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Social Determinants of Health and Audiology

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Laura Coco is a clinician-researcher who received her AuD from the University of Texas and her PhD from the University of Arizona. She completed her postdoctoral training at Oregon Health & Science University and at the Center to Improve Veteran Involvement in Care. Currently, Dr. Coco is an Assistant Professor at San Diego State University where she teaches graduate and undergraduate students and carries out research related to hearing healthcare access and equity as the Director of the Community-Engaged Research for Communication Access (CERCA) Lab. Her community-engaged, patient-oriented research has been funded by the National Institutes of Health, the Resource Centers for Minority Aging Research, the VA Rural Health Resource Center, and multiple other community and foundation sources.



Disclosures

- **Presenter Disclosure:** Financial: Laura Coco is an employee of San Diego State University. She received an honorarium for this presentation. Dr. Coco is the Director of the Community-Engaged Research for Communication Access (CERCA) and has conducted research related to hearing healthcare access and equity funded by the NIH and other entities. Non-financial: Laura Coco has no relevant non-financial relationships to disclose.
- **Content Disclosure:** This learning event does not focus exclusively on any specific product or service.
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Learning Outcomes

1

define **social determinants of health** in healthcare and their relevance to audiology

2

describe the **importance of screening** for social determinants of health in hearing healthcare

3

identify **methods for identifying and assessing** individual social risk factors in hearing healthcare settings



Outline

- Brief personal introduction
- Definition of SDOH, relevance in audiology
- Identifying, addressing unmet social needs
- Future directions and needs
- Summary and Q&A



Brief personal introduction



What determines a person's health outcomes?

Imagine two patients with the same chronic condition, such as diabetes.

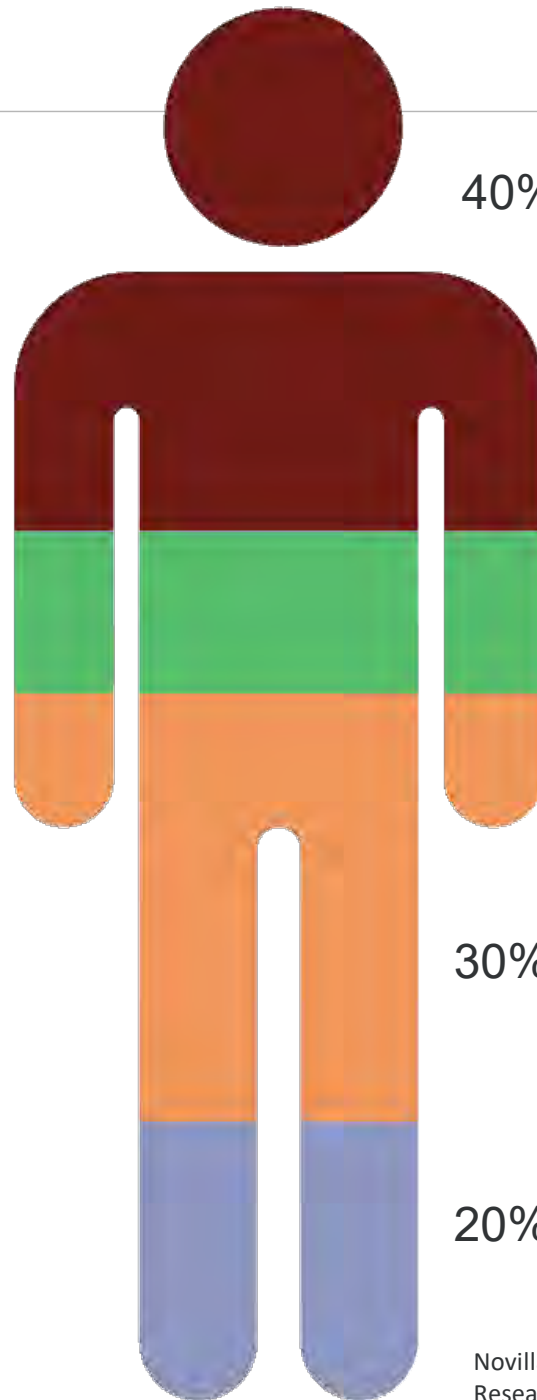
Adam has access to comprehensive medical care, lives in a safe neighborhood, has a steady income, and has strong social support. He can afford nutritious food, has time for regular exercise, and manages stress well.

Dan lives in a low-income area with limited access to healthcare facilities. His neighborhood is unsafe, making outdoor exercise difficult. He struggles to afford healthy food, often relying on cheaper, less nutritious options. Stress from financial instability and lack of social support further exacerbates his condition.

Despite **receiving similar medical treatment**, Dan's health outcomes are poorer, with more frequent hospitalizations and complications.



What
determines
a person's
health
outcomes?

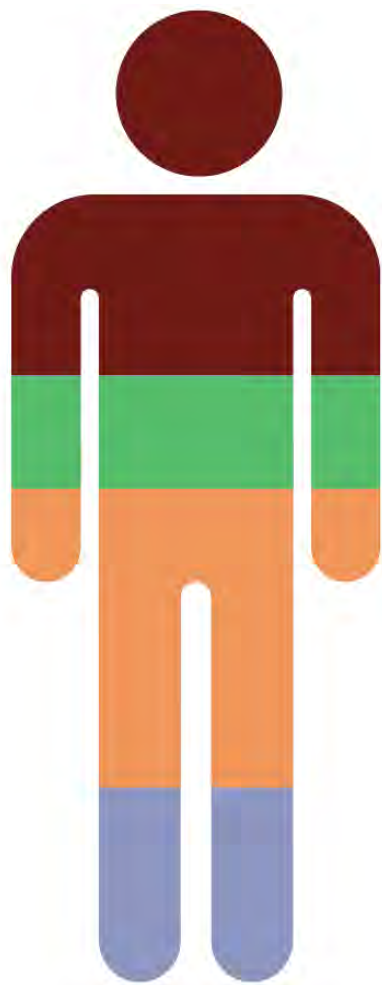


40% socioeconomic factors

10% physical environment

30% health behaviors

20% medical care



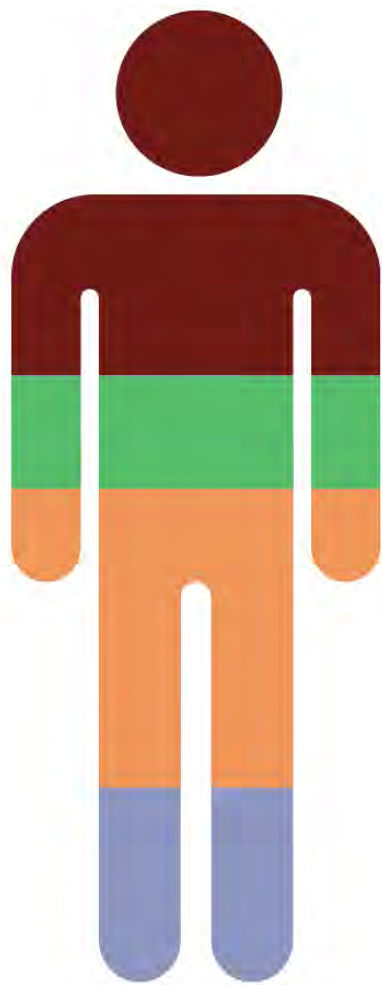
Socioeconomic Factors: Alice has a well-paying job and excellent health insurance coverage. She can afford high-quality hearing aids and gets regular check-ups with an audiologist.

Physical Environment: Alice lives in a quiet suburban area. Her workplace has implemented measures to minimize noise levels.

Health Behaviors: Alice has resources to buy and cook healthy food. She exercises daily, and she does not smoke.

Medical Care: Access to excellent healthcare means Alice receives timely, high-quality treatment and follow-up care.





Socioeconomic Factors: Debbie has a low-income job at a factory. She does not have health insurance. She has a lot of medical bills from a recent accident.

Physical Environment: Debbie relies on public transportation. Most of her paycheck goes to rent.

Health Behaviors: Debbie has smoked cigarettes for the past 30 years.

Medical Care: Debbie does not have a regular primary care provider. She only goes to the doctor when it's an emergency.

What are SDOH?

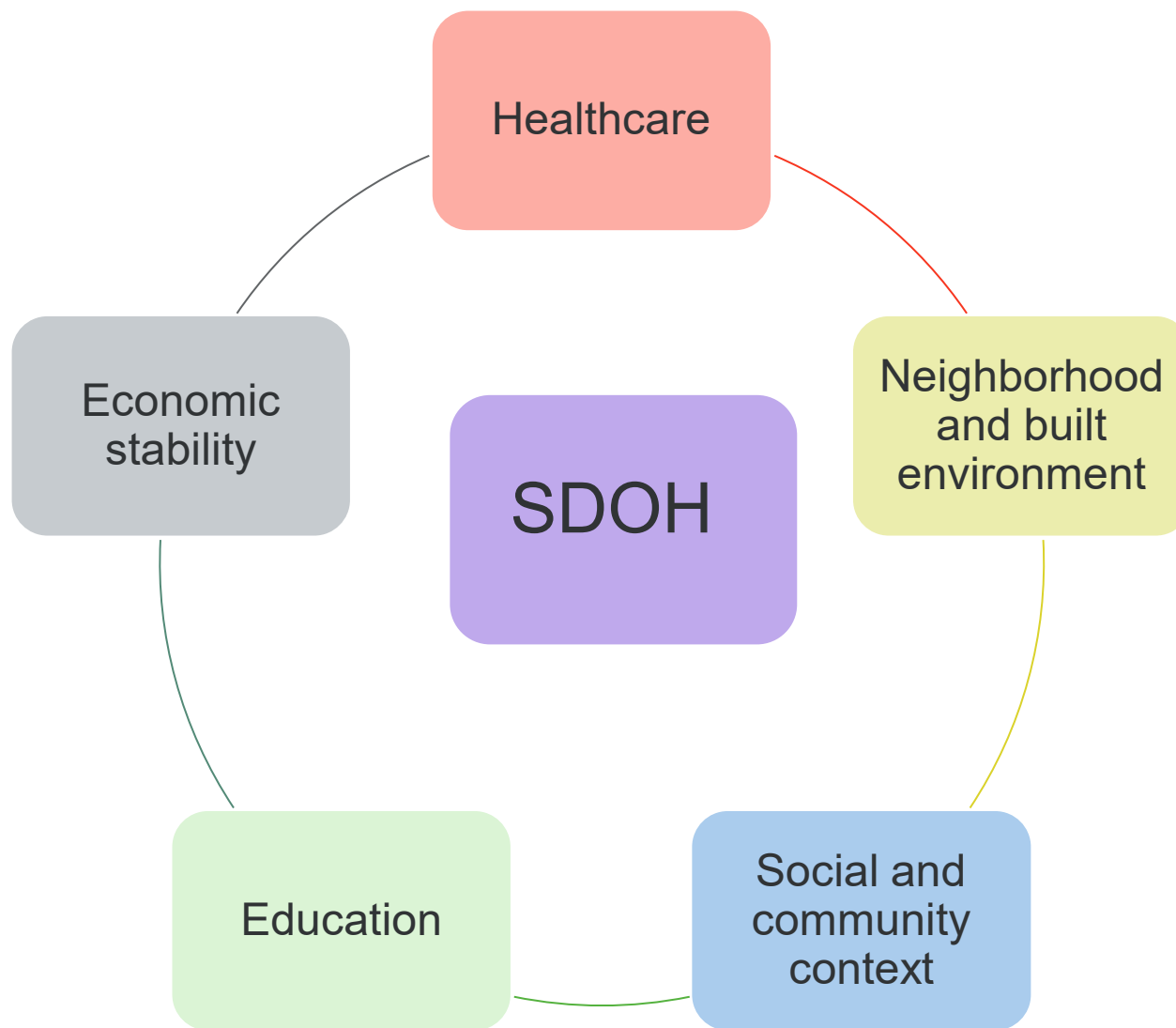
Environmental and lifestyle factors that influence health.

“Conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.”

- Healthy People 2030



Five key areas of SDOH



Healthcare

- Insurance coverage
- Health literacy
- Transportation to health care facilities
- Provider availability
- Provider/patient linguistic & cultural congruence
- Quality of care



Neighborhood

- Safety and quality of housing
- Transportation
- Water and air quality
- Crime
- Parks, playgrounds
- Walkability



Social and community context

- Social + community integration
- Support systems
- Community engagement
- Discrimination
- Stress
- Racism
- Stigma



Education

- Literacy
- Language
- Early childhood education
- Vocational training
- Higher education



Economic stability

- Employment
- Income
- Expenses
- Debt
- Medical bills
- Support

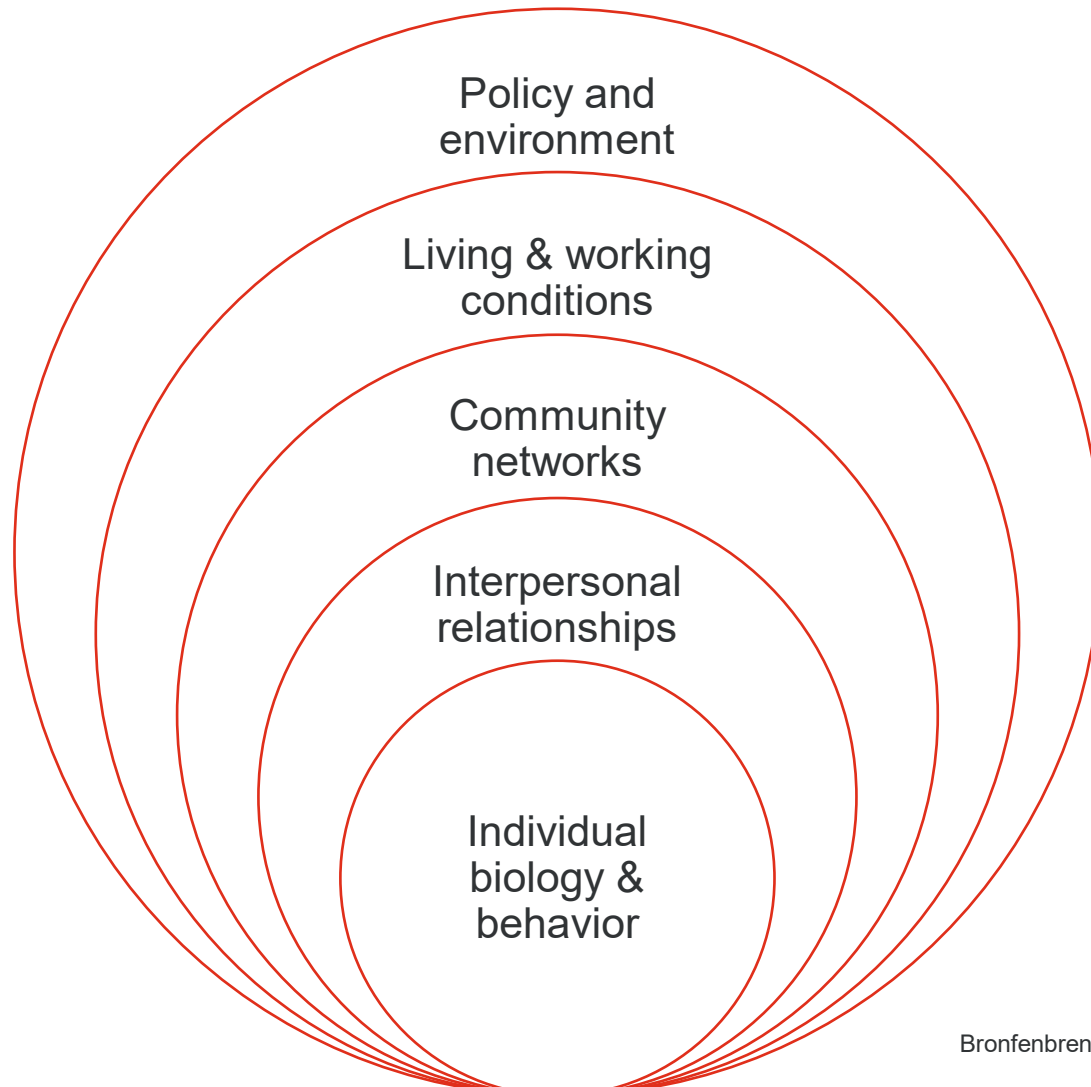


SDOH - strong predictor of health inequities.

Unmet social needs create **obstacles** to high-quality care and contribute to poor health.



Layers of determinants



SDOH and hearing care

Higher SES - >
better **hearing**

More education - >
more likely to have a
recent hearing test

White race - >
more likely to report
regular **hearing aid**
use

Rural residence - >
delayed **access** to ear
and hearing care

Lack of private
insurance - >
less likely to have
hearing aids

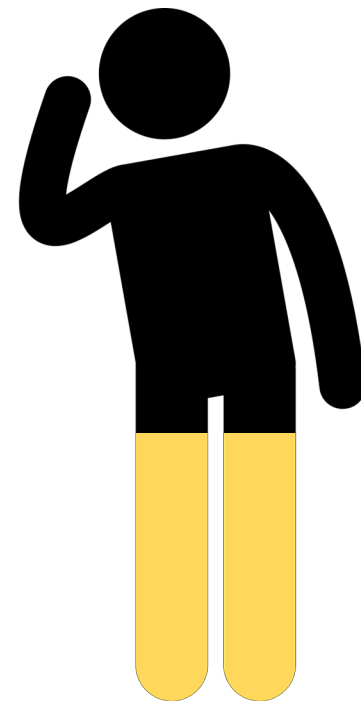
Higher SES - >
tympanostomy tube
to treat OM

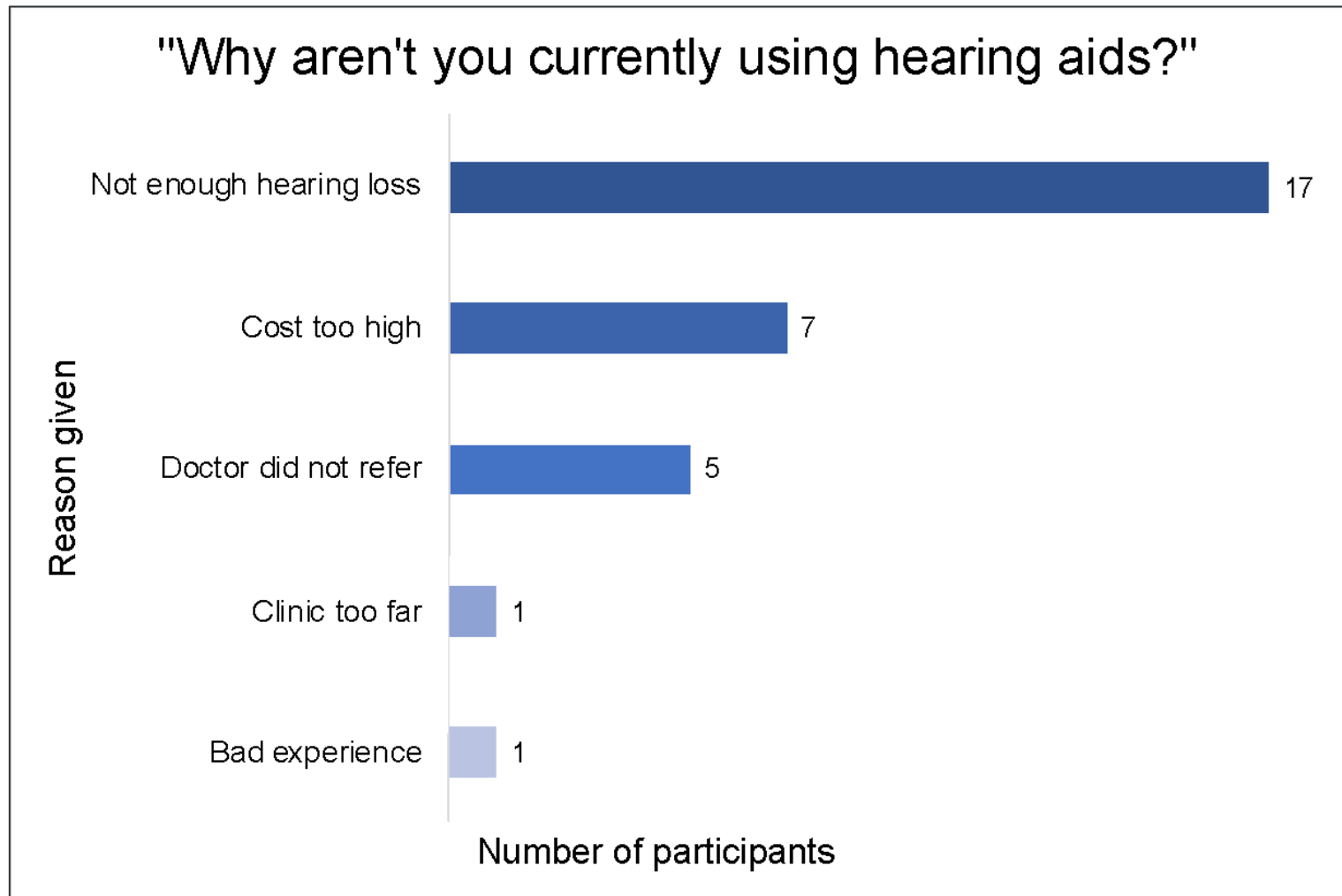
SDOH impact how people are **susceptible** to, **diagnosed** with, & **receive care** for hearing loss.

Among adults >70 years, less than 1/3 use hearing aids

Factors influencing uptake:

- Cost
- Self-reported hearing disability
- Perceived benefit
- Degree of hearing loss
- Stigma
- Age
- Psychological factors





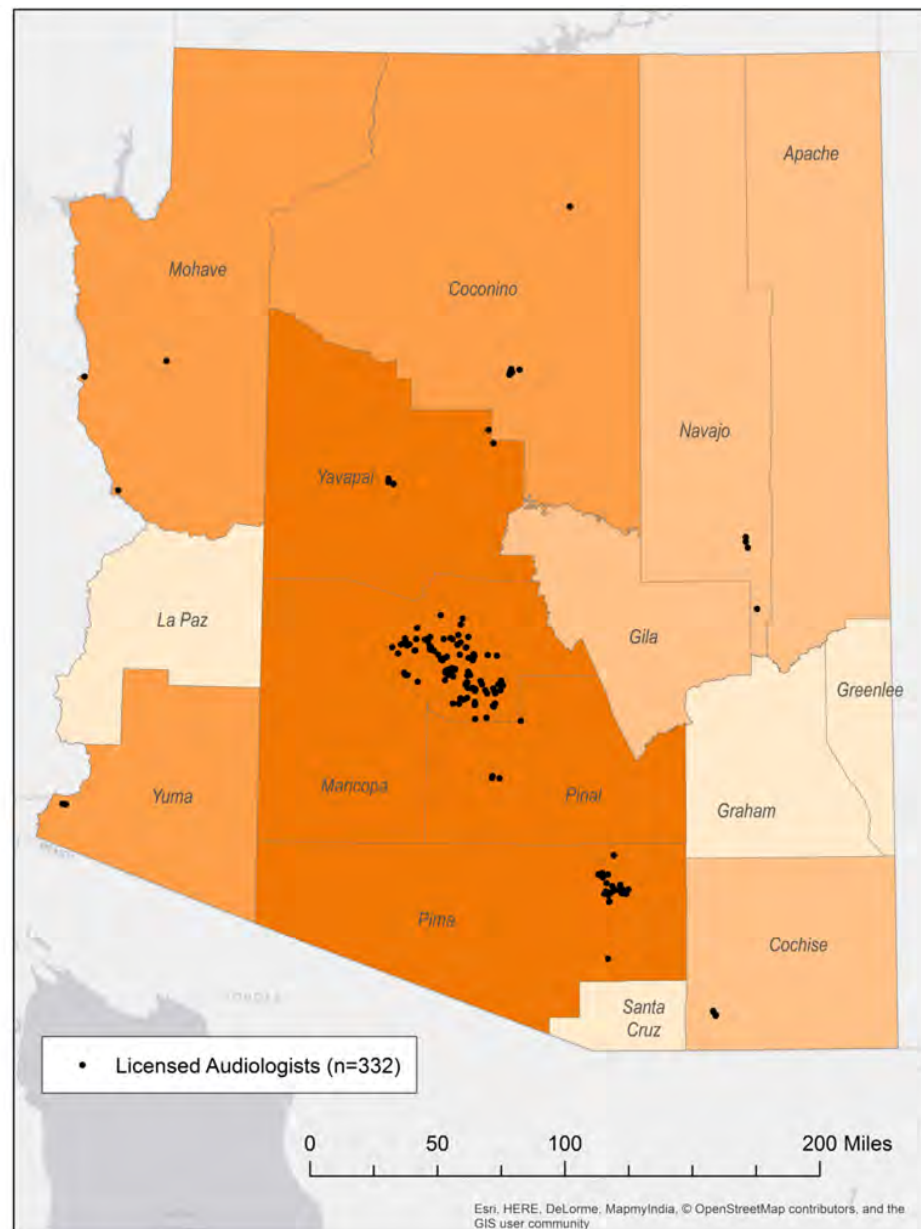
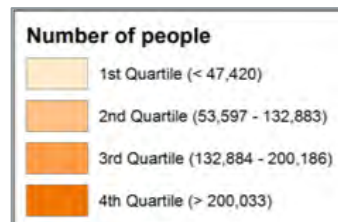
Barriers in audiology

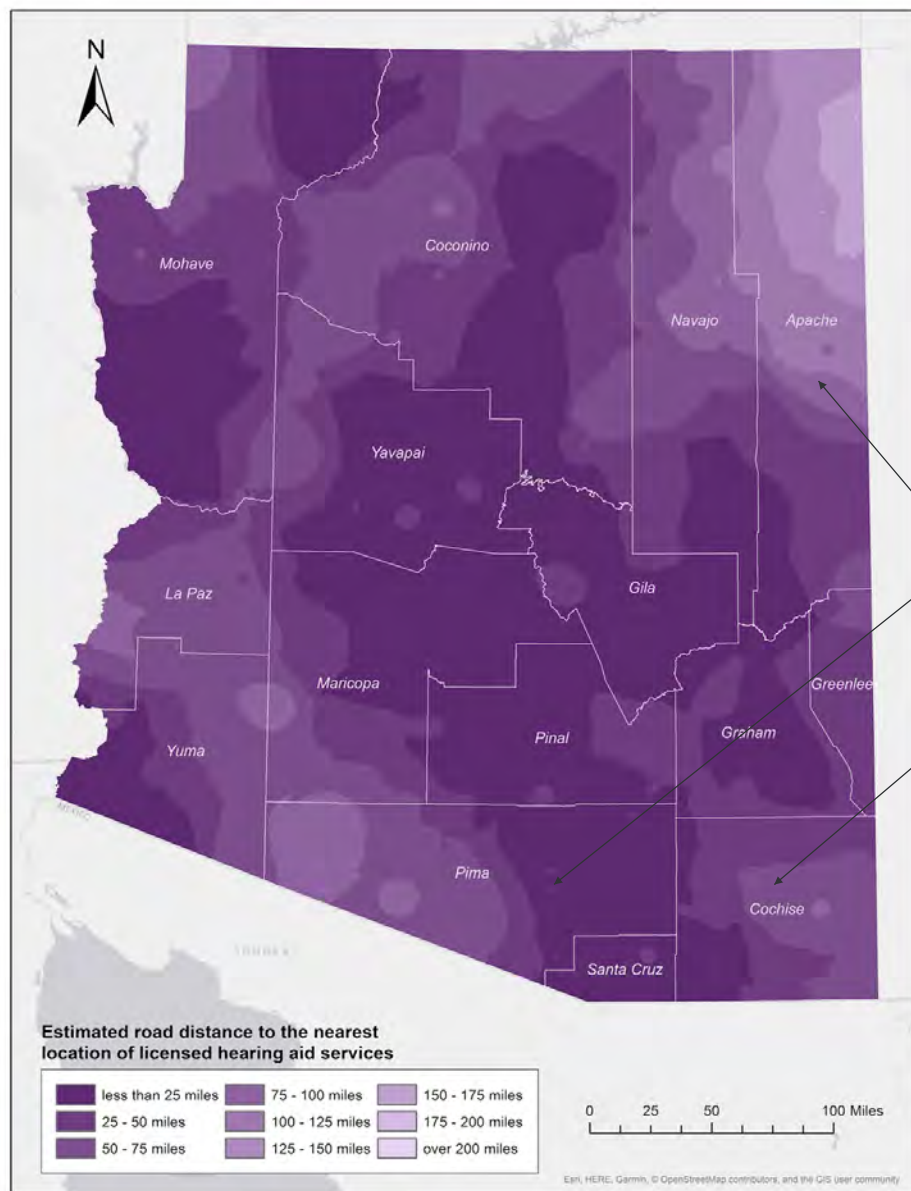
There are an average of 4 audiologists per 100,000 people in the United States.

- Fewer audiologists in counties with older populations and lower family incomes (Planey, 2019).
- Patients in rural areas are delayed in use of hearing aid services compared to urban counterparts (Chan et al., 2017).

Arizona Case Study:

- Fifteen counties in AZ.
- Six non-metro counties in AZ without any audiologists.
- Driving distance to the nearest audiologist could exceed 100mi.





Average estimated road distance to nearest hearing aid services

Pima	4.11 miles
Cochise	21.6 miles
Apache	118.9 miles

Identifying unmet social needs



How to identify unmet social needs:

- Administer a standardized **SDOH** screening **questionnaire**
- Engage in **empathetic inquiry, active listening & patient-centered** communication



Screening for SDOH

- Several brief **screening tools** can be included as part of a workflow designed to identify and address **social needs** with **referrals** to community-based resources.



Responsible screening

- We should screen for SDOH with an understanding of how to address identified needs.



Responsible screening

Conduct needs assessment

Establish relationships with community resources

Select screening instrument

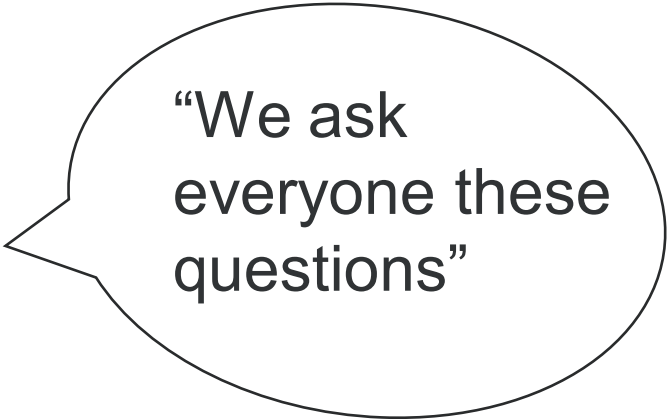
Train staff to address topics

Ensure community partners have capacity to receive referrals



Responsible screening

Put patients at ease and ensure confidentiality



“We ask
everyone these
questions”



Empathic inquiry



Share power



Consider stigma
and biases



Respect privacy



Avoid confusion



Empathic inquiry guide

Start building trust:

1. Introduce yourself and your role
2. Explain what, why, how long
3. Ask permission to have conversation, ask if patient has any questions

Help create understanding:

1. Open-ended questions: *“How are things going with making ends meet?” // “Tell me more about what’s going on for you”*
2. Reflective listening: *“Getting help with your rent sounds like your top priority”*

Summarize, action plan, & support:

1. Empathy-based affirmations: *“It sounds like you have been working hard to make ends meet”*
2. Acknowledge that for areas where resources are not available, the team will use this information to support planning and health promotion with the patient.
3. Ask permission to follow up: *“What do you already know about food resources available in our community? We can help you get connected”*

Screening tools for adult patients

Protocol for Responding to and Assessing Patients' Assets, Risk, and Experiences (PRAPARE)

The Accountable Health Communities (AHC) Health-Related Social Needs Screening Tool



Screening tools for pediatrics

IHELP Pediatric Social History Tool

- Kenyon et. al. 2007



Workflow example #1

Who: non-clinic staff (CHW, patient advocate)

Where: in patient advocate's office

When: before or after clinical visit

How: administer screening, respond to needs identified, discuss results with provider

Workflow example #2

Who: interpreters, assistants, staff

Where: in exam room

When: before provider enters

How: administer screening, provider is informed of any socioeconomic situations that might impact care, provide resources and referral

Why screen for SDOH?

1. Comprehensive care
2. Improved access to services
3. Enhanced patient outcomes
4. Targeted interventions
5. Equity in healthcare
6. Policy and advocacy
7. Patient trust and engagement



Addressing unmet social needs



How can we help address SDOH?

1. Improve access
 - Telehealth, mobile clinics
 - Accessible hours
2. Economic support
 - Sliding scale fees
 - Patient navigator
3. Education and empowerment
 - Health literacy
 - Community workshops
4. Build partnerships
 - Community collaborations
 - Referral networks
5. Advocacy and policy
 - Policy advocacy
 - Public awareness campaigns
6. Cultural awareness
 - Training
 - Tailored services
7. Supportive environments
 - Patient advocacy
 - Community support groups
8. Identify social risk factors
 - Integrate SDOH screenings
 - Tailor interventions, referrals

How can we help address SDOH?

Integrate SDOH into undergraduate and graduate audiology **education**
e.g., assessment of SDOH as an AuD competency



Advocating for hearing health equity



Help address hearing health equity

1	Engage in advocacy at local, state, and federal levels.
2	Ensure access to culturally and linguistically appropriate services.
3	Hire staff that reflect the population being served.
4	Educate patients about eligibility for/access to entitlement programs (e.g., Medicaid, SNAP).
5	Collaborate with non-traditional partners.



Addressing SDOH in Audiology:

Additional examples from the literature



Applications in audiology

- Matiz, L. A., Leong, S., Peretz, P. J., Kuhlmeier, M., Bernstein, S. A., Oliver, M. A., ... & Lalwani, A. K. (2022). Integrating community health workers into a community hearing health collaborative to understand the social determinants of health in children with hearing loss. *Disability and Health Journal*, 15(1), 101181.



Applications in audiology

- Findlen, U. M., Gerth, H., Zemba, A., Schuller, N., Guerra, G., Vaughan, C., ... & Benedict, J. (2024). Examining Barriers to Early Hearing Diagnosis. *American Journal of Audiology*, 1-10.



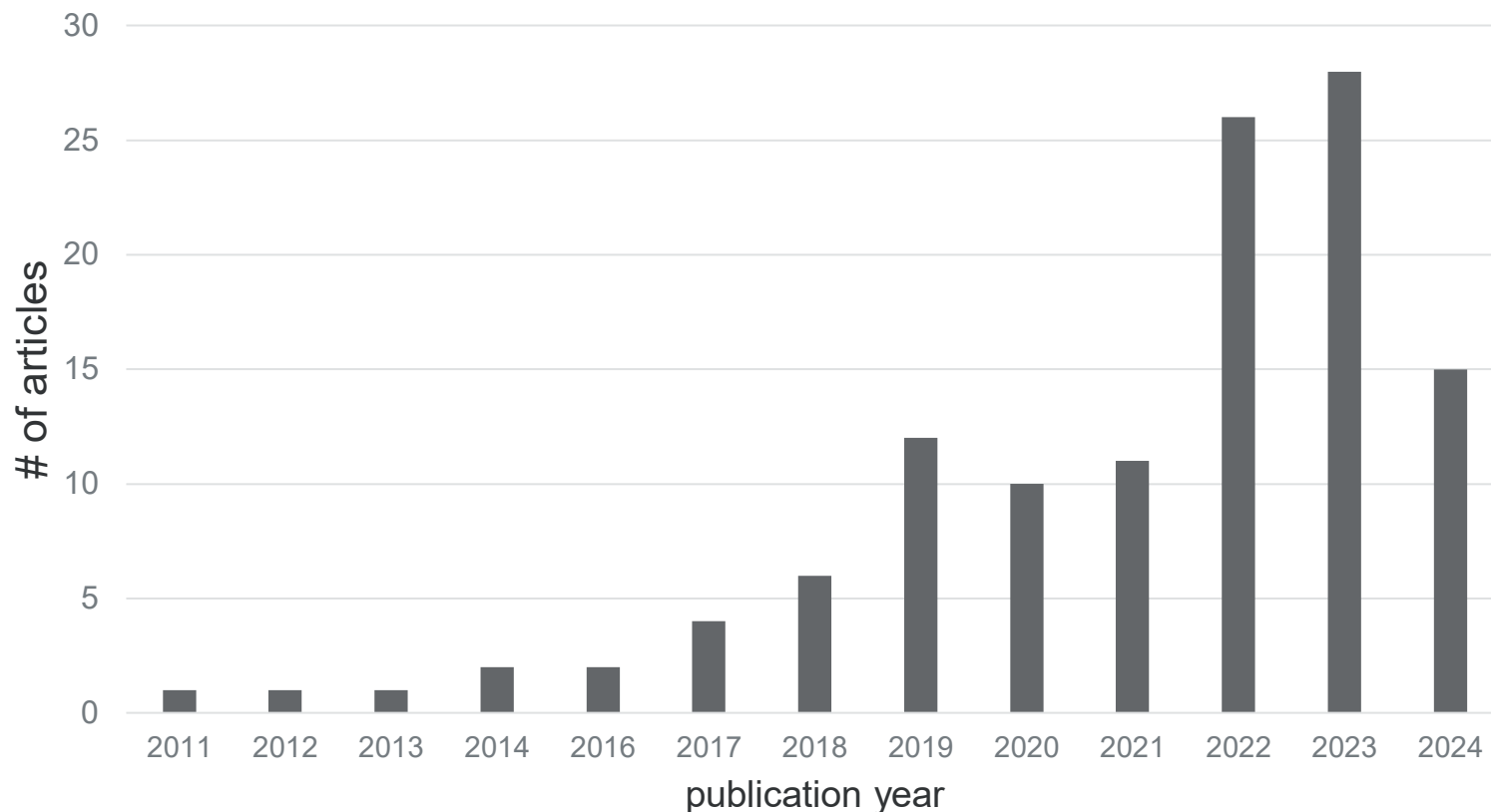
Applications in audiology

- Nicholson, N., Rhoades, E. A., & Glade, R. E. (2022). Analysis of health disparities in the screening and diagnosis of hearing loss: Early hearing detection and intervention hearing screening follow-up survey. *American Journal of Audiology*, 31(3), 764-788.



SDOH & audiology: A growing area

Number of articles on SDOH and audiology
(pubmed)



Future directions and needs

- Education and training
- Community engagement and outreach
- Interdisciplinary collaboration
- Supportive policies



Thank you!

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