Social Determinants of Health and Audiology

Presenter: Laura Coco, PhD, AuD, CCC-A

It's my pleasure to welcome Doctor Laura Coco. She's our guest speaker today and she'll be presenting on the social determinants of health and audiology. If you'd like to learn more about Doctor Koko and her background, you can read her bio on the course registration page. But at this time I hand the mic over to you. Thank you so much.

Welcome everyone. Today I'm discussing the topic of social determinants of health and audiology. I just want to start by thanking you all for coming today and for your interest in this topic. I'm really pleased by the fact that there is interest in this topic. I think it really speaks volumes about the future of audiology and I know that we're all coming from a range of backgrounds and everyone's starting with a different kind of baseline understanding of social determinants of health.

And this class is meant to be an introduction to social determinants of health. I know that you all may know a little bit about this topic, but this class is meant to give us a framework and some kind of definition, some baseline understanding of this topic. So hopefully it isn't too basic for anyone. But I'm assuming that you're like me and that you didn't receive any formal education in this in your AUD program. So before we begin, this is my disclosures and the learning outcomes.

By the end of this hour you should be able to one, define the social determinants of health in healthcare and their relevance to audiology. Two, describe the importance of screening for social determinants of health in hearing health care and three, identify methods for identifying and assessing individual social risk factors in hearing healthcare settings.

Our outline includes a brief personal introduction of me. I'll provide a definition of social determinants of health and their relevance in audiology. I'll talk about how to identify and address unmet social needs, and then I'll talk about future directions in this area and future needs. And then I'll summarize the topic and provide a few minutes for Q and A.

So let me start by introducing myself to provide some background on why I'm interested in social determinants of health and how it impacts my work as an audiologist and a researcher. I am a coda, a child of a deaf adult. My dad was born with hearing loss and it progressed to profound deafness as he became an older child, and this has just infused and informed my practice as an audiologist and as a researcher. So my first language was sign language and so I always have to start talks by stating that I am a coda. And so it also informs my understanding of social determinants of health, and really is my inspiration for becoming an audiologist.

But I. I started to be inspired and think about becoming an audiologist because of my time volunteering in a clinic in southern Mexico. I volunteered in this clinic before I even became a clinical audiologist. And it was here where I started to really learn and become face to face with the challenges and barriers that were experienced by rural and underserved and low income patients who were pursuing hearing health care. And then I returned to the United States and began grad school and learned that, hey, in the United States, we have some of the same, actually a lot of the same barriers to hearing health care.

Maybe not to the same extent, but we share a lot of the same barriers. And so it was then that I started to formulate solutions and strategies to address a lot of those barriers. And one of the solutions that I work a lot with is telehealth. And this is a picture of me in my AUD program at the University of Texas, where I worked in a telehealth program that was weaved into a research program, but we were working with clinical patients to provide hearing aid services remotely. And this is a picture of me in Austin.

We were providing hearing aid fittings to patients in San Antonio, and that was addressing a lot of the barriers that they had in finding local care. And so telehealth is still a strategy that I use today to address barriers and access. And then after my AUD program, I pursued a PhD at the University of Arizona, where my mentor was focused. Her expertise was in community engaged care. And here's a picture of a community health worker, the woman that's facing the camera and the community health

worker is providing a community based hearing health education program in the community, and that addresses barriers in that community of not having audiologists locally.

And so we partnered with community health workers to provide services locally. And then my dissertation combined those two strategies of telehealth and working with community health workers. And then now I am an assistant professor at San Diego State University. And one of the projects that I work on is with farmworkers in rural areas, and I work on preventing hearing loss in those communities. And here is a picture of me with two of my graduate students.

And we are at a health fair for farmworkers that happened in the middle of the night. And that's why we have lanterns here. It's pitch dark and freezing cold. And I have two brave graduate students with me. And this is kind of what you have to do to meet participants and people where they are, because this is the only time that they have to receive health services.

So that's a little bit about me. And now we can move on to kind of the basics, the nuts and bolts of social determinants of health.

So, as I will talk about for the next hour, our health outcomes are influenced by a multitude of factors, not just biological and the treatment that we receive in a healthcare setting, but also non medical factors. I thought we'd start off with an example. We have two patients with the same chronic condition, like diabetes. Adam has access to comprehensive medical care. He lives in a safe neighborhood.

He has a steady income. He has strong social support from his family and his neighbors. He can afford nutritious food. He has time for regular exercise, and he manages his stress well. And then we have Dan, who also has diabetes.

He lives in a low income area, and his area doesn't have a lot of healthcare facilities. His neighborhood is really unsafe, so he doesn't feel good going outside and getting regular exercise. He struggles to afford healthy food. He often relies on less nutritious options. He has stress, mostly from his financial instability and lack of social support.

And so that further exacerbates his condition. So here we have two individuals with the same chronic condition. They both have diabetes, and we could potentially provide them the same medical treatment. But we have Dan, with poorer outcomes and more frequent hospitalizations and conditions. Just an illustration how the environment and conditions really have an impact on someone's outcomes.

When it comes to the factors that determine a person's health outcomes, research has shown that it's definitely more than biology, and it's even more than the treatment that we provide in a healthcare setting. It's estimated that 40% is due to an individual's socioeconomic factors. 10% can be attributed to a person's physical environment like the conditions in which they live. 30% can be attributed to health behaviors like smoking, exercising, and eating. And medical care is not the major influence on health.

Only 20% includes moments in a healthcare environment. We should keep that in mind when patients are coming into our setting, and we think that 100% is within our control. The next two slides provide examples of patients that we may encounter in our audiology clinic. The first is Alice. She is well resourced.

She has a well paying job and excellent health insurance coverage. Alice can afford high quality hearing aids. She can afford to come back to our clinic and get regular checkups with an audio audiologist. She also lives in a quiet suburban area, so she doesn't have a lot of environmental exposures to noise. Her workplace has even implemented measures to minimize noise levels.

She has the resources to buy and cook healthy food. She exercises daily and she doesn't smoke. These may seem like elements that are not directly related to audiology, but they are because they are potential risk factors for hearing loss. And then, regarding just general medical care, she has excellent healthcare in terms of access and quality. So she receives timely, high quality treatment and follow up care.

And then on the other extreme, another patient walks in the next day. And we have Debbie, who has a low income job at a factory. She doesn't have health insurance. She has a lot of medical bills, so a lot of debt from a recent accident. She relies on public transportation, so she may be delayed in a follow up visit, and then most of her paycheck goes to rent.

She also smokes cigarettes and she smoked for the past 30 years. And she doesn't have a regular primary care provider. She only goes to the doctor when it's an emergency. So similar to the diabetes patients before. Despite providing the same treatment and recommendations and care for both Alice and Dennis, the outcomes will likely be different.

Now, to provide some definitions, what are social determinants of health? They're the environmental and lifestyle factors that influence health, and then a longer definition for us by healthy people 2030. They are the 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. They're shaped by the distribution of money, power and resources, and they're impacted by factors like institutional bias, discrimination, racism and more. But understanding social determinants of health helps us address health disparities and promote health equity.

There are five key areas, or main buckets of social determinants of health. And the first is healthcare in terms of healthcare access and quality, neighborhood and the built environment, social and community context, education, access and quality, and economic stability. And each of these areas encompasses

specific factors that influence health outcomes. So let's delve into each area, starting with healthcare. So, healthcare includes insurance coverage, which helps ensure that you have access to the necessary medical services.

Also health literacy, which is defined by the ability to understand and use health information, transportation to healthcare facilities and services.

Provider availability. So, are there enough providers and specialists in your area? Patient and provider linguistic and cultural congruence, which means that the provider language and cultural understanding matches the patient's needs and quality of care.

Next, the neighborhood and built environment encompasses safety and quality of housing transportation, water and air quality, which reduces health risks, crime rates, the availability of parks and playgrounds, and walkability.

Social and community context covers social and community integration, which helps provide a sense of belonging support systems, which is the availability of friends, family, and community support community engagement, experiences of discrimination and stress, and issues like racism and stigma.

Education is a critical determinant involving literacy and language skills, early childhood education, vocational training, and higher education opportunities. Finally, economic stability factors include employment status, including stable job with fair wages, income levels to meet basic needs, expenses and debts, and medical bills and financial support.

Social determinants of health are strong predictors of health and healthcare inequities, influencing health disparities and outcomes across different populations.

Understanding the multiple layers of determinants of health helps us understand and address and mitigate health inequities. It also helps researchers and clinicians plan and implement interventions that address the multiple levels of influence. What I have here on the slide is a socioecological model which some of you may be familiar with. This model provides a framework for understanding the multilevel and multifaceted and interactive effects of personal and environmental factors on behavior and health outcomes. So what we have here is the multiple levels of influence ranging from individual at the bottom to policy, environmental, and societal at the top.

These layers interact and can be used to understand. It basically complements the social determinants of health to understand how the environment impacts health outcomes. So we can understand on an individual level, how personal characteristics and individual behaviors influence health outcomes. For example, biological factors, personal knowledge and attitudes like in an audiology context, awareness of hearing loss personal knowledge of hearing aids, attitudes about hearing aids personal health behaviors then if we go up one level, interpersonal relationships like relationships with family and friends, the support that you get, encouragement from family and friends to seek help about hearing loss and use hearing aids as an example, how your peers influence you, even social norms regarding the acceptance and use of hearing aids going up one level at the community level, this relates to relationships among organizations and institutions, even informal networks, so it could involve community programs aimed at improving health, community wide beliefs and norms around hearing loss and the use of hearing aids, the availability of resources and hearing aid providers and then going up one more level, occupational health and safety regulations to protect against noise induced hearing loss economic stability that affects your ability to afford hearing aids and environmental noise levels in your work area and your home environment that can impact hearing health and then at the top level, policy and environmental. That layer includes local, state, and national policies and laws that regulate to support behaviors and access to hearing healthcare so that's like healthcare policy and insurance coverage and reimbursement for hearing aids and other related services, government initiatives for

funding, and I even the Americans with disabilities acts, the laws that protect the rights of individuals with hearing loss.

The layers that I've presented here don't operate in isolation. They interact with each other and to shape outcomes and behaviors. So, as an example, a policy change like improved insurance coverage for hearing aids can influence community attitudes. Like it could potentially increase acceptance at a community level for hearing aids. And then that could in turn increase interpersonal support, like increased family and friends support for hearing aids, and ultimately influence individual behaviors, like more individuals seeking help for hearing aids.

So you can see how these layers interact and also how it kind of mirrors or complements the social determinants of health.

So I'd like to pause here and try to encourage you to think about how the social determinants of health might play out, either positively or negatively at each of these levels of influence. So it might help to use an example for yourself outside of audiology. For example, positive determinants of health on the individual level might be exercising daily or making sure to schedule a yearly dental appointment or eating healthy food. And at the community level, using the exercise example, at the community level, your ability to exercise daily might be affected by your neighborhood having sidewalks or being safe or having public parks within walking distance or a gym nearby. Do you feel safe or able to exercise daily?

And then if we jump up a couple of levels at the wider policy level, are you able to afford a gym or are you able to, are you earning a fair wage so that you're able to pay rent, so that you're able to have enough time to exercise. So that's kind of how the two complement each other. And I think if we understand it at a personal level, then we're more able to relate to patients who may be experiencing it as well.

Social determinants of health significantly impact hearing aid uptake by influencing access to care, awareness, affordability, and social support. And the determinants in encompass a range of factors, including economic stability, education, social support, and community context. Here are a few examples from the literature to illustrate the impact of social determinants of health on access to audiology services. The literature has shown that individuals of higher socioeconomic status have better hearing thresholds. Individuals with higher years of education are more likely to have a recent hearing test.

Individuals of white race are more likely to report regular hearing aid use. Rural residents are delayed in their access to hearing care relative to urban residents. Individuals with a lack of private insurance are less likely to have hearing aids compared to individuals that have private insurance, and individuals with higher ses, again are more likely to be referred for tympanoscopy tubes to treat otitis media.

So across the literature we can see that social determinants of health impact how people are susceptible to diagnose with and receive care for hearing loss.

We likely all know that there are that hearing loss is common and hearing aid use is less common. So here on the slide, I have a citation that among adults over 70 years who audiometrically are eligible for hearing aids, less than a third use them, so less than we would like. But hearing aid use is also impacted by a number of factors which on their face may not all look like they are associated with social determinants of health. But if we look at them a bit more closely, these factors influencing uptake do have some potential connection with social determinants. So the first is a more obvious connection.

So cost is a major factor that is associated with low uptake of hearing aids and that is associated with the social determinant of health, of economic stability and healthcare access. Self reported hearing disability is associated with low uptake, and you may think, how is that related to social determinants of health? But it could be indirectly related in terms by way of health literacy and access to healthcare.

Another factor that is related to low uptake of hearing aids is perceived benefit. So individuals will say that they don't think that they their self reported hearing loss is not enough to warrant hearing aids.

This could also potentially, potentially be indirectly related to social determinants of health by way of education and health communication. Effective communication from healthcare providers and public health campaigns can help shape the perceptions of benefit. Degree of hearing loss is a biological factor and so it's a clinical measure and it's less influenced by social determinants. Although early detection and management could potentially be influenced by access to healthcare, so it could possibly be associated with social determinants. Stigma could be related to social determinants by way of social and community contexts, cultural beliefs and social norms of hearing loss and community support because community and peer attitudes can either mitigate or exacerbate stigma.

Age, you might think, how is age related to social determinants of health? But this could be indirectly related due by way of healthcare access because older adults may have different levels of healthcare access and also age can influence social support networks which can affect hearing aid uptake.

This slide is showing results from a study that we carried out and the results of the entire study are published in ear and hearing if you want to take a look. These results are from a group of older adults in southern Arizona on the US Mexico border, and most of them reported annual incomes of $10,000 or less. And all of them were Latino. Most of them are spanish speaking, and none of them had used hearing aids at the time of the study, and the study was to fit them with hearing aids as part of a randomized controlled trial. We asked them at baseline, why aren't you currently using hearing aids?

And the majority of them said, I don't have enough hearing loss. So kind of thinking back to the previous slide where it's self reported disability, they didn't think that they had enough hearing loss to warrant the purchase of hearing aids. A lot of them said the cost was too high, the doctor never referred them for hearing aids, clinic was too far, or they had a bad experience with a provider in the past. So

this again hits home that the access and use and uptake of hearing aids can be wrapped into, either directly or indirectly, social determinants of health.

There are also geographic barriers in access to hearing care. There are ASHA reports are an average of four audiologists to every 100,000 people in the United States, which to me seems very low. But even that number four, the number of audiologists, are not evenly or equitably distributed throughout the United States. So there are areas of the United States, rural areas, and other parts of the US that have no audiologists. So people are facing long drives or likely opting just not to go to an audiologist because they're not represented in their community.

In this article by Pliny, she found that there are fewer audiologists in counties with older populations and fewer audiologists in counties with lower family incomes. This article is really interesting because she found that audiologists tend to be clustered around cities that have AUD programs, audiology graduate programs, which tends to make sense, but those tend to be in major cities. So if you are a patient in a smaller town, then you may not even know that audiologists exist, because if you don't see it, then you don't know that it's out there. Also, Chan et al. Found that patients in rural areas are delayed in their use of hearing aid services compared to rural, sorry, urban counterparts.

This is the study that we did in 2018, focusing in on Arizona, and we plotted audiology clinic sites, and the base layer is population density. So the darker sites, the darker areas are more densely populated counties, and each of those black dots represents an audiology practice location. And you can see a big clump right here by Phoenix and a smaller clump right here by Tucson. And then there are big parts of the state where there are no audiology practice locations. In fact, there among the 15 counties, there are six counties with no audiology, and the driving distance could exceed 100 miles.

So imagine your patient up near the northeast in Apache county, and you're facing 100 miles drive to the nearest audiologist. Plus you have other barriers like cost and stigma facing you, so it might be

reasonable to opt to just not go. And here I have some examples of within one county, what's the average drive time to the nearest audiology services? If you're in Pima county, not too bad. It's about 4 miles.

Cochise county, it's about 22 miles. But if you're in Apache county, it's over 118 miles.

Identifying unmet social needs the term social needs, or health related social needs is sometimes used interchangeably with social determinants of health, but they're not exactly the same. I will sometimes actually use them interchangeably in this presentation because the screening measures are called social determinants of health screening, but they are slightly different. Social determinants of health, like I mentioned, refers to the conditions in which people are born, grow, work, live, and age. So more at a macro level. Social needs is more at an individual level.

So it can be understood as a result of social determinants of health. Social needs is more like housing instability, housing quality, food insecurity, employment, personal safety. So the next few slides I'm going to discuss what is our role as audiologists? How can we identify unmet social needs needs?

So, returning to more of a personal note, this is a photo of me and a very special person in my life, Conchita samosa. She is a community health worker or a promotora. Conchita and I work together in southern Arizona. She and other promotoras help bridge social needs and the former healthcare system by connecting people in their community with resources. They also serve as cultural brokers and more.

They lead support groups and help people sign up for health insurance. They're really the glue that holds their communities together. Conchita was a trusted member of her community, and that trust and community connection helped her identify unmet social needs and the resources in her community. But for those of us who are not community health workers, I assume the majority of the listeners here are

audiologists. What is our role in social determinants of health, and how do we identify unmet social needs?

One way is to administer a standardized social determinants of health screening questionnaire, and another is to engage in empathetic or empathic inquiry and active listening and patient centered communication to build trust and understanding in patient needs and ensure patients feel heard and respected.

The next few slides are going to focus on screening tools that can be included as part of a workflow designed to identify and address social needs with referrals to community based resources. So depending on the context in which you work, these screening tools may make sense for you if you work, for example, in a large hospital setting. But the screening tools may also make sense if you work in a small private practice. It really will be up to you if it is appropriate to incorporate these screening tools. But you may also take away from this presentation that you may take one or two questions from these formal screening tools and incorporate that into your practice.

So my goal here is just to introduce these as the fact that they are available and they are being used in other contexts, and then you can take it from there.

Responsible screening is essential. It involves putting people at ease and ensuring confidentiality, which helps in obtaining accurate and honest responses. It also involves having information available in an accessible format and maintaining community relationships with community partners, providing training to your staff or to yourself to competently address sensitive topics, and ensuring that your community partners have the capacity to receive referrals.

So here I've provided a few recommendations for how to carry out responsible screening. The first involves a needs assessment, and again, this will change depending on your context and resources

that you have available. But a needs assessment could be as simple as searching online for the statistics in your community. What are the income, income levels, the poverty levels, the rurality of your community? And how does it compare with the patient population that you're currently seeing?

What is the demographics of your population? And that will help you lead to the community connections that you need to establish. And also it will help you select the questions that you're going to ask in your needs assessment or the formal assessment tool that you're going to select. So that's all part of the needs assessment that happens even before you start to screen. Then another thing that happens even before you screen is to establish relationships with community resources because you'll need to know where to send people.

After you identify an unmet need, you'll select a screening instrument or a portion of a screening instrument or question, and then train staff to address these topics and ensure that, again, that the community partners have the capacity to receive referrals.

As part of responsible screening, you'll want to put patients at ease and ensure confidentiality this photo is a little bit misleading because it looks like the provider is asking the patient questions in a public area, like maybe the waiting room and you wouldn't want to do that, you'd want to have a private area. Or if the patient is self administering the questionnaire, it might be fine to do it in a waiting room, but if you are orally administering a questionnaire, you'd of course want to do it in a private area. But, you know, you get the idea. You'd want to say some preface the questionnaire or the conversation by saying something like, we ask everyone these questions because that might ease patients concern that they have been singled out. And before discussing the survey or survey results, the provider might also engage the individual or the family by asking questions like, do you have any needs that I could help you with today?

Empathic inquiry is an approach to social determinants of health screening, and there are a wealth of information from Oregon Primary Care association. I've provided the link at the bottom of a slide if you want to find out more, but I've provided just kind of the essential elements of empathic inquiry, which involves non judgmental curiosity and understanding. It avoids social desirability bias, which is defined as the patient telling the provider what the patient thinks the provider wants to hear. So not completely honest. And it also builds a culture around sensitivity and respect.

And rather than a culture of collecting data, it's getting to know your population and your patients one person at a time.

It focuses and prioritizes sharing power between the provider and the patient, a respect for privacy. It considers the influence of stigma and biases and avoids confusion. So very upfront about what data you're collecting, why you're collecting it, and what you will do with it after.

And you always end with empathy and collaboration and action planning. So again, what you are going to do not only with the data, but what is the patient's next steps.

Here is an empathic inquiry guide. So we start with building trust. Introduce yourself in your role. So if you as a provider are doing the social determinants of health screening, then you tell them your role and introduce yourself. If the nurse is doing it, the audiology assistant is the one carrying out the survey, then they would introduce themselves in their role, what they're doing, why they're carrying out the screening, how long it's going to take.

You'd want to ask permission for having the conversation and ask the patient if they have any questions, even before carrying out this questionnaire. And then to help create understanding, you might ask open ended questions like, how are things going with making ends meet? Or tell me more about what's going on for you.

You'd want to engage in reflective listening. So if the patient is talking about their rent being a challenge, you would say, getting help with your rent sounds like a top priority.

And then after you've gathered some information about their top needs, then you would summarize, create an action plan with the patient and then provide a plan for support, and you would engage in empathy based affirmations. It sounds like you have been working hard to make ends meet. And then acknowledge that if there are some areas that the patient has identified that they need help with, but there are not resources available at that time, how is a team going to use the information that the patient has provided to support planning and health promotion with the patient? So the data that they have provided isn't just going to be a waste and then ask permission to follow up. So if the patient, for example, has identified that getting food is a challenge, then you could say to them what you already know about food resources available in our community, we can help you get connected.

So it's always a conversation. Permission is always given to connect them with resources.

There are various screening tools that are available. Probably the most well known is the first, the protocol for responding and assessing to patients assets, risks and experiences, prepare and then the AHC. These are available online and you could download them. And the benefit to the first one is that it can be incorporated into electronic medical records. It's more or less 20 questions, so it can be pretty quick.

And again, depending on your context, you may look at it and see if there are specific questions that you may want to incorporate into your workflow. Social determinants of health in children are different. They include maltreatment, food insecurity, parental substance abuse, and low maternal education. And so the tool is going to be different. And here I provide an example.

It's very important to also assess social determinants of health in kids. Research indicates that as many as 83% of pediatric patients, obviously, depending on the setting, demonstrate at least one negative social determinant of health, such as inadequate or unsafe housing or food insecurity.

So you may be thinking, how would I possibly incorporate this into my workflow? And again, depending on your settings, could look different, but I'm going to provide you with two examples of workflows. You might assign this responsibility to a non clinic staff. So if you work at a large hospital setting and you collaborate with community health workers or patient advocates, then this could be their responsibility. Definitely advantages to that, because they may have their own office, they may be already trained in things like social work and may already be connected to community resources, and it could take place in the patient advocates office.

It could happen before or after the clinical visit and they could administer the screening, respond to the needs that the patient has identified, and then discuss the results with the provider. Discussing the results with the provider is important because it could impact how your visit is carried out, like the treatment that you are recommending, your expectations for how this treatment is being carried out. And so if it is carried out after the clinical visit, then just keep in mind that those results would be discussed and then implemented at the next follow up visit. Another example is carrying out this screening or this discussion in the exam room. So it could be carried out by an interpreter, audiology assistant, or office staff.

And it could happen as the provider is being, you know, the patient is already in the room, the provider is getting ready, is with another patient, and before the provider enters screening or the discussion is happening and before the provider enters, there's a quick discussion about how any socioeconomic or environmental situations might impact care and then the referral is referral to community resources are provided before the patient leaves.

Why should we screen for social determinants of health? Is this even in an audiologist scope of practice? Understanding social determinants of health allows us as audiologists to provide holistic care that addresses not only the clinical aspects to hearing health, but also the broader factors influencing a patient's overall well being.

Identifying barriers like transportation issues, financial constraints, lack of social support allows us as audiologists to connect patients to resources, resources and services that help them overcome these obstacles.

Addressing social determinants of health can lead to better health outcomes, ensuring that patients can adhere to the treatment that we're recommending to them make sure that they can attend follow up appointments, use, for example, the hearing aids that we're recommending to them or other assistive devices correctly and consistently. Screening for social determinants of health allows us as audiologists to tailor interventions and recommendations to meet the specific needs of each patient. For example, we could offer telehealth options for people who have transportation challenges or provide educational supports for people at an appropriate level.

By recognizing and addressing social determinants of health that contribute to health disparities, we can work towards reducing and eliminating inequities in hearing health care. The data that we collect on social determinants of health can inform policy and advocacy efforts aimed at improving access to hearing care services.

When patients see that their audiologist understands and cares about their broader life context. It can build trust and encourage greater engagement in their own hearing. Health care that can lead to more effective communication and a stronger patient provider relationship.

How can we address unmet social needs? Well, addressing the conditions in which people live and their underlying factors is likely outside of our scope. But clinicians can take steps to address the resulting health related social needs through understanding which needs uniquely impact patients and referring those patients to local community services. We can partner with community leaders and we can make our own services more accessible. So I've put together eight examples of what we can do.

One is, again, to improve access to our own services. We could offer some services to some patients via telehealth. We could incorporate a mobile clinic for some patients, improve the accessibility of our hours, so expand either earlier or later for some patients, provide economic support either on a sliding fee scale or incorporate a patient navigator or social worker to help provide financial support to people who to find some financial support to people who cannot fund the services themselves. We can focus on education and empowerment, improving the health literacy of our patients, or ensuring that the literacy levels of our materials match the literacy levels of our patients. We can provide community workshops to improve, again, the health literacy of our community, build partnerships with community members in our area to strengthen referral networks.

Again, just encouraging everyone to think outside of the box, outside of traditional partners like not just ENt. What are other partners that we can make in our community? We can advocate for policy that helps our patients in the long term, access our services.

We can improve cultural awareness, cultural sensitivity by training our staff and ourselves, and tailor our services to be more sensitive to the patient population and also look at the demographics of our community and ensure that our patient population is really reflective of the larger community so that we're not treating or seeing just a small select fraction of that community. Make sure that our, our clinic is a supportive environment. We could have community support groups or established patient advocacy groups.

And again, the theme of this talk, identify by social risk factors so that we're documenting what our patient needs and working towards addressing those needs. But the data is also very helpful in terms of understanding where the patients are at now and tailoring interventions and referrals in response to those needs. So my suggestion is not to do all eight of these things right now, but to identify maybe what is one small change that you can do and kind of working towards, and maybe you are already doing many of these things, and that's fantastic. But then if you are to spread the word and see if you can encourage others to do so as well.

Another idea is to integrate social determinants of health into audiology graduate and undergraduate education programs. As I mentioned at the top, I did not receive, I went to a fantastic program, but I didn't receive formal education, and I think that's because it's not in the AUD competencies and I would argue that it is well within our scope to understand these. And I only received formal education on this because I had I received public health education in my PhD. If you are an educator, consider teaching your students, either through demonstration or formally, about social determinants of health.

Audiologists also have a major role in advocacy, which can have a positive impact on healthcare access and quality, and policies have an impact on social determinants of health. Here are some examples of how social determinants of health and audiology is being applied and represented, and how you can help address hearing health equity. You can engage in advocacy at local, state, and federal levels, ensure access to culturally and linguistically appropriate services, hire staff that reflect the larger population or the population being served, educate patients about their eligibility for access to entitlement programs and collaborate with non traditional partners. So again, it's just five more examples. Here are a few examples from the literature of how audiology is social determinants of health, and audiology is already being applied, and I'm providing the citations so that on your own time you can look these up more in detail.

But this study was a retrospective chart review of children with hearing loss whose caregivers were enrolled in a program that integrated community health workers into the medical team to identify social needs. And this took place in a large hospital center. And the results showed that 93% of kids demonstrated multiple social needs, and at the three month follow up, 70% of patients completed referrals and a significant number obtained hearing aids and cochlear implants compared to baseline. So the takeaway of this is that integrating community health workers is actually a really good way to help address social needs and help kind of complete that loop of follow up with kids, which is obviously much easier if you're at a larger health system. This is another retrospective chart review program evaluation study of almost 1500 infants who were referred for diagnostic testing, and the researchers were looking at the time to diagnosis of patients who were very, very based on factors specific to social determinants of health.

They were actually provided with social programs and care coordination and they didn't find any clinically significant difference in terms of social determinants of health factors. And so the takeaway of this article is that if you are provided, the idea is if you are provided with social programs and care coordination, that the negative impacts of social determinants of health should not make as big of a negative impact. The final study that if you want to do some reading at home is a data review from the CDC EHDI screening follow up survey that found that delays in the diagnosis of young children with hearing loss are associated with maternal age, education, and race. I created this bar graph to illustrate that the topic of social determinants of health and audiology is receiving more and more attention over the past few years. This graph shows the number of articles per year, and you can see that in the years of 2022 and 2023, it's just increased exponentially.

And remember that we're only halfway through 2024. So really interested to see by the end of this year how much this topic is going to grow. So I'm going to end with future directions and needs and looking forward. We really need more education and training. So I really applaud you all for coming to this talk,

and you're ahead of the gang.

You already know probably some about social determinants of health, and now you're hopefully going to spread the word and to your students and your colleagues. We need community engagement and outreach, including with non traditional partners, interdisciplinary collaboration with, again, community health workers, community partners, and kind of getting outside of our box. We need supportive policies and to encourage move the needle forward with policy, we need data. So we do need to be screening and collecting this information on social determinants of health and then to go back to this policy regarding the policy. Payers are beginning to factor in social determinants of health into payment models.

So this topic really deserves its own hour long presentation. But the Centers for Medicare and Medicaid have actually started shifting towards value based payment models rather than fee for service models. So value based care really focuses on quality and outcomes rather than specific services. And since social determinants of health are important in patient outcomes, capturing social determinants of health will help document the role of social determinants of health in outcomes. So Medicare actually now reimburses some providers for some services related to social determinants of health, including screening and community, community integration.

But audiologists are not currently covered, but maybe potentially I could see a future where they would be. So it's really important to learn about social determinants of health and screening now so that we are prepared for the future. And now I'd like to open it up for questions and I really thank you all for your time and attention.

Thank you so much Doctor Coco, please enter your questions in the queue there. We don't have any questions just yet doctor Coco, but we do have a comment here from an attendee. The comment mentioned that they don't have a question, but they wanted to send a big thank you for sharing this

topic more widely within the audiology field. So I do concur with that. Wonderful.

Yes, I agree topics should be shared more widely.

I teach undergrad and grad students and there's a lot of interest with students. So I think that I do see an envision of future where this topic is included in formal graduate education just because the students are so interested in it. And I think as audiology is and healthcare in general is really shifting towards a more patient centered and holistic kind of framework, then social determinants of health really has a space there. So Doctor Coco, it doesn't look like we have any more questions coming into the queue, but I believe this is a great conversation and we really hope to have you on again on audiology online. So we'd like to take this time to thank you for your time and your expertise, and we just appreciate you sharing your wealth of knowledge with us today.

Thank you so much, this has been great. Well everyone, this concludes today's webinar. We hope you enjoyed the course, we hope to see you again. Thank you. And there's this last slide we just wanted to let you know.

A reminder, if you're wishing to earn ceus, just complete the exam once the course is over. Thank you so much everyone. Thank you.