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## **Inter-Professional Fall Risk Assessment Training for Audiologists and Student Clinicians, in partnership with the American Academy of Audiology**

**Presenters: Megan Majoue, AuD, CCC-A, Rebecca Callais, DrOT, OTR/L, Daina Rishiq, PhD, Alison Bevrotte, BA**

Hello everyone and welcome to today's webinar entitled Interprofessional Fall Risk Assessment Training for Audiologists and Student Clinicians, which is presented in partnership with the American Academy of Audiology. Our presenters today are from the Louisiana State University Health Sciences and I would like to introduce our first presenter, Dr. Megan Mejuet. Dr. Mejuet is an associate professor of clinical communication disorders at LSU Health Sciences center in New Orleans. Dr. Magouet, I will turn the floor over to you. She'll be introducing everyone and thank you for joining.

Thank you so much. Welcome everyone. Thank you for taking time out of your busy schedules to be here today. My name is Megan Majaway. Like Chrissy said, I'm an associate professor at LSU Health Sciences center and I am just absolutely honored and excited to be here today to share this project with you.

I'll be joined by some amazing collaborators, Dr. Rebecca Callais, who is a vestibular doctor of occupational therapy that I've worked with treating patients for dizziness for the past 10 years and it's been a real privilege getting to learn more about the OT perspective on treating patients and working together with her. You'll also hear from Dr. Daina Rishiq, who has given us invaluable guidance on the program implementation and analysis, and also Ms. Alison Bevrote, who is our student collaborator who continues to offer valuable insights from her externship all the way in Dallas at the Dallas Ear Institute. So the purpose of our session today is to equip clinicians with the knowledge and tools needed to implement fall prevention strategies into practice. And we've aligned this project with the CDC's steady initiative. Steady stands for stopping elderly Accidents, deaths and injuries, and our goal is to empower you as clinicians to be active participants in reducing falls.

I will say that as I was reviewing this talk and thinking about the flow, I realized that I'm an audiologist. Most of us here are audiologists and we barely mention treating hearing loss as being an important part

of falls and helping to reduce falls. Full Disclaimer I am a vestibular audiologist, but I do understand that hearing aids are a very important piece of a multi pronged fall prevention program. So hearing health is a bigger part of fall prevention, even if we fail to emphasize that today. Before we dive into the actual project, I want to share a quick message from Dr. Tish Gaffney.

Welcome. I'm Tish Gaffney, the president of the American Academy of Audiology, and I'm here to share important information about the Organization the Academy is dedicated to achieving recognition of audiologists as the experts in hearing and balance care and the field of audiology as an independent clinical specialty that is integral to the health care team. Through our partnership with Audiology Online, we're excited to offer courses like this one to help you broaden your knowledge and skills. We also offer the latest resources in practice management and evidence based clinical practice so you can grow professionally and improve patient care. We advocate for our members in Washington and across the country to ensure that the voices of audiologists are heard and we help connect audiologists to one another through our valuable networking opportunities like our annual convention.

To learn more about the Academy, make sure to visit [audiology.org](http://audiology.org) and now I'll turn it over to our moderator to introduce today's presenter. Thank you.

Great. Here are disclosures I would like to state that select content from today's presentation has been modified from the CDC's widely available training materials and also note that the CDC does not endorse this training or the presenters. Please note there are limitations and risks of this learning opportunity.

Our learning outcomes from today are we hope that you will be able to explain the health and financial costs of falls, describe the audiologist's role in fall prevention, and apply protocols for fall prevention, including fall risk screening, assessment and counseling strategies.

This is our roadmap for today, but we'll get started with a quick poll question.

Have you or someone you known fallen in the past year? If you would please answer the poll question.

We want you to think about how falls among older adults age 65 and older might have affected you.

What kind of life changing events may have occurred because of the fall? How could that fall have been prevented?

If you answer yes to any of this, please share the details or personal experiences in the Q and A. We hope that this experience today can be somewhat interactive and we want to get you thinking about a new perspective in terms of assessing fall risks in our patient population.

All right, so we'll just give a moment here. I'm seeing your poll result so far. About 60% of you are saying yes and I'm getting a few responses. In the Q and A. One attendee states that my father in law had a fall which resulted in hospitalization, which is part of the bigger issue, right?

There's a high rate of injury and mortality associated with falls. Phoebe commented, my mother in law fell from a step stool and hurt her neck. Kelly says caregivers are unprepared to support disabled family members. This couldn't be more true. My Husband fell, changing a light bulb, and the list goes on and on.

And the number looks like it's even going up a little bit. So many of us and many of our patients and their families are, are impacted by falls. And I think that you will see today that we can play a role in helping face this crisis. So thank you for your participation, thank you for your responses. And hopefully we can show you all how we can all help change this and reduce all of this.

So at this time, I am going to hand this off to Dr. Rebecca Calay, who will speak a little bit about statistics on falls in general and give an overview of the Steady initiative. Thank you, Megan. So as an

occupational therapist, I typically receive referrals to see clients after a fall has already happened and sometimes the damage is already done. So, yes, from that point I can recommend home adaptations and safety recommendations to prevent another fall. But I may also need to address the ramifications of the original fall.

So perhaps I need to do rehabilitation for a humeral fracture or a tbi. Perhaps this client now has a fear of falling, which can cause a reduction in movement and a reduction in occupational engagement. Maybe now they have an exacerbation of depression and social isolation from that fear of falling and that's reducing their ability to interact with their community. All of these factors will compound and contribute to an increased risk of falling again. So addressing falls after they happen is not good enough.

The emphasis really needs to be on fall prevention rather than fall intervention. That's our focus of today. We will also highlight how this can and should be a comprehensive and multidisciplinary approach because falls have several modifiable and preventable risk factors. Now we will review the financial and functional impact of falls along with the CDC's response to this growing issue being the steady. This program was specifically designed to address fall related risks so that all healthcare providers can utilize and customize their specific setting and needs.

Thank you. Now we will review some of the data sets from the CDC pertaining to the risk and impact of falls. As you can see, unintentional injuries are the seventh leading cause of death among older adults. And falls are the number one cause of those unintentional injury deaths.

Every second an older adult falls. This adds up to approximately 30 million falls every year. Of those who fall, more than 8 million older adults are injured. These falls and fall related injuries lead to about 3 million emergency department visits, more than 950,000 hospitalizations, and more than 32,000 deaths every year.

Although falls are common, older adults might not tell you about their falls for several reasons. They might think that falls are a normal part of aging and therefore there is nothing they can do about it. They may also fear that talking about their falls can place them in a nursing home or threaten their independence. Another reason can be that older adults are unaware of common risk factors that can put them at increased risk of falling.

In addition to the knowledge and communication gap from the client perspective, studies show that healthcare providers also face many barriers to addressing falls with older adults. Some of these barriers competing healthcare priorities, lack of time during office visits, limited fall prevention knowledge, limited communication between providers from different disciplines and thus limiting their knowledge of appropriate referrals to address falls and limited reimbursement strategies. For this education time, it is important to prioritize falls because the consequences can be serious. Falls can result in debilitating injuries such as hip fractures and traumatic brain injury, loss of independence, and even death. Fall death rates have increased about 30% between 2009 and 2018, even after adjusting for the aging population overall.

In the United States, \$50 billion is spent for medical care due to falls every year and programs like Medicare and Medicaid pay for more than 75% of these costs and the number of falls and their consequences are expected to rise if more prevention efforts are not in place. It is estimated that by 2030, 1 in 5 Americans will be aged 65 and older and we can anticipate 52 million falls and 12 million fall injuries.

So now that we know that falls are common, costly and can result in serious consequence, the good news is that falls are also preventable. Let's look at the risk factors for falls to understand how they can be prevented. As you can see here, most risk factors for falls are modifiable according to the cdc. We've highlighted the ones we focused on for this IPE project being gait strength and balance deficits

and as Dr. Mejuett said, although not highlighted by the STEADY initiative, we all know that hearing loss strongly contributes to fall risk, so this can be an opportunity for further education between audiology and the CDC. But being able to identify modifiable risk factors for falls and intervening with appropriate evidence based strategies can help reduce the risk of falling.

This is the purpose of our discussion and our educational strategies today. To assist healthcare providers, the CDC developed a fall prevention initiative called Steadi. This program is based on the American and British Geriatric Societies Clinical Practice Guideline for Fall Prevention and it was designed with input from healthcare providers. STEADI provides tools and resources to manage fall risk in clinical practice and it is comprised of three components Screen, assess and intervene.

The study provides an algorithm to help clinicians with fall prevention steps of Screening, assessing and intervening the first component of the algorithm is screening. Fall screening is a simple process that any member of your healthcare team can conduct, even at intake, with staff, over the phone or with intake paperwork. For all patients age 65 and older, it is recommended that you screen annually or if a client presents with an acute fall. Many tools are available to screen for fall risk. The study includes two tools that are shown on the screen, the three key questions or the Steadi Independent questionnaire.

The three key questions are have you fallen in the past year? Do you feel unsteady when standing or walking? And do you worry about falling? And how to interpret is as follows. If a client answers yes to any of the key questions, they are deemed at an increased risk of falling and the next step would be to conduct a fall risk assessment.

If a client answers no to all key questions, they are not at an increased risk at that time and the next step would be to recommend strategies to prevent future fall risk. The three key questions can easily be incorporated into your case history. It's as simple as that.

The other screening tool, the stay independent questionnaire, has 12 questions that offer insight into specific fall risk factors. This can be self administered or even included in their intake paperwork, with medical history questionnaires or any outcome measures routinely used. This can also be transferred electronically if intake is performed that way, so you can use either screen based on this recommendation.

The Stay Independent questionnaire is as and interpret it as follows. If a client scores more than four, they are deemed at an increased risk of falling at that time and the next step would be to conduct a fall risk assessment. If the client scores less than a four and they fell within the past year, they are deemed at an increased risk and they would need to have those fall risk assessments conducted. If a client scores less than a four, they're deemed not at an increased risk at that time and the recommendation would be to provide resource to prevent future falls. The study provides a resource titled what you can do to prevent falls and some of the recommendations highlighted include getting vision and hearing tested regularly, evaluating vitamin D levels, proper footwear, various home safety recommendations and regular exercise for strength and balance.

As you can see, the study provides many assessments to address various modifiable risk factors. It may not be feasible to address all, but some may fit within your practice model. We've decided to focus on gait, strength and balance as these best fit the model of AUD practice. Now move your attention over to the right side of the algorithm for the Intervene section. Once all modifiable risk factors are identified, you will work with the client to develop a tailored fall prevention care plan that includes evidence based solutions. The algorithm provides an overview of recommended referrals and interventions based on each problem area.

If it is identified that a client may have deficits in mobility, balance and strength, the following assessments are recommended to further investigate fall risk. Tests such as the tug, which stands for

timed up and go, the 30 second chair stand and the four stage balance are available to assess mobility, leg strength, endurance and balance respectively. And if deficits are identified, providers can refer to physical therapy or occupational therapy or evidence based exercise programs such as Tai Chi or stepping on in their client's local community.

These links will provide more information about the study in its entirety, along with other educational materials and resources to help screen the older adults that are serviced in your population and your practice. All resources are free and highly encouraged to be used by all healthcare providers. Now Dr. Megan Majuay will discuss the IPE project between Occupational Therapy and audiology.

Thank you Rebecca. But before we move on, we're going to have a little quiz because we are all teachers and we love to give tests and give grades. So if you will please answer the following True or false question the CDC states that all healthcare providers, including audiologists, speech language pathologists and mental health providers, share responsibility for reducing falls in older adults through routine screening. True or false? So if you'll please take a moment to answer the poll, or perhaps you're thinking this feels out of scope and that we should be doing hearing tests and vestibular assessments and treating tinnitus and we should be leaving fall risk to primary care and physical therapists or occupational therapists.

So if you'll please just go ahead and give us some information, we would appreciate it. And I also understand that mental health providers may not be the first group of professionals that you think of as being important here, but the CDC notes that depression and cognitive decline are major contributors to fall risk. So the role of mental health providers in screening and referral is absolutely key. And you guys agree of you said true that SLPs, audiologists and mental health providers do have a responsibility in reducing the risk of falls. So kudos to you.

Now let's dive into the training itself. We realized something important at our educational program and that was that we were not really training our students to perform fall risk assessments. So once we identified that gap, we built a targeted interprofessional program that aligns with the CDC's steady initiative. And the program really has two main arms. The first arm is the fall risk screening itself.

So we taught students how to identify which individuals are at an increased risk of falls. The second arm of the program is safety and mobility transfer training. So in this way, we made sure that students understood how to operate assistive devices like canes, walkers and wheelchairs and also how to safely support patients with different mobility needs. These are obvious things that should be important and implemented into audiology. Clinical education CDC's study makes it clear that all healthcare providers share a responsibility in reducing falls.

And as audiologists, we care for patients with hearing loss and vestibular dysfunction, both of which, you know, are increased, are linked to an increased risk of falls. Age, as we mentioned before, is a non modifiable risk factor and many of our patients are older adults. Further, we tend to build long term trusting relationships with our patients. And having that trusting relationship means that we just might be the one provider that this individual sees that the patient feels comfortable telling about a fall. We might be the trusted professional that they feel like sharing with.

So training audiologists to screen for fall risk extends our role beyond diagnostics and rehab. In fact, I think it positions us to be active contributors to preventative health care. If of course, we ask the right questions and if we can take this on, we will align our field with larger public health initiatives. If we're supposed to be the experts in hearing imbalance, it makes sense that fall risk screening should be part of our education, our clinical practice and our clinical practicum. But the reality is it's not.

So the question becomes, why is it not?

A systematic review done in 2014 showed three main reasons that audiologists are not providing fall risk assessment and their daily practice. Number one, audiologists stated that there is a lack of fall risk assessment training provided. Number two was a lack of education and experience in counseling patients. And third, audiologists simply responded that we don't feel like it's within our scope of practice. Which is interesting because you know, who does think that fall risk screening is within our scope of practice as audiologists?

The Centers for Disease Control. This is clearly outlined in the study. It calls all providers and allied health to address falls through prevention. So we decided it was time that our program included training on falls. This meant fall risk screeners, counseling on falls and practical strategies that our students can actually use.

So here's what we did.

We designed and carried out a two part training session that combined lectures and hands on activities. And after the training Students had two weeks to practice their skills before taking an oral competency exam. We also measured the student confidence levels comparing pre training and post training self ratings. And finally, beyond just creating and delivering the program, we made sure to formally assess and evaluate the effectiveness of the program itself.

Data were collected at multiple sites including LSU Health Sciences center in New Orleans and the University of South Alabama in mobile. There were 17 students from LSU, 20 from USA and the training team consisted of one doctor of occupational therapy, one clinical audiologist, and one PhD.

So forgive the overly busy slide here, but we wanted to show the entire program, start to finish in one place. So this is everything we did and we'll take each piece section by section now and walk you through it.

Before the training, students voluntarily completed a nine question survey. Our questions included those that you see here, such as how confident do you feel in identifying risk factors for falls in older adults? How confident do you feel in choosing a test measure or questionnaire for falls assessments? How confident do you feel discussing fall risk? You'll notice that the later questions relate to the transfers and mobility portion of the training.

For example, we also asked how comfortable do you feel working with mobility devices like walkers, wheelchairs and canes? And so we gathered those student responses before the training ever took place.

Next, we conducted two one and a half hour educational lecture sessions. These were held in our occupational therapy lab. The first part was the fall risk screening portion and the second part was on proper mobility mechanics for mobility transfers. And we also touched on how to operate assistive devices like canes, walkers and wheelchairs.

After that there was a hands on portion where the students were able to practice everything that they had just learned about. So fall risk assessments and safe and effective transfers were demonstrated and practiced and we provided guidance and feedback as they move through the different maneuvers and fall risk assessments in real time. And I just want to note here, hopefully you can tell by the images that the students were very very engaged. They truly showed an interest and an enthusiasm for what they were doing. I think this is largely because they saw these tools and skills as valuable for their future careers and some of them even noted that these were things that they thought that they would take into clinical practicum immediately.

Our student collaborator, Alison Bevrot even commented at one point when we were on Zoom that she noticed the skills being of extreme valuable to her during her externship. So now Alison is going to

present video demonstrations of the manual assessment portion of the training that we conducted so that you can see exactly how that part of the training looked in the OT lab.

Thank you, Dr. Mashway. You're welcome. So I am going to be discussing some of the different screening measures we learned throughout the training program and then we're later assessed on based off our competencies. I will say that these screenings are can be easily implemented into clinical practice if you do choose to, because they do require minimal equipment and can perform be performed in a short amount of time. And typically equipment consists of things that are already in your clinical environment.

So we will be talking about three different screening measures today. The first one is going to be the timed up and go. The second is the 30 check 30 second chair stand. And the fourth or the third is going to be the four stage balance test.

So beginning with the timed up and go, also known as the tug, the purpose of this assessment is to assess the patient's mobility. So for equipment, you will simply need a stopwatch and a chair. And to set up for the assessment, you will place the chair against a wall. From the chair, you'll measure 3 meters or 10ft away and place an indicator mark on the floor like a piece of tape to give a visual representation of how far the patient needs to walk for the duration of testing. For this test in particular, it is okay for the patient to use a walking aid if needed.

And you want to ensure that they're in regular footwear. So once you have the assessment set up, you will instruct the patient to sit in the chair. When the clinician says go, the patient will stand up from the chair, walk to the indicator line on the floor at their normal pace, turn around, walk back to the chair and sit down again. On the word go, the clinician will begin timing. And when the patient sits back down into the chair, they will end timing.

So According to the CDC, if the patient takes 12 seconds or longer to complete the task, they are considered at risk for falling. And so we have a video representation here of the patient standing, walking to the indicator and coming back. I would like to highlight the clinician's role in this assessment. So as the clinician, you would like to stand and walk with the patient, and she has her arms out in front and behind, kind of providing a guard in case the patient does have an accidental fall during the screening. And so as clinicians, we just want to take those preventative measures to reduce any risk of falling.

The second screening we Learned is the 32nd chair stand. And so this screening is going to be used to measure leg strength and endurance. And similar to the previous screening, it requires a stopwatch and a Chair. And so for this screening, you will have the patient sit in the middle of the chair and cross their hands over their chest in the shape of an X, placing their hands to the opposite shoulders. You'll instruct the patient to keep their feet flat on the floor.

On the word go, the clinician will begin timing and the patient will come to a full standing position and then sit back down. The patient will then repeat this motion for 30 seconds and the clinician is counting the number of times the patient rises to a full standing position. Once the patient has come to the full standing position and you complete the 30 seconds, you will stop the timer and record their time. There is normative data to use on this screening. So as you can see here, the normative data is broken down between gender and age.

And if the patient scores below the normative data for their respected group, then they are considered at risk for falling and need further referral for further evaluation. And then once again, we do have that clinician there providing that brace in front and behind to act as a support in case there is a fall.

And then lastly, we have the four stage balance test. And this screening is to assess the patient's static balance. For this one, you will only need a stopwatch. And for the four stage balance test, there are four

different standing positions that progressively get harder to maintain. As the clinician, you should describe the position, the positions to each the patient and demonstrate the feet positions.

You can assist the patient in assuming the position, but once they have they maintain their stability, you will let go and time them to see how long they can maintain each position. So the first position we have is standing just feet together. The patient should hold this position for 10 seconds. If they're able to hold the position for the full 10 seconds, you'll move on to the second position, which is feet one, the feet together, but one slightly in front of the other, the big toe touching the other foot. And once again, if they can hold this position for 10 seconds, you'll move on to the third position, which is standing, standing tandem, one foot in front of the other.

Once again, if they hold this position for 10 seconds, you'll move on to the last position, which is definitely the most difficult to maintain. It is standing on one foot for 10 seconds. And so, according to the CDC, if the patient cannot hold position three or standing tandem for the entirety of the 10 seconds, that they are considered at risk for falling and do require further referral. And so I will go ahead and pass it back to Dr. Majweh.

Thank you, Alison. Excellent. So I'll again note that these students in both programs had two weeks to practice with access to lab space and resources. So walkers, wheelchairs and everything that they needed in order to do the fall risk assessment was available to them for two weeks and two weeks after the completing the training, they were assessed on their ability to form a fall risk assessment and the transfer maneuvers. So what you're seeing here is the actual grading rubric that we used to assess the students on these tasks.

The oral examination asks them to describe each of the two screening tools. So what are the two main screening tools used to assess risk? And they had to either answer the three key questions or the stay independent questionnaire. Then students were evaluated on their ability to administer and interpret the

manual screeners such as the tug, the 32nd sit to stand and the four stage balance test. Then students had to demonstrate proper body mechanics and a variety of assisted transfers.

They had to show that they had the ability to operate various mobility devices such as canes and wheelchairs. Lastly, based on the fall assessment results, students had to make the appropriate recommendations and offer counseling on the results of those assessments.

Okay, then following the competency, the students were asked to again complete the survey on their confidence in performing the falls assessment and transfer assistance and patients with limited mobility. And the reason that we asked this specific question was to investigate the student perspectives on the learning experience itself. We hope that this opportunity would build confidence that would empower them to provide the services in the future. And here I want to revisit the idea that the second component of the IPE included the transfer training and working with mobility devices. We found that our students had very little training in this area and this was a really unique opportunity for them to learn these skills.

Some of our students had never taken the arm off a wheelchair or locked a brake on a wheelchair, which would obviously be very important. And you all know that we often have to use these devices to assist our patients into a sound booth or to help transfer a patient to a plant for a vestibular examination. So these are really, really valuable skills for audiologist to learn. And we hypothesized that incorporating this training into the AUD curriculum would build students confidence. So let's take a look at the results.

So this is the pre training survey results that showed that students felt mostly not confident at all. That would be signified by the bars in red and selecting, performing, interpreting and counseling patients on fall risk screeners. No one felt very comfortable working with mobility devices either, obviously. And very few said that they felt confident in using proper body mechanics to assist patients that needed a

little bit of help. So the students completed the training and then had two weeks to practice before the competency.

And then we had them complete that post training survey.

And this is what it looked like. The post training survey results showed that students were mostly very or extremely confident now in selecting, performing and interpreting and counseling on fall risk screeners. And they also felt much more confident in working with individuals that needed assistance or used mobility devices.

So to put it all together, student feedback revealed a dramatic shift from beginning with very, very low confidence to ultimately having them report strong to extremely high confidence. This growth was not only self perceived, it was also substantiated by their performance. Students not only performed exceptionally well on the competency exam, but they also demonstrated a clear mastery of the activities that they were taught during that examination. So the fact that our students felt confident and also proved their proficiency underscores the actual success of the program.

And while I love the visual rainbow colors of the confidence pre and post training surveys, the quality qualitative feedback that we got from the open ended questions was overwhelmingly positive. And I want to share a little bit of that with you here today. One student said, I really enjoyed this training. My main takeaways were the body mechanics of transfer training. I believe that this material will be very helpful in the clinic and booth.

Before attending the fall risk and mobility training workshop. I thought falls prevention was mainly the responsibility of physical therapists, and now I understand that we play a key role. Another student said, seeing the demonstrations and practicing made me realize how important having knowledge of fall risk and mobility training really is. If we are to expect our older patients to enter certain areas like sound

booths or use our exam tables, it's our job to ensure that they can do so safely. And I would add to that, it's our job to ensure that our students and our clinicians can also do that safely.

So the feedback that we've gotten from the students in general has just been overwhelmingly positive. I mentioned before that Alison even noted how helpful this had been during her externship. Another student stopped me in the hall the other day to ask if she could come in and get some documents from me because her clinical supervisor wants to start implementing this into the clinic after having a conversation with our student. These are big, big steps and the right direction for furthering fall prevention. So one last poll.

Fall risk screening for older adults can be implemented into my practice. True or false? What do you think? Fall risk screening can be implemented into my practice. True or false?

Do you think it's something that you can implement? Because the honest truth is that it really comes down to adding three questions to your case history. It's just that simple. We can ask our patients, have you fallen in the past year? Do you feel unsteady when standing or walking?

Do you worry that you're going to fall? Just answering those three key questions is screening your patients for fall risk. And as you've learned, if this patient answers yes, you can use one of the three manual assessments that we've shown today, such as the tug, to further assess, counsel the patient and perhaps provide resources to the patient or even make the appropriate referrals.

So 100% of you said that that this is true. So excellent. Fall risk screening for older adults can, with not a lot of lift, be incorporated into most audiology practices. And we think we demonstrated that it's pretty easy to do with minimal resources and time. Now I'm going to hand things off to Dr. Rasheek who is going to give you a little bit of information about where this program is headed and what's up Next.

Thank you, Dr. Majwe. Okay, so now that my colleagues have introduced the training program, I'll shift our focus to how we can continue improving it by considering future directions in terms of three key. Development, implementation and evaluation.

And like my colleagues mentioned earlier, our training program included a mix of lectures, hands on practice, case studies and simulations with standard with standardized patients. And to take it a step further, we are exploring a variety of educational strategies to continuously improve the program improve the development phase of this training. For instance, we are thinking about bringing in expert panels to review and fine tune and refine the content so it aligns with best practices. We also want to add multimedia elements like videos to make the training more engaging and cater to different learning styles. Additionally, we plan to incorporate interprofessional simulation to strengthen interdisciplinary collaboration and communication.

We plan for these simulations to offer formative feedback to the students, giving them constructive on the spot insights to support their improvement in real time. We also intend for these simulation sessions to promote experiential learning by allowing the learners to engage in hands on realistic scenarios that cultivate skills directly transferable transferable to their professional roles. We are also planning to hold structured debrief sessions after the training to encourage reflection and help the learners really master the skills. So together these efforts will make the training more interactive, collaborative and impactful, equipping the participants with practical skills they can apply confidently in practice.

And with regards to implementation as we look ahead, our goal is to expand the implementation of this program to reach a wider range of learners and clinical environments. First, we plan to introduce the training to other AED programs, including those at Auburn and Ohio State Universities to broaden the reach and the impact within audiology curriculum or audiology education. We are currently in communication with faculty at these sites to coordinate and plan this training for their students. Second,

we are exploring opportunities to adapt and implement this training for speech language pathologists and other health professions. For example, we are planning to integrate the training into the SLP curriculum ahead of their traumatic brain injury camps at the University of South Alabama as well as within multidisciplinary neuro rehabilitation clinics at our site LSU Health Sciences Center.

These settings involve patients with compromised mobility making full risk assessment training particularly essential and as we expand, we're also thinking about the logistics needed to deliver the training smoothly across these diverse academic and clinical settings with regards to evaluation.

So to evaluate the effectiveness of this training program, we began by focusing on two key outcome measures like Dr. Majui just explained. First, we self reported. Our first outcome measure was the self reported confidence ratings by the students which reflected learners perceived readiness to perform those the full risk assessment tasks. The second outcome measure that we used is the competency assessments which we base on an internal rubric that we plan to define and standardize in future iterations of the program which basically measures learners demonstrated abilities to accurately and effectively conduct these tasks. In our student sample, the training led to improvements in both confidence and competency which supports their preparedness to contribute effectively to fall prevention.

And importantly, these outcome measures were well aligned, emphasizing the critical balance between confidence and competence. And as you may know, overconfidence without sufficient skills can jeopardize patient safety while underconfidence may limit clinical decision making and interprofessional collaboration. And striking this balance will ensure that learners are both capable and confident in their roles, ultimately promoting a safer and more effective fall prevention care.

We also plan to expand our evaluation efforts as the program evolves. For example, we aim to validate the assessment tools currently in use including our internal rubric and the confidence rating survey. We

also hope to identify and incorporate additional relevant outcome measures that offer a more comprehensive view of learners development and the program's overall impact. We intend to assess the program's long term success by examining how the training influences clinical practice over time, contributes to reducing fall incidents and how learners apply their skills in real world setting and to guide and strengthen our evaluation efforts, we selected the Fitzpatrick model. This is a well recognized framework widely used in healthcare and educational program evaluations.

It examines four key dimensions formative evaluation, process evaluation, impact evaluation, and outcome evaluation. With regards to formative evaluation, it focuses on ongoing improvement during program development, whereas process evaluations assesses the quality of the program delivery. Impact evaluation measures the immediate effects on learners, outcome learners, learners knowledge, skills and confidence, while outcome evaluation examines long term changes in clinical practice and patient outcomes. So we believe that this framework will support a more rigorous and multidimensional understanding of our program's educational impact, allowing us to connect participants experience with learning outcomes, behavioral changes and broader clinical relevance. Because at the end of the day, our goal is not only to better prepare our students, but also to enhance the quality, the reach and impact of training ultimately contributing meaningfully to a safer, more collaborative clinical career in fall prevention.

Now I pass it along to Dr. Majoui.

Great. So in conclusion, education on fall risk screening and mobility training can be incorporated into the audiology curriculum. These tools are essential for health professionals who care for older adults, and that includes audiologists and ipe. Collaboration can contribute to the successful transition from the classroom to the clinic when working with other adults. And so this is really great for our students, but we also think the same is probably true for grown up adult audiologists that education on fall risk

screening and safe mobility transfers is essential for all audiologists.

So participating in a fall risk screening is absolutely within our scope of practice and we can do a better job of training new and current audiologists to do this. When we build confidence in performing fall risk screening and improving our ability to recognize referrals to other disciplines, we enhance collaborative care and fall prevention and we come we become part of something much bigger.

We look forward to expanding this project and continuing to refine our materials and we hope to eventually share this broadly once it's refined. If this work interests you and it's something that you might think about incorporating into your clinic or your program, we would love to connect. Please don't hesitate to reach out to any or all of us.

I want to say thank you to Dr. Sarah Redding at the University of South Alabama for her collaborative efforts and I'll add a comment here briefly about working with standardized patients. We held the training session at Louisiana State University first and our students paired up and practiced on each other, which was wonderful. But when we went to the University of South Alabama, we were able to use standardized patients. So these were older adult actors. We had about five individuals that were trained to act out various levels of being at risk for fall.

So some were very stable, some were very unstable. We coached them how to perform on the different manual screeners. And when I tell you that these SPs brought the drama, they really brought the drama. Some of them were very, very unsteady, and the students almost looked nervous even though they knew that they were actors. But it brought up a lot of really good questions, which I think speaks to the importance of simulation learning and that the students wanted to know, when is it unsafe to perform the tug?

When should I not do this test? Because I think my patient's going to fall? Which provided a really unique opportunity for us as the providers and the teachers to say that there are times when you really have to just use your clinical judgment, take a look at the whole patient as a person, make a judgment call that this isn't appropriate, and move forward, determine that this person is at a risk of falls, counsel the patient, provide the resources and the materials as appropriate as determined by the study, and then refer to the appropriate providers on a housekeeping note. A complete list of our references is available on a separate handout. Thank you again very much for listening.

And at this time, I will open the floor for questions. I think we have some already available.

Okay. So one person, Janice, asked if there would be copies of the forms online, and we would be happy to provide those in a separate handout through the platform. So keep your eye open for those. We'd be happy to share those. Let's see.

Another attendee asks, this was so helpful for understanding how to implement the program. Is there more information on what appropriate referrals are best based on the results of the physical screenings or next steps after the screening occurs in our clinic? The answer is absolutely yes. I'm going to rope in Dr. Kalle for this one. Thank you, Dr. Magouet.

Yes. So I know it was highlighted small in our presentation, but the study has that algorithm that it referenced, and on there, there are specific recommendations based on whatever modifiable risk factors you've identified. So the main ones we've identified were, you know, we're looking at balance and strength and functional mobility. If a client has deficits in those areas or they fall before below the age norms, the recommendation is to refer to physical therapy. And if a person is having issues in the home as far as fall risk, you know, home safety issues, the recommendation is to be assessed by an occupational therapist.

And especially if that person is not participating in their activities of daily living or instrumental activities of daily living, that's the recommended referral. So for those informed referrals, I would ask a client, you know, have you seen physical therapy in the past, you know, and if they say yes and they have a trusted provider that they like, then I would recommend establishing care with that provider. But if not, I would recommend you getting your community referral sources and maybe extending that olive branch of collaboration for a physical or occupational therapist. But those are just the areas that we highlighted in this program. There are other recommendations based on whatever the modifiable risk factor is, and it's more detailed on that algorithm.

Thank you. Claire is asking about how long does it take to complete the full assessment that was described in the study. Thank you. So I would say if you are trying to be as brief as possible, this could move really quickly. You can ask the three quick questions almost while you're setting up the patient to do one of the three assessments, the tug or the sit to stand or the four stage balance, and all of that can be done within a, under a five minute period.

I think where the time component is going to come is if that person is deemed at a risk for falls. You are going to have to spend a few moments explaining the results of the screener providing a handout, which is kind of the most efficient way to do things, and then counseling the patient on what happens next, where you plan to send them, and why you plan to send them there. So all in all, we're still talking minutes, not several minutes, a few minutes. So I do think it is manageable. Thank you for that question.

And I would like to add, if it's okay, Megan, just if this is not something that you feel safe doing as far as the physical assessments, and if someone is clearly already having obvious issues, I think it would still behoove you to make that referral and that informed decision, maybe without doing the actual physical assessments. Excellent. Someone else asked, are there any expected differences when asking the

three key questions in verbal versus written format? Thinking of including this on an intake form, I am not aware of any differences, but I know that the three key questions have at many different institutions been implemented as part of the written questionnaire. But you could also answer them verbally.

I'm not aware of any major differences in asking them out loud versus having the patient write them down. Something that does come to mind that I mentioned before is that relationship that we have with our patients and perhaps asking it verbally might feel a little more warm and the patient might be a little bit more inclined to share that information with you than filling something out on a form.

Meredy is asking with arms outstretched near the patient. Is the CDC's expectation that an audiologist catch and hold a falling patient. I think I'm going to ask Dr. Callais to also respond to this one. I think that's partially true, but let's hear her thoughts from the OT perspective. Yes, I'm glad that Alison emphasized, you know, if you're concerned that a client is at a falls risk, you shouldn't be standing across the room while your client does the tug or any of these.

You need to be close by them. But if they're showing any indication of being off balance or uncomfortable, if you're uncomfortable, then it is within your clinical reasoning to stop that assessment, make sure that they're safe, and then make the referral recommendation. And again, using clinical judgment, if you don't feel like you're safe to do that physical assessment, then don't. But doing this screening can still inform your decision making to refer. And I can tell you the odds of that happening are low just from personal experience that an audiologist would be catching a falling patient.

Hopefully you're catching these safety concerns even earlier in that process.

Thanks. Excellent. Elise asks, is it possible to conduct the assessments online or is the safety risk too big? I'm also going to ask Dr. Kalei to pipe in, but I would say that this is not something that should be conducted online. The manual portion.

I think it's okay to send out the three key questions or the stay independent questionnaire, either in paper form or to do it through your electronic health record. There's a lot of different ways to gather that information, but in terms of doing the manual assessments, I just don't think that this is a remote activity. Dr. Kelly, I agree with Dr. Majwe. Yes.

Okay, great.

I appreciate all the thank yous in the Q and A. We thank you for being here and spending the time with us. If there are no other questions.

Yes. Well, thank you very much. I'd like to thank all of our presenters for sharing their time and expertise with us today. Thank you everyone for participating and for the excellent questions. If questions occur to you later, the presenters have provided their email addresses which are available in the handout along with all of the slides.

If there was something that you missed and wanted to go back to, please don't forget to take the quiz. It should be available on your pending courses page in the next 10 or 15 minutes. And we look forward to getting your feedback in the course evaluations as well. We hope to see you in future courses. And this concludes today's webinar.

Have a great rest of your day.