliver Accessible and Affordable Hearing Care to Older Adults. *J Health Care Poor Under-served*. 2021;32(1):37-49. doi:10.1353/hpu.2021.0006

57. Swenor BK. Including disability in all health equity efforts: an urgent call to action. *Lancet Public Health*. 2021;6(6):e359-e360. doi:10.1016/S2468-2667(21)00115-8

58. Swenor BK, Ehrlich JR. Ageing and vision loss: looking to the future. *Lancet Glob Health*. 2021;9(4):e385-e386. doi:10.1016/S2214-109X(21)00031-0

59. Swenor BK, Lee MJ, Varadaraj V, Whitson HE, Ramulu PY. Aging With Vision Loss: A Framework for Assessing the Impact of Visual Impairment on Older Adults. *Gerontologist*. 2020;60(6):989-995. doi:10.1093/geront/gnz117

60. Swenor BK, Munoz B, Meeks LM. A decade of decline: Grant funding for researchers with disabilities 2008 to 2018. *PLoS One*. 2020;15(3):e0228686. Published 2020 Mar 3. doi:10.1371/journal.pone.0228686

61. Ting J, Jiang K, Du S, et al. Longitudinal Blood Pressure Patterns from Mid-to-Late Life and Late-life Hearing Loss in the Atherosclerosis Risk in Communities Study [published online ahead of print, 2021 May 27]. *J Gerontol A Biol Sci Med Sci*. 2021;glab153. doi:10.1093/gerona/glab153

62. Varadaraj V, Chung SE, Swiatek KS, et al. Caring for Older Adults With Vision Impairment and Dementia. *Innov Aging*. 2020;4(6):igaa043. Published 2020 Sep 11. doi:10.1093/geroni/igaa043

63. Varadaraj V, Munoz B, Simonsick EM, Swenor BK. Vision Impairment and Participation in Cognitively Stimulating Activities: The Health ABC Study. *J Gerontol A Biol Sci Med Sci*. 2021;76(5):835-841. doi:10.1093/gerona/glaa184

64. Willink A, Davis K, Johnston DM, et al. Cost-Effective Care Coordination for People With Dementia at Home. *Innov Aging*. 2020;4(2):igz051. Published 2020 Jan 1. doi:10.1093/geroni/igz051

65. Willink A, Reed NS. Understanding Medicare: Hearing Loss and Health Literacy. *J Am Geriatr Soc*. 2020;68(10):2336-2342. doi:10.1111/jgs.16705

66. Willink A, Reed NS, Swenor B, Leinbach L, DuGoff EH, Davis K. Dental, Vision, And Hearing Services: Access, Spending, And Coverage For Medicare Beneficiaries. *Health Aff (Millwood)*. 2020;39(2):297-304. doi:10.1377/hlthaff.2019.00451

67. **Yi JS**, Pittman CA, Price CL, Nieman CL, Oh ES. Telemedicine and Dementia Care: A Systematic Review of Barriers and Facilitators [published online ahead of print, 2021 Apr 20]. *J Am Med Dir Assoc*. 2021;S1525-8610(21)00311-X. doi:10.1016/j.jamda.2021.03.015

UPCOMING TRAINEE PUBLICATIONS (SUBMITTED, UNDER REVIEW, IN PREPARATION)

1. **Assi L**, Campanile J, Samuel L, Reed NS, Deal JA, Swenor BK. The Prevalence of Food Insufficiency, Mental Health Symptoms, and Unmet Health Care Needs Among Americans with Disabilities during the COVID-19 Pandemic.

2. **Assi L**, Ehrlich JR, Zhou Y, Huang A, Kasper J, Lin FR, McKee MM, Reed NS, Swenor BK, Deal JA Dual Sensory Impairment, Dementia, and Functional Limitations in Medicare Beneficiaries. [Under review]

3. **Assi L**, Karam ES, Swenor BK, Deal JA, Willink A, Reed NS. Association of Sensory Loss and Knowledge of Heart Attacks. [Under review]

4. **Assi L**, Kozhaya K, Swenor BK, Reed NS. Vision Impairment and Patient Activation Among Medicare Beneficiaries.

5. **Assi L**, Reed NS, Nieman CL, Willink A. Factors Associated with Hearing Aid Use Among Medicare Beneficiaries. [Under review]

6. **Martinez-Amezcu P, Powell D, Kuo PL**, Reed NS, Sullivan KJ, Palta P, Szklo M, Sharrett AR, Schrack JA, Lin FR, Deal JA. Age-related hearing impairment and its association with physical functioning in the Atherosclerosis Risk in Communities (ARIC) study. *JAMA Network Open*. 2021. [In press]

7. **Martinez Amezcua P, Suen JJ**, Lin FR, Schrack J, Deal JA. Hearing impairment and objectively measured physical activity: A systematic review. [Under Review]

8. Nieman CL, **Suen JJ**, Dean LT, Chandran A. Foundational approaches to advancing hearing health equity: A primer in social epidemiology. [Under Review]

9. **Powell DS**, Brenowitz WD, Yaffe K, Armstrong NM, Reed NS, Lin FR, Gross AL, Deal JA. Examining the Combined Estimated Effects of Hearing Loss and Depressive Symptoms on Risk of Cognitive Decline and Incident Dementia. [Under Review at JGMS, Series B]

10. **Powell DS, Kuo P**, Qureshi R, Coburn S, Knopman D, Palta P, Gottesman R, Griswold M, Albert M, Deal J, Gross A. The Relationship of APOE ε4, Race, and Sex on Age of Onset and Risk of Dementia. [Under Review at Annals of Neurology]

11. **Powell DS**, Betz J, Yaffe K, Kritchevsky S, Strotmeyer E, Simonsick E, Rubin S, Houston D, Pratt S, Purchase Helzner E, Brewster K, Lin F, Gross A, Deal J. Hearing Loss and Risk of Depressive Symptoms in Older Adults in the Health ABC Study. [Under Review at JGMS, Series A]

12. **Shin JJ**, Deal JA, Coresh J, Gottesman R, Knopman D, Lin FR, Mosley T, Reed NS, Sharrett AR. Role of hearing impairment in cognitive decline and progression to dementia in older adults.

13. **Suen JJ**, Vo E, Clair C, Nolan MT, Gallo JJ, Abshire Saylor M. The mutuality of perceived burden at the end of life by older adults and family caregivers: A framework proposed through qualitative description. [Under Review]

14. **Yi JS**, Betz JF, Han HR, Marrone NL, Nieman CL. Prevalence and Population Estimates of Hearing Care Use by Race/ Ethnicity and Acculturation in U.S. Older Adults. [Submitted to American Journal of Public Health]

15. **Yi JS**, Garcia Morales E, Betz J, Deal JA, Dean LT, Du S, Goman AM, Griswold ME, Palta P, Rebok GW, Reed NS, Thorpe RJ, Lin FR, Nieman CL. Association between individual life course socioeconomic status and hearing aid use in the Atherosclerosis Risk in Communities (ARIC) Study. [Submitted to The Journals of Gerontology Series A: Medical Sciences]

16. **Jilla AM**, Arnold ML, Miller EL. U.S. Policy Considerations for Telehealth Provision in Audiology. Seminars in Hearing. Invited article, in press.

TRaineE PRESENTATIONS

- Assi L.** Preventive care utilization among adults with hearing loss in the United States presented at the Cochlear Center for Hearing and Public Health Research Week; March 2021.
- Assi L.** Satisfaction with Health Care by Dual Sensory Impairment Status presented at the Academy Health 2020 Annual Research Meeting; July 2020.
- Assi L.** Satisfaction with Health Care by Dual Sensory Impairment Status presented as part of the Sensory Loss and the Health Care System: Outcomes and Navigation symposium at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.
- Assi L.** Self-Reported Uptake of Clinical Preventive Services by Vision Impairment Status presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.
- Huang A,** Rebok G, Swenor B, Lin F, Deal JA. Social Isolation and Loneliness: Moderators of the Relationship Between Sensory Impairment and Cognition presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.
- Jilla AM,** Johnson CE. Applying Health Economics in Audio-logic Practice: Affordability and Willingness to Pay presented at the American Speech-Language Hearing Association Annual Conference: Audiology 2020- Evolving Clinical Practice: Present and Future Considerations; November 2020.
- Jilla AM,** Johnson CE, Huntington-Klein N. Willingness to Pay: Consumer Preferences in Hearing Health Care presented at the Texas Academy of Audiology Conference; October 2020.
- Jilla AM,** Johnson CE, Huntington-Klein N, Baldwin J. Willingness to Pay for Hearing Aids, Over-the-Counter Devices, and Associated Services presented at the American Academy of Audiology Meeting; April 2020. (Conference cancelled due to COVID-19).
- Jilla AM,** Johnson CE, Huntington-Klein N, Baldwin J, Danhauer, JL, Park JH, Smith E, Huddleston J. Willingness to Pay for Hearing Aids, Over-the-Counter Devices, and Services presented at the American Auditory Society Meeting; March 2020; Scottsdale, AZ.
- Jilla AM,** Reed NR. Hearing loss and health care satisfaction presented at the Geriatric Society of America Annual Conference; November 2020.
- Martinez-AmezcuA P.** The association between hearing and physical functioning in the atherosclerosis risk in communities study presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.

- Martinez P, Kuo P,** Sullivan K, Palta P, Sharrett AR, Schrack JA, Lin FR, Deal JA. The Association Between Hearing and Physical Functioning in the Atherosclerosis Risk in Communities Study presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.
- Powell D,** Betz JF, Yaffe K, Kritchevsky SB, Strotmeyer E, Simonsick EM, Lin FR, Deal JA. Hearing Impairment and Risk of Depression in Older Adults in Health ABC presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.
- Powell DS,** Brenowitz WD, Yaffe K, Armstrong NM, Reed NS, Lin FR, Gross AL, Deal JA. Examining the Combined Estimated Effects of Hearing Loss and Depressive Symptoms on Risk of Cognitive Decline and Incident Dementia presented at the American Auditory Society virtual meeting; March 2021.
- Powell DS,** Kuo P, Deal JA, Gross AL. The Relationship of ApoE ε4 to the Relative Times and Hazards of Dementia. Accepted for presentation at the Cognitive Aging Conference; April 16, 2020; Atlanta, GA. (Conference cancelled due to COVID-19).
- Shin J.** Role of hearing impairment on risk for dementia: Atherosclerosis Risk in Communities (ARIC) Study presented at the Cochlear Center for Hearing and Public Health Research Week; March 2021.
- Suen JJ.** Associations Between Hearing Loss, Loneliness, Social Isolation: A Systematic Review presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.
- Suen JJ.** Associations Between Hearing Loss, Loneliness, Social Isolation: A Systematic Review presented at the American Auditory Society meeting; March 2020; Scottsdale, AZ
- Yi JS,** Garcia Morales E, Betz J, Deal JA, Dean LT, Du S, Goman AM, Griswold ME, Palta P, Rebok GW, Reed NS, Thorpe RJ, Lin FR, Nieman CL. Association between individual life course socioeconomic status and hearing aid use in the Atherosclerosis Risk in Communities (ARIC) Study presented at the Johns Hopkins Bloomberg School of Public Health, 14th Annual Research on Aging Showcase; 2021.
- Yi JS,** Garcia Morales E, Betz J, Deal JA, Dean LT, Du S, Goman AM, Reed NS, Griswold ME, Lin FR, Nieman CL. Association between individual life course socioeconomic status and hearing aid use in the Atherosclerosis Risk in Communities (ARIC) Study presented at the Scientific and Technology Meeting of the American Auditory Society; 2021.

- Yi JS,** Pittman C, Price CL, Oh ES, Nieman CL. Telemedicine and Dementia Care: A Systematic Review of Barriers and Facilitators presented at the American Geriatric Society 2021 Virtual Annual Scientific Meeting; 2021.
- Yi JS,** Pittman C, Price CL, Oh ES, Nieman CL. Telemedicine and Dementia Care: A Systematic Review of Barriers and Facilitators Related to Sensory Needs presented at the Scientific and Technology Meeting of the American Auditory Society; 2021.
- Yi JS,** Reed NS, Willink A, Han HR, Nieman CL. Predictors of Hearing Aid Use among Medicare Beneficiaries by Race/ Ethnicity presented at the Scientific and Technology Meeting of the American Auditory Society; 2021.

FACULTY PRESENTATIONS

- Betz J. Analyzing Data from Complex Surveys: NHANES and Beyond presented at the Unlocking NHANES symposium; July 2020.
- Betz J. Recommendations for Working with Data presented at the Cochlear Center for Hearing and Public Health Lunch & Learn Series; July 2020.
- Betz J. Reproducibility and the Research Chain in Evidence presented at Wilmer Biostatistics Center Seminar Series; March 2021.
- Betz J. Reproducibility and the Research Chain in Evidence guest lecturer for 340.699.01 - Epidemiology of Sensory Loss in Aging; March 2021.
- Betz J. Reproducibility in Statistical Consulting guest lecturer for 140.643.01 - Practice of Statistical Consulting; December 2020.
- Betz J, Gross A. Reproducibility in Research Matters presented at Epidemiology and Biostatistics of Aging (EBA) Training Program’s Research in Progress meeting; October 2020.
- Betz J, Zeger S. Statistical Templates to Jump Start Your Analyses of the COVID-19 Crown Registry presented at the CADRE Research-In-Progress Meeting; July 2020.
- Croll PH, Vernooij MW, Reid RI, Goedegebure A, Power MC, Rigtters SC, Sharrett AR, Baatenburg de Jong RJ, Mosley TH, de Groot M, Lin FR, Deal JA. Hearing loss and microstructural integrity of the brain in a dementia-free older population presented at the Alzheimer’s Association International Conference; July 2020; Amsterdam, Netherlands.

- Deal JA. Hearing Impairment and the Aging Brain: Mechanisms, Practical Considerations and the Effect of Treatment in Older Adults presented as a Session Chair in a Featured Research Session at the Alzheimer’s Association International Conference; July 2020; Amsterdam, Netherlands.
- Deal JA. Understanding the Sensory Loss–Cognitive Function Relationship in Older Adults: Biomarker or Causal Risk Factor? Presented as a Session Chair at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.
- Deal JA, Gross A, Abraham AG, Sharrett AR, Reed NS, Mosley T, Lin FR, Swenor BK. Impact of Hearing Impairment on Missingness of Cognitive Test Scores in the ARIC Study presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.
- Deal JA, Park J, Reed NS, Abraham AG, Lin FR, Windham BG, Sharrett AR. Dual Sensory Impairment and Cognitive Performance, MCI, and Dementia in Older Adults: The ARIC Neurocognitive Study presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.
- Deal JA, Power MC, Bandeen-Roche K, Griswold M, Knopman D, Mosley T, Walker K, Gottesman RF, Sharrett AR. Retinal Microvascular Signs and White Matter MRI Findings: The Atherosclerosis Risk In Communities Neurocognitive Study presented at American Heart Association EPI | Lifestyle 2020 Scientific Sessions; March 2020; Phoenix, AZ.
- Deal JA, Power MC, Betz J, Reed NS, Albert MS, Gottesman RF, Resnick SM, Sharrett AR, Jack Jr CR, Lin FR. Relationship of hearing impairment with MRI brain volumes and cognitive decline in the Atherosclerosis Risk in Communities Study accepted for presentation at the Alzheimer’s Association International Conference; July 2020; Amsterdam, Netherlands. (Conference cancelled due to COVID-19).
- Deal JA, Rawlings A, Sharrett AR, Reed NS, Betz J, Knopman D, Mosley T, Wong D, Zhou Y, Lin FR, Gottesman RF. Population-based Study of Hearing Impairment, Cognitive Performance and Beta-amyloid Deposition presented at The 2020 Scientific and Technology Meeting of the American Auditory Society; March 2020; Scottsdale, AZ.
- Deal JA, Reed NS, Couper D, Hayden KM, Mosley T, Pankow J, Lin FR, Coresh J. The ACHIEVE Trial: Lessons Learned from Nesting a Randomized Controlled Trial within an Observational Cohort Study presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

17. Deal JA, Swenor BK. Apples and oranges: Inconsistencies in assessing cognitive functioning in individuals with sensory impairment. Accepted for presentation at the Cognitive Aging Conference; April 2020; Atlanta, GA. (Conference cancelled due to COVID-19).

18. Liu C, **Assi L**, Nagarajan N, Powell D, Jiang K, Villavisanis D, Swenor BK, Deal JA. Assessment of Hearing or Vision Impairment in Studies Collecting Cognitive Data in Older Adults presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

19. Lin F. Hearing, Aging, & Public Health: From Epidemiology to Public Policy presented at the House Ear Clinic; June 2020; Los Angeles, CA.

20. Lin F. Hearing, Dementia & Brain Aging - From Epidemiology to Clinical Trials Keynote Speaker presentation at the New Zealand Society of Otolaryngology Annual Meeting, October 2020; Auckland, NZ.

21. Lin F. Hearing Loss and Dementia presented for the NIDCD Advisory Council; September 2020; Bethesda, MD.

22. Lin F. Hearing Loss, Cognition, and Brain Aging Keynote Speaker presentation at University College London Auditory Processing Disorders Masterclass, London, U.K., March 2020.

23. Lin F. Hearing Loss in older adults – an ENT’s perspective from the clinic to public health & policy in the U.S. presented at the Chinese University of Hong Kong Department of Otolaryngology; June 2021.

24. Lin F. Hearing Loss in Older Adults – A Public Health Perspective Keynote Speaker presentation at Hearing and Balance; February 2020; Sao Paulo, Brazil.

25. Lin F. Hearing Loss in Older Adults – A Public Health Perspective presented at the International Federation on Aging Think Tank on Hearing in Later Life; November 2020.

26. Lin F. Hearing Loss in Older Adults: Implications for Cognitive Load and Brain Structure/Function presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

27. Lin F. Sensorineural hearing loss presented at an Externally-Led Patient-Focused Drug Development Meeting hosted by the Hearing Loss Association of America in collaboration with the Food and Drug Administration; April 2020.

28. Nichols E, Swenor BK, Deal JA, Abraham A, Carlson MC, Massof R, Ramalu P, Resnick SM, Gross AL. What am I measuring? Disentangling Cognitive Status from Sensory Impairment. Accepted for presentation at the Association for Research in Vision and Ophthalmology Annual Meeting; May 2020; Baltimore, MD. (Conference cancelled due to COVID-19).

29. Nichols E, Swenor BK, Deal JA, Abraham A, Carlson MC, Massof R, Ramalu P, Resnick SM, Gross AL. What am I measuring? Disentangling Cognitive Status from Sensory Impairment. Accepted for presentation at the Alzheimer’s Association International Conference; July 2020; Amsterdam, Netherlands.

30. Nichols E, Swenor BK, Deal JA, Abraham AG, Carlson MC, Ramulu PY, Resnick SM, Gross A. What Am I Measuring? Disentangling Cognitive Status from Sensory Impairment presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

31. Nieman C. Addressing Hearing Care Disparities for Individuals with Hearing Loss & Dementia presented as part of the SIGNature Series, co-sponsored by Special Interest Groups at Audiology & Public Health, Gerontology, and Aural Rehabilitation & Its Instrumentation; November 2020.

32. Nieman C. Advancing Equity in Hearing Care: Community-Delivered Hearing Care from Research to Impact presented as part of the Why Hearing Research Matters as a Longevity and Community Issue at the Association of Retired Rice University Faculty Conference; April 2021.

33. Nieman C. Diverse Recruitment & Retention in Community-Engaged Research: Lessons from HEARS presented and moderated at the American Auditory Society Annual Scientific & Technology Meeting; March 2021.

34. Nieman C. Engaging our Older Adults: Applying Human-Centered Design to Advance Hearing Health Equity presented at the H:EAR & the Australian Hearing Hub’s Public Health & Hearing Webinar Series, Macquarie University; October 2020; Sydney, Australia.

35. Nieman C. HEARS: An RCT of Community-Delivered Hearing Care for Older Adults presented at the Cochlear Center for Hearing and Public Health Research Week; March 2021.

36. Nieman C. HEARS: Community-Delivered Hearing Care from Research to Impact presented at Columbia University Irving Medical Center Department of Otolaryngology-Head & Neck Surgery Grand Rounds; January 2021.

37. Nieman C. Hearing & Dementia: What’s the connection? What can we do about it? Presented at Ohio Speech-Language-Hearing Association 2020 Convention; April 2020.

38. Nieman C. Hearing & Healthy Aging: Advancing a Public Health Approach to Age-Related Hearing Loss presented as part of the Hearing Across the Life Course: The WHO World Report on Hearing & Meeting the Global Need for Ear & Hearing Care symposium at the American Public Health Association (APHA) Annual Meeting; October 2020.

39. Nieman C. Hearing Care Disparities in Dementia: Access & Usability in the Coming Era of OTC Hearing Aids presented as part of the Advancing Alzheimer’s Disease Care and Services Among Racial and Ethnic Minorities symposium at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

40. Nieman C. Hearing Health Equity: A Primer on Social Epidemiology presented as part of Social Justice and Hearing Healthcare: Addressing Equity in Cochlear Implantation at the American Cochlear Implant Alliance. CI2021 Cochlear Implants in Children and Adults; April 2021.

41. Nieman C. Hearing Loss & Dementia: What’s the connection? What can we do about it? Presented at the AAO-HNSF Annual Meeting; September 2020.

42. Nieman C. Hearing Loss & Healthy Aging: Advancing a Public Health Approach to Hearing Care presented at the Hearing Loss Association of America Montgomery County, MD Meeting; January 2020; Bethesda, MD.

43. Nieman C. Hearing Loss & Healthy Aging: Advancing a Public Health Approach to Hearing Care presented at the Maryland Gerontological Association Annual Conference; June 2020.

44. Nieman C. Hearing Loss & Healthy Aging: Advancing a Public Health Approach to Hearing Care presented at the Suburban Hospital Wellness Seminar Series, Listen Up webinar; June 2020.

45. Nieman C. Hearing Loss & Hearing Care Disparities among Older Adults with Cognitive Impairment: Findings from ARIC-NCS presented as part of the Epidemiology: Sensory Impairment & Cognition symposium at the Alzheimer’s Association International Conference; July 2020; Amsterdam, Netherlands.

46. Nieman C. Hearing Loss, Cognition & Disparities in Care: Findings from ARIC-NCS presented as a recipient of the New Investigator Award at the American Auditory Society Annual Scientific & Technology Meeting; March 2020; Scottsdale, AZ.

47. Nieman C. Inequities in Hearing Health Care: How do we care for our older adults? Presented at the American Auditory Society Seminar; August 2020.

48. Nieman C. Innovations in Community-Delivered Hearing Care: Applying Gerontology & Advancing Public Health presented at Ohio Speech-Language-Hearing Association 2020 Convention; April 2020.

49. Nieman C. Leveraging Over-the-Counter Hearing Technology & Older Adult Peer Educators to Increase Access: Lessons from HEARS presented as part of the Communication and Governance symposium at the International Society for Gerontechnology World Conference of Gerontechnology; October 2020.

50. Nieman C. Leveraging Task Sharing & OTC Hearing Technology to Increase Access: Lessons from HEARS presenting as part of Hearing Across the Lifespan symposium; Lake Como, Italy. (Conference delayed due to COVID-19)

51. Nieman C. Rethinking the Management of Neuropsychiatric Symptoms in Dementia presented at Johns Hopkins Clinical, Social, and Scientific Foundations of Geriatric Medicine Grand Rounds; June 2020.

52. Nieman C. The Intersection of Hearing Loss & Dementia: What do we know? Why does it matter? Presented as part of the Hearing Loss and Dementia: Separating Fact from Fiction panel at the American Neurotology Society 56th Annual Spring Meeting; April 2021.

53. Nieman C. The Potential for Regenerative Medicine to Restore Hearing Loss moderated at the Experience HLAA! Annual Convention of the Hearing Loss Association of America; June 2020.

54. Nieman C. WHO World Report on Hearing: Implications for the US & the WHO Decade of Healthy Aging presented as part of the WHO World Reports on Hearing & Vision: Meeting the Growing Needs of Older Adults at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

55. Nieman C. World Report on Hearing presented at the CI Futures Forum; April 2021; Sydney, Australia.

56. Reed NS, Hearing Loss and Frailty Among Older Adults: The ARIC Neurocognitive Study, The Study of Sensory Aging in Existing Cohorts of Older Adults presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

57. Reed NS, Hearing Loss and Help-Seeking Behavior, Sensory Loss and the Healthcare System: Outcomes and Navigation presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

58. Reed NS, Hearing Loss and the Health Care System presented at the Johns Hopkins Bloomberg School of Public Health Current Topics in Epidemiologic Research; September 2020.

59. Reed NS, Hearing Loss, Health Care Seeking Behaviors, and Preventable Hospitalizations presented as a recipient of Early Career Research Award Lecture at the American Auditory Society Conference; March 2021.

60. Reed NS, Trends in Hearing Aid Use Among Older Adults in the United States, 2011-2018 presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 2020.

61. Reed NS, Update on Hearing Loss and Health Care Interactions presented at Hearing Loss Association of America Hospital Safety for People with Hearing Loss Program; October 2020.

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62. Reed NS, Sensory Loss and Delirium presented at the American Delirium Society Annual Conference, June 2020.

63. Reed NS, Garcia EE, Powell DS, Lin FR, Palta P, Deal JA. Impaired Speech in Noise and Depressive Symptoms in Older Adults presented at The 2020 Scientific and Technology Meeting of the American Auditory Society; March 2020; Scottsdale, AZ.

64. Reed NS, Goman A, Betz J, Chisolm T, Couper D, Deal JA, Hayden K, Pankow J, Mosley T, Coresh J, Lin FR. The Aging and Cognitive Health Evaluation in Elders (ACHIEVE) trial: Recruitment and base-line data of a randomized trial of hearing treatment for reducing cognitive decline. Accepted for presentation at the Alzheimer's Association International Conference; July 2020; Amsterdam, Netherlands.

65. Swenor B. A Life Course of Healthy Vision: Shaping Europe's Policy Priorities for Vision in the Decade of Healthy Aging presented at the Global Coalition on Aging and European Council of Optometry and Optics; 2020.

66. Swenor B. A Seat at the Table: Intersection Approaches to Health Justice, Panel on Race and Disability presented at the Student National Medical Association (SNMA) Region VI Conference; 2020.

67. Swenor B. Aging Consequences of Vision Loss: Taking the long view of vision impairment presented at Older Individuals who are Blind Technical Assistance Center (OIC-TAC); 2020.

68. Swenor B. Aging with a Disability: How disability data gaps widen inequities for people with disabilities across the life course presented at the Forum on Aging, Disability, and Independence, National Academy of Sciences, Engineering, and Medicine (NASEM); 2021.

69. Swenor B. COVID-19 and Disability: An unequal response; presented at the COVID-19 and Health Inequities Seminar Series; Center for Communicable Disease Dynamics, Harvard School of Public Health; 2020.

70. Swenor B. Disability Data Gaps in the COVID-19 Response presented at the Biden-Harris COVID-19 Health Equity Task Force; 2021; Washington, DC.

71. Swenor B. Disability Inclusion in the Biomedical Workforce presented at the Center for Hearing Research; 2020; University of California, Irvine.

72. Swenor B. Disability Inclusion, Rights, and Advocacy; presented on the Keynote Panel; Robert Wood Johnson Foundation Annual Leadership Institute; 2020; San Diego, CA.

73. Swenor B. Flattening the In Accessibility Curve: The impact of Covid-19 on people with vision loss presented at the American Foundation for the Blind National Leadership Conference; 2020.

74. Swenor B. Including Disability in All Health Equity Efforts: An urgent call to action presented at S Johns Hopkins School of Medicine Science Writers Boot Camp; May 2021; Baltimore, MD.

75. Swenor B. International Vision Health Scorecard Launch; Global Coalition on Aging; 2020.

76. Swenor B. Panellist for 2020 Celebrating Years of the Americans with Disabilities Act. Medicine for the Greater Good Symposium, Johns Hopkins School of Medicine; November 2020; Baltimore, MD.

77. Swenor B. Partnership with the Academia to Advance Accessibility at Hackathon; Microsoft Corporation; 2020.

78. Swenor B. Presented at 2020 Johns Hopkins School of Nursing Celebrating Disability Inclusion: The 30th Anniversary of the Passage of the Americans with Disabilities Act; July 2020; Baltimore, MD.

79. Swenor B. The Frontier of Disability Research presented at the Stanford University Stanford Disability Conference; 2021.

80. Swenor B. The Interconnection between Vision, Hearing, and Aging presented at Cochlear Center Research Week; March 2021.

81. Swenor B. The Impact of Low Vision and Vision Rehabilitation on Health and Aging World presented to the Ophthalmology Congress; 2020; South Africa.

82. Swenor B. The Lancet Global Health Commission on Global Eye Health: Vision Beyond 2020 Webinar; International Agency to Prevent Blindness (IAPB); 2021.

83. Swenor B. The Need for Action: Vision and Aging, Momentum Discussion presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.

84. Swenor B. Visual Impairment and Aging presented at the American Foundation for the Blind National Leadership Conference; 2020.

85. Swenor B. Visual Impairment and Aging presented at the National Academy of Medicine (NAM) Emerging Leaders Forum; 2021.

86. Willink A. Economic Impacts of Hearing Loss presented at Public Health and Hearing Webinar Series- H:EAR & the Australia Hearing Hub; July 2020.

87. Willink A. Sensory Loss: A Policy Perspective presented at the SENSE Network Seminar, January 2021.

88. Willink A. Understanding Medicare with Hearing Loss in Sensory Loss and the Health Care System: Outcomes and Navigation presented at The Gerontological Society of America (GSA) 2020 Annual Scientific Meeting Online; November 4-7, 2020.

Once vaccines were widely available, faculty, staff and trainees enjoyed an end-of-year picnic in Patterson Park - some meeting face to face for the first time!

