

## AUCD Telehealth and Teleaudiology Webinar Live Captioning Transcript

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>> Good afternoon, everyone. Thank you so much for joining our telehealth and teleaudiology webinar. We've had a lot of excitement and enthusiasm about this topic and we're so happy you were able to join us. I'm going to let our moderator Irene Forsman tell you a little bit more about our speakers. But first, I'm going to introduce Irene. And also tell you about a couple of technical aspects of the webinar. First of all, if you're seeing the webinar on the screen, that's great. You should also be dialed in. And the dial-in number is at the bottom of the PowerPoint on your screen. Okay? Irene Forsman has been in the Maternal and Child Health Bureau for more than two decades in a number of positions focusing on children with special health care needs and their families. She's been responsible for mchb's universal newborn hearing screening and intervention program since passage of the legislation. Critical components of the program are audiologic diagnosis before three months of age, linkage to a medical home, enrollment in a program of early intervention before six months of age and linkage to a family support program. That program is now operational through the United States where do we go and two specific rim territories. Ms. Forsman did her undergraduate in New York City and graduate at California state in Los Angeles. Prior to joining the bureau she was assistant professor of pediatrics and genetics at the university of Southern California school of medicine. And also held an adjunct appointment in the department of nursing at California state college at Los Angeles. Now, Irene, I know we had some instructions earlier. If you could just hit star 9 on your phone and Dena, if you could do the same, star 9 on your phone and I will unmute your line. All right. For some reason that's not going through so I'm going to unmute and Irene, I'm going to turn it over to you.

MS. IRENE FORSMAN: Okay. Can you hear me.

>> Yes.

MS. IRENE FORSMAN: I would like to introduce Dr. Dena Puskin. Dr. Puskin has been the director of hrsas telehealth program for as long as I've known her, which is about -- (inaudible). And Dena will be giving us an overview of telehealth effort at HRSA. Followed by Dr. Puskin will be Dr. Neile Scharpe Minot State university. He has been developing a tool kit specifically for teleaudiology with his colleagues there. And

so Deana, it's all yours.

>> Can you hear me.

>> Yes, we can hear you.

DR. DENA PUSKIN: All right. It's a pleasure being here and what I'm going to try to give everyone is a little bit of an overview of sort of where we are in the field of telehealth and set the stage a little bit for what Neile is going to say. And hopefully leave some room for a lot of discussion. Next slide, please. Next slide.

Basically HRSA programs in telehealth come out of need to improve access to quality services for the underserved. So when you start with a vision, the vision basically is no matter who you are or where you are you get the health care you need, when you need it. It's very important, the when you need it, and basically we're looking to technology not as an end in itself but as a tool to get us to that vision. Next slide, please. So if we look broadly at some of the challenges to effective care in the United States, especially in light of some of the discussions on health reform, we have persistent geographic and functionally isolated populations. And this is very important because a lot of times people think telehealth is simply a rural issue, a remote rural issue. No, as I think I'm going to discuss with you, we're really talking about populations who are isolated, sometimes by poverty, sometimes by essentially the combination of poverty and disability and when we look at some of the challenges for people who live in New York City that have to take three buses to get somewhere and it takes them two hours to get to the medical care, they're as isolated as some of our folks in remote ranches in Montana.

So we have challenges, aging population, this statistic is by 2030, 70 million Americans are estimated to be over the age of 65. That's 20% of the population. Since I'm part of that group, we are very concerned about the health care demand that's associated with that. Combined with that we have tremendous provider shortages that I think we're all involved with in audiology you're dealing with it, especially pediatric, but quite frankly it gets down to the RN shortages and now increasingly

across the board in physician shortages. So in this example, 2020, RN shortages is estimated to be a million. Next slide, please.

The impact of people like myself, the baby boomers are that we're going to account for 40% of all physician visits. We do now. So as we age, we're going to put enormous demand. By 2030, 14 million of us will have diabetes, 26 million will have arthritis. More than 21 million will be considered obese. And the care of our obese population from Medicare at least is 34% more than for non-obese. And I love this statistics, knee replacements will increase 800% from today. And that's enormous. And that's not -- that's just one of the things. My dad used to consider himself a bionic man because he had knee replacement. Well, think about all the joints that we're going to be replacing. Next slide.

So sometimes it's important to make sure that we're on the same wavelength in terms of the language that we use and our definition. So for the purposes of our discussion today, at least my discussion, when I refer to telemedicine, I'm talking about the use of telecommunications and information technologies to provide clinical care. Now, this is very important because it's to provide clinical services. Not medical services. The range of clinical services.

Where telehealth is broader and it's the use of telecommunications and information technology, to support the delivery of health care services.

And in that we are often tied with health proficient, evaluation, increasingly Homeland Security but growing interest and use in public health and monitoring the status of the population, health information exchange and increasingly consumer education so we're talking about a set of technologies that are helping us to have a more efficient and effective health care system hopefully. Next slide.

These are the definitions next slide for your purpose I just went over them. And while we use the term "Distance" -- next slide, please.

Often distance is now increasingly from one floor of a hospital to another or one room. So some history

of the U.S. involvement in telehealth. Actually you can go back to the 1880s with the invention of the telephone. You might consider the telephone our first telehealth tool. But and telehealth as we think of it now where we're using visual and audio technology you might go back to Nebraska, the medical center where we first did the tele-psychiatric administration. Then in Logan international airport, if you've been to Boston you know there's a tunnel that connects the airport to the main -- what I call the mainland of Boston where all the hospitals are. And what was increasingly happening in the '60s is that for various reasons people couldn't get to the tunnel, people were literally dying at the airport because they couldn't get services. So the Mass General together with Logan really developed one of the early telemedicine programs. Then we had the STARPAHC program to 1972 to 1975 was dealing with the Papago Indian reservation, one of the first rural ones looking at how we could improve care to the Indian population on that reservation. One of the difficulties with that program which is important to know is that technologically we were just not ready. And the technology basically failed. It was very -- and so there was also an attempt in Alaska to do some work and actually this -- this round of telemedicine where we're really saw a major shift in technology both in the use of optics and computers was in 1989 with the Texas tech project and that really started this generation of programs. Next slide, please.

So where are we now? Well, there are almost 50 different medical subspecialties that have successfully used telemedicine and that's not including the uses in associated nursing services. There are at least 200 active telemedicine networks in the United States. Every state has at least one and many have multiple ones. And that doesn't include purely radiology. Because radiology is becoming so routine to do it via telemedicine. And the estimates of the existing networks about half are actively providing patient services on a daily basis. Next slide, please.

Next slide, please. So we're talking about a toolbox. Telehealth is really a toolbox of technologies applied to diverse health care needs in

a wide range of settings to connect people to improve access to health care services. That's simply the bottom line. And when people say does telehealth work, you have to ask the question, for what? For whom? What kinds of applications? Because it's not one thing. And so in a way it's not a very good question to say does it work. Next slide.

So let's look at some of the applications.

The earliest were really educational administrative uses. And here we have a classic video system set up for medical education. Next slide, please.

Which we're all used to using. And now we moved that all down into the desktop. We usually when we think about telemedicine talk about two kinds. We talk about realtime synchronous and store forward asynchronous. The patient is available at one end, the doctor or practitioner is at the other end.

Usually a somewhat geographically separated and there's a consult. One side of your slide you're seeing a patient's inner ear being examined and another one is a rural ER getting the benefit of a consultation. Increasingly early on rural ER, that was the thought, this is going to be really an ER application. It hasn't really turned out that way.

Only of late is it increasingly growing there. But part of that is the -- also the need for ICU coverage. And it's very interesting how standards and policies can change whether a field grows or not. Tele-ICU is growing enormously. Why? Because the leap for our group which is very influential in determining what is quality care said that every ICU needed physician coverage by a full-time intensivist. Well, we don't have enough intensivists to cover our urban ICUs, let alone rural. So hence, the increasing demand for teleICU. Next slide.

Store and forward, you take a picture and it is reviewed by a practitioner. In this case it's a primary care practitioner sent an image to a practitioner, this case a surgeon, to look at some wound issues. There's no realtime interaction between the patient and consultant. It's basically practitioner to practitioner. It is growing application in dermatology, radiology it's standard but you could even see it for neurology and

certainly in audiology. This is certainly one of the ways of doing things. Next slide.

So some of the emerging technologies in the field, there's an emphasis on low cost applications. Consumer friendly. They have something called the continual aligns which is growing. Consumer access services for monitoring patients at home. huge area of growth. The emphasis is on improving quality of care, not just access. So it's very important what we get as a quality of service and quality of care. Nibblely a lot of the programs really emphasized access. Now the question is access for what purpose? And of course the integration of information systems within and across health care institutions with the telehealth program. Because to really be successful it's really helpful to have integrated electronic records, et cetera. Then this just becomes an add on tool that is extraordinarily useful. And for instance, in telepharmacy, the ability to check against a medical record of pharmaceutical prescription is critical to the success of a telepharmacy programs. Next slide, please.

Well, here's an example of home health.

This low-cost equipment often using only a regular line to check monitoring patients. In this case there's an image, but most telehome care applications do not require an image. It's got a camera on it. Only with a very frail person would you actually need to see the person often. But in that case, it's often critical to see them because by seeing them, you can tell a lot of things. For example, if this woman instead of being well-dressed and well-coifed came in and was disheveled when she had her tele-nursing appointment the nurse would know immediately to send someone out. So it's often used with the imaging with frail patients. Next slide.

But generally with disease management we do not need to be images. In this case we've got equipment, the health buddy in which there is a set of questions that are asked the patient each day and then there's some vital monitoring that's done and that's what happens. And, you know, there's really -- the nurse will call if something looks out of whack and the patient is asked to come in.

Tremendous growth in this area. We have now a collaborative of three basically in three states they're showing very clearly cost effectiveness of this approach. The VA has shown it over and over. Next slide, please.

But eastern the telephone can be helpful.

This is in Scotland and this gentleman, COPD is the leading cause of hospitalization in this part of Scotland. And a very simple thing, they found a correlation between actually stormy weather and people coming in two days later with congestive -- congestive obstructive pulmonary disease. And what happened is with the frail elderly patients, the health service over there just would call them when it was expected that there would be a storm and basically ask them to stay home. They reduced hospitalizations by 35-50%. Next slide.

So Informatics. I mentioned that and this is the Blackberry. A lot of different tools. We're putting so much on this. This is becoming the -- from our kids and the tool of preference. And the only issue is for people like myself, I can't see very well on them. But other than that, it's -- we can put so much on them. These are massive computers for communication and information sharing. Next slide.

So this is radiographs being basically shown on an iPod and they are extraordinary actually. I've seen them in person. And so for many things this is becoming so routine and our devices are coming down in price that this is going to be a normal part of business. Next slide.

So what are we doing with HRSA. There are telehealth awards all over HRSA but the specific ones that are dealing with evaluation of telehealth are first awards were made by the office of rural health policy in 1989. Since then in this agency we've awarded at least \$275 million in grants and we created an office of the advancement of telehealth as a focal point for telehealth activities in '98.

That office has now moved back into the office of rural health policy as a focal point for grants.

For policy, we have now entrusted telehealth to the office of the administrator and we sort of have done a reorganization at HRSA where we're going to put much more of an emphasis on policy in the office

of the administrator but in fact on grants and expanding those grants down in the office of rural health policy. However, those grants will not be strictly rural. They'll be urban and rural. And it's just that they're administratively housed in that office. Next slide.

So right now the programs that are most relevant to telehealth, we have a telehealth resource center grant program. We awarded four new three-year grants. And three were extended. This program is to help people step off the curb. Go back, please, that slide. Thank you. And it's very important. They're around the country, they're on the website, they're there to help people step off the curb, to find partners because as one of the themes of what I want to say is you can't do it alone.

Now, the telehealth network grant program including some home health is really collaborative grants to develop the services. And both of these grants, by the way, will be competed in 2010 again.

The lessons chiewr portability grant program is about overcoming licensure programs for practice, there is a special initiative that came out of the recovery act and these grants have been awarded.

They will not be reawarded again -- well, the licensure portability initiative has not yet been awarded but it will not be competed again until the earliest 2011. But it's very important I think in audiology you're seeing in certain parts of the country the ability to practice across state lines.

It's a rational thing to do when you have extreme shortages of specialists but we do have significant barriers to doing so. Next slide, please.

Plaintiff paragraph so here's a list of the resource centers currently. Next slide. This will be available to you. And we also have coming out very shortly on the agency of the health care research and quality website a toolbox for telehealth. We have it for HIT planning and evaluation but we are coming out with a telehealth and hopefully that will be out at the next month or so. And so keep that website in mind because it's -- I think the toolbox can be very helpful to folks who are thinking of starting programs. They have some operations issues that are addressed, some legal and regulatory

issues, training and evaluation, some modules on it that I think will be very helpful. Next slide, please.

So the current toolbox has operations, legislation and regulation, Medicare reimbursement policy, market, and training. And you can see the future ones that are going to be developed hopefully. Next slide.

Here's some technical assistance information on where you can find some help. Next slide, please. And we strongly urge people also to go onto the website of the American telemedicine association. They have some standards and it's a wealth of information. Next slide please. So the bottom line is does telehealth work which I said is really not a very sensible question because it depends on clinical service setting and implementation. But what do we know? We know telehealth services can improve access in rural communities and we know it can improve quality of care. We have performance measures, we've shown it over and over. But telehealth services do not necessarily improve productivity. One of the problems and one of the challenges is integrating the telehealth service into the work flow of a practice and until that is well designed and when it's well designed you will not see improvements in productivity. And cost effectiveness have been shown in closed systems such as the VA, Kaiser and limited small studies of non-closed systems, what we call the non-closed systems we call the free world. That's where most of us operate. One of the difficulties is cost effectiveness has not been necessarily well demonstrated in the free world except in these small studies. That's one of our challenges. Next slide.

So why is implementing telehealth technologies so complicated in the free world making it difficult to basically show cost effectiveness? Well, it can be costly and complicated and time-consuming. Not specifically the equipment. It's the reorganization of work flow, it's the actual people part of it that is what really costs. Clinician buy-in can be difficult with some providers. And can take a lot of effort to get that going. Implementing and meaningfully using these

technologies requires significant changes in how we practice and change is difficult. What we find with safety net providers is they often operate on narrow financial margins and have many competing priorities. They have limited staff, patient care, operational initiatives and you know what? Introducing a new technology, one more thing, you know, on their busy plate is not something that they're overly enthusiastic about doing. And quite frankly, we have an over-abundance of information about technologies, lots of vendors out there, et cetera, and few trusted resources. And as such, therefore people are reluctant to step off the curb. Next slide.

So key challenges. Well, reimbursement/start-up costs. There is not a steady reimbursement stream for many services. Medicare, for example, does not cover speech pathology, audiology, it just doesn't cover it under the telemedicine benefit. There's still infrastructure challenges. More and more money being put into developing more in42 structure out there, those telecommunication lines but the people infrastructure, the organizational infrastructure, the re-engineering of practice to gain clinical practice is an enormous challenge in many settings. And evaluating cost and effectiveness, the value-added is one of the biggest challenges because if you are going to get people to agree to re-engineer and you're going to get clinical acceptance and you're going to get payers to pay for it, you have to demonstrate value-added and quite frankly, many studies just don't get that. And that leads to financial sustainability because how are you going to sustain it if people don't see value-added. We've 3WR50E6ly talked about licensure and the issue across practice. Credentialing is a huge issue in part of this field. Right now between CMS and the Joint Commission they have instituted credentialing policies there are very difficult for hospitals and clinics. If you want to get Medicare payment and you are working with a university, let's say, to provide support, every one of those university providers must be credentialed and privileged in your facility. And that can be a real challenge. Also scope of practice. Who does what?

And health information exchange at the point of care, we have a lot of work now going on in improving the flow of information at the level, our health information between payers and the state and hospitals and the state, but very poor information -- flow at the point of care when it's most needed. That is a significant challenge. And it effects telemedicine if our systems are not designed well to support that. Next slide.

So reimbursement in terms of the field you're in, there are school contracts. Some of the most effective programs are sustained because of title V and the need to provide services under school contracts. Some of them are pioneered, I know in Oklahoma when we have Integris grants there, Medicaid is in 23 states but varies all over the states as to what's covered. Some of it is very, very limited. Some is broad. Montana is broad. Other places simply cover what Medicare covers. When you're looking at private plans, they vary all over the place and it's recommended to obtain advanced approval. And some states, such as in Maine, the private payers are required to provide the same coverage for telemedicine as they provide for other services. So there's some advantage there in some states.

We have found a very successful strategy sometimes is while we recommend obtaining approval, that doesn't look helpful sometimes. What you just do is submit a bill and then start talk to go the payers. In Medicare speech language pathologists and audiologists are not included as 88 jibl telehealth care providers. Next slide.

Licensure significant variability in definitions and details causing tremendous issues sometimes in many states. Current licensure language, where it exists, requires licensure in the state where the client receives services. Next slide. Which means you have to get multiple licenses if you operate across state.

What is our message? Don't go it alone.

We are strongly supportive of networks because it's hard to go it alone. You're I am prementing thing where it's helpful to get help from people who have walked the walk before. There are economies of scale, cost efficiencies and definitely volume. If

you want to show volume added, when you work together in networks it's easier to get that kind of information that not only may convince payers but convince your own provider community of the value of cross sub situatedzation. There are enhanced efficiencies in the business and clinical core areas. Higher performance and value in the networks we've shown and sharing the expertise and staff among collaborators is invaluable. It is a lot better to share expertise and using this often than sometimes some of the consultants and vendors that will end up costing you a fortune. Next slide.

So addressing telehealth challenges, we believe one of the biggest challenges is demonstrating value-added. And we have worked on collaboratives. That's why we think that people need to work together so that you can Allison DeMarcus straight efficacy. Financial sustainability relates to not simply reducing costs but are you getting value for the dollars that you've added and in demonstrating value added, are you aligning the incentives. For some folks the kind of things you have to demonstrate to your administrator may be that you improve the volume that you're getting into your facility. And others it could be that you are reducing costs. And so it's important to define who your audience is in making this case. And from our perspective one of the workforce issues right now is to demonstrate how the telehealth services will address health profession shortages and maldistribution. We think that's going to be a very important key, especially if it's service is demanded. If for some reason an institution is required like the schools to address special needs children, you have a built-in demand. Next slide.

This is the bottom line here. This is Emily and she's up in Alaska and that's her telehealth unit. And in that program the question really comes down to what was the value added, Emily? And she's all alone up there. There is no one up there in her image but her and another aide and she handles everything from broken limbs to suicide attempts to simple boo-boos on a child. And we asked her, and she said I'd quit my job without it. When we asked fanny a few years earlier, Fannie

said I'd kill anybody who took it away from me.  
That's value added. That's what we have to add.  
Thank you very much. Contact information is the  
following slide. I'm done.

>> Great, thank you so much, Dr. Puskin.

We really appreciate it. Now we're going to hear a  
presentation from Neile Scharpe. And Irene  
introduced him earlier.

MR. NEILE SCHARPE: Can you hear me.

>> We can hear you.

MR. NEILE SCHARPE: Katie, can you hear  
me.

>> Yes, we can hear you. Go ahead.

MR. NEILE SCHARPE: My name is Neile  
Scharpe. I'm a service contract specialist at  
the North Dakota center for persons with  
disabilities. It's a Center of Excellence at  
Minot State university in Minot, North Dakota  
just a few miles from our good neighbors to the  
north. I have with me my two cohorts on this  
project, Mr. Tom Froelich who is our resident  
pediatric audiologist here at the university  
and also a professor here and Steve Peterson,  
the online disabilities service coordinator.  
Steve's our connectivity guy. He's the one  
that makes things work and adds to the  
technical aspect of what we do.

Next slide, Katie. The purpose of our  
project -- can you go back one, I believe? There --  
the purpose is that we're under contract to HRSA to  
develop a protocol used to complete infant audiology  
diagnostics via the Internet and this is done on  
0-6 month Olds with a real emphasis on doing it  
without sedation. It's a two-year contract that  
will be ending in September of 2010, at which time  
we are going to present our deliverables which is a  
management protocol which is going to give you the  
why, the where for, the how to do distance  
diagnostics. We're going to include recommendations  
on equipment, software, technical issues and also  
training issues and we'll outline some of the  
difficulties that need to be addressed such as Dena  
spent in the last several slides that she presented.  
The technical protocol will be a tool that an  
audiologist will be able to pick up, go through and  
utilize that for establishing their distance

diagnostics.

The tool kit is going to be a combination of resources that will make this all work. It's going to be pretty varied and wide. It will just give some examples of different forms and whatever things need to be addressed. Next slide, Katie.

The basis for this project is -- was pretty well outlined by Dena. She spoke to many of these issues and I would believe that most of you are tuned in because you already know what those issues are. We have a limited number of audiologists trained in infant diagnostics. We have a huge distance many times between our professional and the baby that needs to be tested. And just thinking about North Dakota, it's not uncommon for a parent to have to try -- travel well over 100 miles one way to access that professional and then when you toss in weather-related conditions as well plus the time away from work, it just increases the cost of that sticks which leads to that loss of follow-up, that infant that needs that diagnostic and the parent looks at traveling the distance, making the appointment, the weather issues, and then says you know, I think my baby can hear pretty well. And what happens is we lose that valuable time between the diagnosis and the intervention and that's a critical aspect. One of the things we believe distance audiology can improve tremendously. Another one of the things is cultural difference and we have looked at this on a variety of different areas but specifically here in North Dakota we have our Native American population on the reservation that again are traveling 100 miles one way just to access services. And in addition to the travel distance, we end up at a point where they're then dealing with a completely different culture. We believe that distance diagnostics can be a bridge to that divide.

The other thing is as Dena pretty much pointed out, the technology exists today. What we are talking about in using teleaudiology is not creating anything new. We don't need any new programmers to write something. We use the equipment and the software to put it into place right now. And that last point, the process of teleaudiology has been proven by the gentlemen that

are sitting with me, both Tom and Steve, worked with Dr. Mark Crum back in 2,000 to 2005 in doing the teleaudiology study shows that it works. They got the same results on distance audiology as what they did when Tom did the evaluation, Tom and Marc did the evaluation in the office. So it is a viable means of delivery of this service. Next slide, Katie.

So how is it done? We are basing this project on a hub and spoke model which I believe is sort of common terminology right now. At the hub Tom, the audiologist, sits in his or her office and takes control of the computer and the diagnostic equipment that's in the spoke site. So he is basically running the entire operation. At the spoke site we have a trained paraprofessional that assists in making the connectivity of the computers and also then the connections to the infant. All the while we have streaming video that's going both ways so the paraprofessional can see the audiologist, the audiologist watches the paraprofessional doing the hookup and the parent can interact at the same time.

We are looking at using the existing telemedicine network. Again as Dena talked, the best way to go about that is to use what's already in existence. It limits the amount of cost. We've also played around with using private Internet providers. We looked at cable Internet providers. We've looked at our rural telephone Internet provider, and we've also done some stuff with the equipment as it relates to like a wireless router on the other end. Everything seemed to work. Now, we still have some more work to do on the actual diagnostic end of things, but what we've seen so far is that everything seems to work and work quite well. So again, it's not the technology that's really holding us back.

The audiology diagnostic equipment that we're using is -- was already windows based so there isn't anything new that we have to do to it. Most audiologists are probably using equipment that is already Internet capable. And we're using existing software. We have found that there has been some modifications that have been that have improved the service from the standpoint of navigating firewalls

and again, in a ten-minute presentation we're not going to go into what all of those are, but the software solutions are out there. They don't have to be redeveloped or even re-engineered. Next slide.

The applications and where you would end up implementing a teleaudiology program, again I will go back to what Dena talked about. These can be very varied based on your circumstances. We believe that North Dakota is a pretty remote area toss in some pretty flat ground, two feet of snow and a 30-mile-per-hour wind and an appointment with an audiologist 100 miles away and you will probably cancel that appointment and try to reschedule. And again, we're working on some pretty tight time frames when we look at the through six month time frame. If the parent would only have to go 50 miles to the nearest clinic as opposed to 100 miles to see the professional, we believe that's one of the areas (inaudible). As Dena talked about, I'm from -- all of us here are pretty much from the Midwest area. I don't know what it's like traveling across Los Angeles or the city of New York so there are many urban area applications. Again, the technology is there, the Internet access is available.

The third one is the culturally diverse areas. We keep looking at our loss to follow up rate on the Eddie program here in North Dakota. We see that a large number of kids that are lost to follow-up are on the Indian reservation and that we see that giving those parents to come into the clinic that they're familiar with close to home would probably be a lot easier than to get them to travel 100 miles and then see somebody that they're not familiar with.

The intercontinental thing is unique. We all have continued ties to Dr. Mark Crum and he did a webinar not that long ago with connecting to South Africa to do some distance audiology diagnostics. So it's not just, you know, across a large city. It's not just across remote areas. There is possibilities and again, going back to what Dena said, we have many hurdles to go over in order to accomplish that. But we had recently a cohort from Russia that traveled through Minot State university and one of the ladies was pregnant and we were

talking about teleaudiology and she lived in a community that was about 30,000 people in Russia and she knew she had no access to this. That was her request, is that when her baby was born that we would test her baby's hearing. The next slide.

The hurdles I think have probably even been more well defined in Dena's presentation than mine. They are probably huge, but I believe they are hurdles. They are not the technology. That is there and that can be put into place fairly quickly. It is the reimbursement issues, not just where you're going to get the money for the equipment because you're going to need equipment both at the audiologist's office because he's going to continue to do diagnostics in his office, but you're going to need diagnostic and computer equipment at the spoke site.

There are some training issues. There are issues of reimbursement on the other end. While we have been told by North Dakota, North Dakota Blue Cross/Blue Shield that if it's reimbursable in the office, it's reimbursable via the Internet, that would cover Tom's costs on -- as a professional. It's a limited cost on the other end or a limited reimbursement on the other end on the paraprofessional.

The equipment costs, again we asked to find ways to do that, to make it a viable, affordable thing to do. But again, as Dena said, I think the critical aspect is that willing professional. We need that person who is that champion who's willing to step up and begin this concept. And again, many times when you're working in pediatrics audiologists are working in larger medical centers that becomes quite difficult. But we need that champion on the pediatric audiologist end of things to step up.

So in closing, it's only a ten-minute presentation. I tried to only pique your interest in the availability of the technology. Tom and Steve and I will be doing a presentation at the national Eddie conference which will go a whole lot more in depth in all of the different aspects of it. But we also want to offer our assistance for those of you who are already in the process. I do not have contact information. Katie probably has that.

We can get that to you later. We would be glad to assist you in that process as we go along. We don't have to wait until September of 2010, I don't believe, to make this process work. We can take some of those steps right away. Thank you for the opportunity. And Katie, I'm done.

>> All right. Thank you so much, Neile.

That was wonderful. Now we're going to move on to questions. And we're just going to give the opportunity for people to ask a few questions here by typing them in on their webinar console and then we'll have a longer period of time at the end of the webinar for you to ask more questions after the linkage portion which is next. So Jen, if you could read the first question.

>> All right. A question from Karen and she's asking is the equipment mailed (Off mic). Does it remain at the location, sounds like that's for either of you.

>> Excuse me, I couldn't hear the question.

>> Sorry. The question is, is the equipment that you discussed mailed as a need arises for a diagnostic test or does it remain at a determined location?

MR. NEILE SCHARPE: We have looked at that in a couple of different manners. And again, looking at our application, if we're just looking at North Dakota, we thought about putting it in a vehicle and transporting it around to specific sites, that would work. Some of the earlier work that was done in early 2000, they had even discussed, you know, shipping it U.P.S. or the mail. The problem is that the equipment is very expensive and insuring it seems to be one of those things that probably makes it cost prohibitive. So we would see in most instances you would -- you would actually locate the equipment at a specific site.

DR. DENA PUSKIN: This is Dena Puskin. In terms of numerically at looking at equipment, they have done things, different applications have put it on mobile vans. But the majority of people locate their equipment in a remote site. One of the issues always comes down to

judging the volume. If you've got a piece of equipment and it doesn't cost very much money, then having it sit idle for a long time isn't a problem, right? Doesn't cost very much. But if it cost a fair amount of money and it's sitting idle and you're using it once or twice maybe a month at most, you have two problems. You have the problem of equipment not being used very much, but you also have the people problem that the skill set which needs to be maintained is not being maintained at the remote end as when you have a much more robust, efficient higher volume system. And Neile, you may want to comment on that.

MR. NEILE SCHARPE: The way we see that working is exactly how you presented it, Dena. We need a paraprofessional on the other end who actively either is retrained on a regular basis or uses the equipment regularly. We also, I guess, see that placement of equipment is not going to be, you know, in the parents' home. It's going to limit the transportation issues. And I also believe that it should be looked at from the standpoint of a financial basis where there is enough use of the equipment to make it a viable service.

>> Okay. I have another question. The question is, are there any discussions known for the credentialing problems with connections with multiple hospitals in a state or locale?

MR. NEILE SCHARPE: This is Neile. I think Dena addressed that in pretty much every instance you're going to have to be given authority, if in fact your remote equipment is going to be in a hospital, you're going to have to be -- the audiologist is going to have to be given privileges in that facility. Within the state realm, licensure works out pretty well. But everytime you cross state lines you're going to also then have to be licensed within that state.

DR. DENA PUSKIN: This is Dena again. And absolutely, Neile. One of the things is the Joint Commission actually had in the past a different way of looking at credentialing and privileging in which basically they had what we

call credentialing and privileging by proxy. And this was particularly relevant for where you had university-based, large-based sort of providers, consultants providing services to say a remote hospital. And you had essentially guaranteed 24/7 coverage in a wide range of specialties. The problem was the small remote hospital couldn't credential and privilege all those people. So what they did is if the provider, the telehealth consultant or provider was credentialed and privileged at the home institution and that home institution was a JACO accredited institution then the remote institution could accept that credentialing and privileging by proxy. But the center for Medicare and Medicaid said no, no, no, everyone has to be primarily credentialed and privileged. JACO had to withdraw that just this past November. This is up for discussion right now. Probably it won't change in the near future, but down the road there are some real issues of efficiency. Maybe not so much for audiology but when you look across the field of telehealth there's some real challenges to this, especially if you have to provide 24/7 coverage.

>> Okay. This is a question about the tool kit. The question is, will your tool kit include tips and information about how to manage counseling and provision of resources when a loss is diagnosed?

DR. DENA PUSKIN: I'm sorry, when a what is diagnosed.

>> When a loss is diagnosed.

MR. NEILE SCHARPE: This is Neile. It is the one thing that I believe every professional will be dealing with. We will provide some guidelines and some ideas. In many instances what we -- the way we would be looking at this, Tom and Steve and I, is that we're going to do the diagnose -- distance diagnostic and be connected and let's say that Tom finds a significant hearing loss with the infant. There are two options. One is that we go up front and we say we're going to do these diagnostics and we will send you the report

later. The second is that because we have a paraprofessional on the other end that we've done some training with, we believe that we have a viable connection with the parent that we would open up that line of communication. Because it is video, because it's streaming both ways, and we would begin to discuss that. The difficulty comes in, and again, it comes down to what a professional determines is appropriate, and I believe that every audiologist would have a different opinion on that, because once the audiologist hangs up, the parent's going to have many questions and it all depends upon, I believe, the capability and the comfort level that the professional has with the paraprofessional in the spoke site. The concepts that we were looking at is the initial diagnostics, that there would be a hearing loss, and then we would probably bring that child into a center to look at multiple appointments with one troop where we would reaffirm through diagnostics the hearing loss, we'd set up an ENT appointment and very possibly even get to intervention at that point. So we are not -- we do not believe that we can speak for the profession as far as how to deal with that, but we will provide some guidance.

>> Okay. Great. Thank you so much, Dena and Neile. That was -- those were excellent presentations and thank you for answering those questions. Like I mentioned earlier, there will be a lilt time at the end of the presentation to ask more questions. But right now we're going to move on to speed linkages. And this is something new that we're trying. The people who worked on developing the lineup for this webinar, Irene Forsman, Dena, Neile, Karl White and myself discussed this, and we think that this might be useful to you. So what's going to happen is we have speed linkage presenters and each one is limited to two minutes. And they're going to give you an overview of their telehealth or teleaudiology project. These summaries can also be found on the webinar event website that was sent out. So presenters, I think the way we're going to do this

is all your lines should be unmuted at this point. So I'm going to go ahead and just call your name and if you could say where you're from and get started, then we will begin. Let's go ahead and begin with 1194 Holte.

>> Hi, this is Lenore Holte from Iowa.

Iowa is a rural state and as such we have many families that have to travel long distances for services and particularly for diagnostic auditory brain stem response measures. We are finding that in these tough economic times transportation for families can sometimes be prohibitively expensive. As Neile was alluding to this has really been contribute to go the late identifying of hearing loss and our Eddie program. There are many areas in Iowa where this is problematic. And what we want to do is develop a pilot program to do distance ABRs. I think where we're probably going to be starting is in the northwest part of the state. We have a wonderful resource in boy's town national research hospital on the western side of the state. But even for people in the northwestern part of Iowa, sometimes families have to travel three or four hours to get a diagnostic ABR. So the way we plan to run our pilot program is to have diagnostic audiologists here at the center for disabilities and development at the university of Iowa who are experienced in pediatric ABRs linking with a pilot site in the northwest area of Iowa. Now, one of the luxuries we have in Iowa is that we do have an Army of good pediatric audiologies in our area education agencies. The drawback is that while they can provide many pediatric audiological services, they are not comfortable with doing diagnostic ABRs. But one thing we could -- would like to do is make one of those area educational audiologists the person at the other end. So unlike what Neile was saying having a paraprofessional at the other end, we would be able to have an audiologist at the other end with the family and with the baby. So I see that as an essential component for us, Katie asked us to talk about essential components. I see that as an essential component for us to solve concerns that I would have about the counseling piece in the case in which we would identify and diagnosis a permanent

hearing loss by distance. Those AEA audiologists are very good at counseling, they know about fitting of amplification, and they know that -- they know how to do behavioral testing when the child gets a little older.

>> Thank you so much. I'm sorry, I'm going to have to end you there so we have time for all the other presenters. All right. We're going to move on to the next presenter. Todd Houston.

>> Hi. Thank you, Katie. Can you hear me.

>> Yes.

>> Great. The project that we're working on here at Utah state university is one that is what we're calling providing teleintervention to children with hearing loss. And it's a relatively new project. We've had it in place about a year now and it's still at that pilot stage. What we're trying to do is really investigate the feasibility of delivering early intervention services to children with hearing loss and their families. And we're also looking at the feasibility of the skills of the parent and how the skills of the parents will learn and facilitate the child's language as well as the language development in the child themselves. We're also looking at the cost effectiveness of delivering early intervention through a telehealth model. Some of the essential components of how we've sort of set up our program is that we initially tried several pieces of technology like iConnect and Skype and realized that was not going to work. We ended up using Tam boring systems here on our campus and we connect with the family. We've put life sized units in the homes. They have complete video conferencing equipment in their homes. And it seems to have worked really well. The challenges we've ran up against is really the Internet connections themselves at the homes and again because of rural areas may not have access to broadband or may be limited or may be just not as complete as we'd like. We've had a couple of issues there but we've been able to get them connected to the Internet fairly well at a high rate or high speed.

We also found that the homes that have dedicated IP addresses, that was one of the glitches

we had to address.

>> I'm going to have to cut you off there to allow time for the other presenters. Thank you so much. The next presenter before I do that is Sandra Gabbard is on the line, we're having trouble unmuting your line. Check our messages on the webinar counsel. Susan Chacon. Go ahead.

>> Hi, everyone. I'm Susan Chacon from New Mexico from the Eddie program and we actually started exploring teleaudiology over a year ago due to our shortages in the state. I actually had sort of informal discussion at one point with Dr. John Robert at Utah state and he got me interested and I started talk to go other community partners, the main person being project echo which is already a program that's providing consultation to rural provider using video conferencing. They already had infrastructure in place and they were really interested in the idea. So we decided to develop a pilot project and we close the northwest part of our state which is Gallup, New Mexico, which is a very riewrm area. It has a large Native American population. And they were having just terrible, terrible issues trying to get services for children. We were able to secure some funding and the commission for the deaf and hard of hearing helped us purchase the equipment that was needed to set up the clinic. We met in August of 2009 and the partners -- it's a very collaborative project. It's the newborn hearing project echo the department of audiology at the University of New Mexico, two hospitals in Gallup, the Gallup Indian medical senter and the private hospital that is there. They share the same campus. And we work with three early intervention programs. We started -- we're up and running. Our main obstacle is we didn't have enough money to buy the actual diagnostic software. So all we're doing right now is providing second screens for infants that don't pass their newborn hearing screening for both hospitals. And doing some -- it also has a capability to do diagnostic OAE and tympanometry. There's such a need we're getting requests for older children that are in need of audiology services.

>> Okay, Susan. I'm sorry, we have to go on to the next person.

>> Thank you.

>> Thank you so much. Megan O'Hern, please go ahead. Megan, are you on the line? All right. Let's move on to Kathleen Watts. Kathleen, are you on the line? Perhaps hit star 2. You might have muted yourself and that will unmute you.

>> Hello, this is Megan. Can you hear me.

>> Yes, we can hear you.

>> Okay.

>> Go ahead, Megan.

>> Our telehealth project is called the Eddie outreach and coordination effort. This is Wisconsin, by the way. We began this effort in September of 2009 and have partnered with Marshfield Clinic in efforts to better serve remote areas and homeless populations in Wisconsin. We're working with a budget of about \$46,000 and this money will support a portable ABR screener and additionally an outreach specialist at a point seven appointment. Staff at the state have been working very hard with our data to determine the highest needs of areas within the region and fortunately Marshfield Clinic has in-house telehealth equipment and we will be able to use that to serve the populations that I had previously talked about.

As far as essential components, I think most importantly we need accurate data and surveillance and definitely the support of the in-kind staff at Marshfield Clinic has been very helpful. And honestly, our biggest obstacle has been finalizing the contracts with the agencies. We haven't previously worked with. It has taken significantly longer than planned to finalize the program. Through no fault really of either party. It's just taken longer than expected. And to get around with this, we are moving forward with all other planning steps while putting other purchases and hiring decisions on hold until that contract is finalized. Thank you.

>> Thank you. All right. Kathleen.

>> Yes. Can you hear it seems to me.

>> Yes. Go ahead.

>> Okay. This is Kathleen Watts and I'm in North Carolina. And the most essential component for our program is our partnership with East Carolina University. And we're very important they

have an established telemedicine program there. They also have the chair of the department of communication sciences and disorders who's for a long time been interested in teleaudiology. So that's -- that's worked out great for us. We do now have a contract in place with East Carolina University and so we're just starting to get the procedures and protocol set up. We are still waiting for diagnostic equipment to get through the whole ordering process through the state. We will be providing infant diagnostic evaluations and getting them so that the family should not have to drive more than two hours. But overall goal of course is to reduce the loss to follow-up and the age at which diagnostic procedures are done for these babies that are in the more remote areas. At ECU there will be an audiology professor at the hub site and he'll view the patient preparation and review the data and everything realtime and he'll be the one actually determining the diagnostic outcome. At one of seven remote sites there will be one of the regional Eddie program audiology consultants who will be doing -- you know, working directly with the baby and the family and will sort of be the hands for the audiologist who will be at East Carolina University. And so if there's a -- if there is a diagnosed hearing loss we'll have someone right there to start working immediately with the family which is a wonderful thing.

In the future looking at this down the road, we're hoping to involve the East Carolina University graduate students. They'll be like in their last year of the AUD program so that they'll be working at the remote sites to provide the hands-on part of diagnostics. So it will be part of their training program which is wonderful. We're also going to be addressing reimbursement issues.

>> Kathleen, thank you so much. We're going to have to go ahead and move on. Sandra.

>> Can you hear me.

>> We can hear you. Go ahead.

>> Amazing. Okay. I'm speaking from Colorado and our program that we are working on right now is part of our audiology LEND training grant and I think that's what makes it the most unique from hearing from the other programs. We

still have the same goals to increase service to children in rural areas and we plan to do that in large part by partnering with three rural audiologists as post-Doc trainees on the LEND grant and we will use teleaudiology to train them and coach them and mentor them so they can provide the direct service. So it will be a combination of them coming on site, our staff going to their site and providing support through teleaudiology. We will also involve our fourth year AUD trainees and they will learn in part by being on our end at the hub site and partly by having an experience of going to the rural area and helping provide service on that end. I think our biggest challenges are finding partners who do have diagnostic audiology equipment because that is not part of the grant, and then we will provide them with equipment for the video conference portion and so-called cameras or things they might need.

>> All right. Great. Thank you so much, Sandra. Hallie Morrow, go ahead.

>> This is Hallie Morrow from California.

We have a huge part of our state, the northern third of our state in which we only have two diagnostic audiology providers that have the experience and the interest in serving babies. These families need to travel eight or more hours to get to Sacramento or to the San Francisco bay area for any audiology services. Our loss to follow-up rate in that area of the state in 2007 for children that needed diagnostic evaluations was about 40%. That's 40% compared to 3-7% in the other regions of our state. This project is in collaboration with the California Department of Education University of California at Davis and we're in the process of identifying a hospital or clinic in northern California hopefully in Redding. We will be providing realtime diagnostic audiology evaluations on infants who are less than four months of age so we will be doing non-sedated testing. We'll have a paraprofessional at the spoke site and a pediatric audiologist at UC Davis at the hub site. We're estimating that 85 babies will be referred from the newborn hearing screening programming that need diagnostic evaluations in that region each year. The challenges that we've identified are number one,

confirming our remote site. We have the -- we have a paucity of pediatric audiology capacity in our state. If we pull pediatric audiologists out of UC Davis to do this project we will be concerned about them maintaining their capacity to see all the other children that normally come to that facility. The issue of counseling families regarding the results via telemedicine is something I think is going to be a challenge and we have included a mentoring component this that project for ongoing management of these children, but I think recruiting local audiologists who are interested and willing to follow our babies that are identified and track them on an ongoing basis and provide ongoing audiological services may be a challenge for us.

>> Thank you, Halle. We're going to move on to Vicki Simonsmeier from Utah.

>> I'm involved in both our LEND program here and in the university clinic. The same names that have already been mentioned today are part of the programs that we're involved in, drs John Robert is currently involved in a project with Dr. Mark Crum who is now at Kent state and they are doing ABRs via distance between Utah state and Kent State University. Within the ulend program we are using telehealth as part of our pediatric award grant through LEND to provide educational services to post-graduate audiologists in our five states that we work with. And we currently have six audiologists in our infant pediatric portion of our grant. So we're providing our education and some of our clinical instruction via telehealth. We're also doing parent consulting via telehealth. That brings into question some of the things that other people have brought up in terms of the difficulty in consulting. Particularly we've had this experience if we also need an interpreter. So when we're talking about, you know, barrier toss the thanks that we're doing, that's definitely one of them. Just a question for us to think about in the future is I think that we need to talk about value-added services in terms of how our clients and families are perceiving our services. Because some of the research shows us that they're very happy with our services and we might be able to impact how our practitioners and professionals feel about

telehealth services if we kind of take a bottom-up approach to it and I talk really fast so I'm done.

>> Great. Thank you so much, Vick ci. all right. So those are all of our speed linkage presenters. Thank you so much for that information. That's very valuable. So now we're going to move on to the last part of the webinar and we're going to have another questions and answers session. And Jen told me there's already a few questions that have come up.

>> Thank you. The first question is what software is used to connect to the remote site? I imagine that's for Dena and Neile.

>> Steve, can you answer that question? The question is what kind of software are we using.

>> That's right.

>> This is Steve, the kind of software that we would end up recommending for somebody that wants to do this would depend on of course the environment they're going to be running this in. If you're in an enclosed network, you don't have firewall issues, you can use things commercially prepared things like poly com, some of those. There are -- if you have to jump out into the public Internet and you're worried about security, that's another issue. There's I think about 50 different kinds of software that would work for you. We're presently using a project called Easy Share and that provides encryption as well as probably the key component desktop sharing and collaboration.

>> Thank you. Jen, next question please.

>> Are there private sources for this equipment that you would place at a distant site? Does HRSA have grants for equipment or are there other private sources such as fraternal organizations, et cetera.

>> Is the question -- and you were sort of cutting out there, is the question about where to find money for equipment.

>> I think that's the question.

>> I think so.

DR. DENA PUSKIN: Let me start and then Neile you can -- if you're in a rural area the department of agriculture's rural utility service has a program called the Distance Learning Telemedicine Program. That is a very

good source of funding for equipment. They tend to fund it and they fund it every year and they have grants every year and that is a very good source. In terms of HRSA, I think I would reserve some things for what -- for maybe Irene and what maternal child health does, but in the office of the advancement to telehealth, we do not just fund equipment. We fund the developmental of services. We do not believe that you build it and they will come. We believe that in fact you need to organize your service and the operational challenges are every bit as much an issue or more so than the equipment. So our telehealth network grant program will only allow a limited amount, only 40% of the grant can be used for equipment. And so that's something to consider. Are you really just looking for equipment? Or are you looking to develop a service? Again, the rural utility service is more likely to just fund equipment.

There has been some money out there on -- out of the recovery act but that's money that's going away. I think these two are very good sources on the public side. On the private side, I think I'm going to reserve a little bit to Neile, but generally on the private side one looks locally to foundations and folks where you can make a case. And then there are obviously some broader associations. But Neile, I'm going to turn it over to you.

MR. NEILE SCHARPE: Dena, I would agree. I think that the department of agriculture and not that we've accessed them but I know they have an excellent program for connectivity that in fact North Dakota has used quite extensively just to lay the pipeline, to get the Internet, the broadband out there. The state has done that. And I was also party to a presentation regarding equipment. So I think that's a good source. But I think in many instances the best way to do this is most of your hospitals have foundations and I think it's a nice way to go to get to those foundations and see if you can -- it's a multiple benefit form. First, they can provide the equipment but secondly,

it's probably going to come back to improve their service. So we don't have any good direction on that other than I know where I would go locally and that would be just to those foundations like Dena had mentioned.

>> All right. Thank you so much. I think that's all the time we have for questions. So there's two quick technical things that I'd like to address and I'm going to pass it on to Irene for any closing remarks. We want to let you know the webinar will be archived and available tomorrow on the webinar page. And also, as soon as this webinar is over and we close it, there will be a very brief five question survey. I'd really appreciate if you take the time to fill this out. And I know in some circumstances there may be more than one person in a room. But just fill it out together. They're pretty general questions so we can get some feedback to improve our webinars and provide information that you're looking for in webinars in the future. Irene? Irene hit star 2.

MS. IRENE FORSMAN: I believe that some states have used HRSA Eddie funds to purchase equipment. I think that's true in Colorado and California. And possibly in Iowa. And then as my final remark, I'd like to very much thank AUCD and Katie and George for hosting this and doing the hookup that was a lot of work and sort of an experiment. So thank you very much AUCD.

>> Well, thank you, Irene, and thank you again to our speakers. We very much appreciate all the valuable input and information that you gave us today. And like I said, please fill out the survey and that way we can provide webinars of interest to you in the future. Thank you all, and have a good day. Bye.

Event is not active