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EARLY HEARING DETECTION AND INTERVENTION (EHDI)

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PLENARY III

UNDERSTANDING THE GAME PIECES AND GAME CHANGERS: AUTISM AND
OTHER DISABILITIES IN OUR CHILDREN

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>> SUSAN WILEY: Welcome again to the EHDI meeting. We hope that you have enjoyed the meeting thus far. We have a few announcements if people want to catch their seats. If you are checking out today, there is luggage storage available. Take the luggage to the bellman's desk near the hotel front desk. At the end of this plenary session we'll announce both the website and poster awards, so hangout for that to hear the award winners. And we would ask those winners to stay a few moments affidavit session to take pictures. A blue ribbon will be placed on the awarded poster. Check those out. They are the posters of excellence. I want to remind you that lunch is not provided today, and we have the grab-and-go for purchase with cash only. There is an ATM near AJ's Conservatory. We're thankful for those who have supported this meeting, and it wouldn't be possible without them. Our outstanding audio/visual company, Alliant Event Services, the C.A.R.T. writers and ASL interpreters, as well as local volunteers serving as room moderators. And we want to thank the conference center who has done a great job organizing the meeting and helping us to get where we need to go. And on behalf of the meeting co-organizers, I would like to recognize and thank the 2015 planning committee and staff for their dedication to making this

meeting a success. So we're going to name them all. I think that hold your applause until the end. If you could please stand. Stephanie Crabbe, Joy Brisighella, Jamie Cousins, Carlos Duran, Michelle Esquivel, Irene Forsman, Mandy Grumm, Beth Hamilton, Linda Hazard, Tawny Holmes, Vicki hunting, Casey Judd, Ben Kaufman, Michelle King, Andrea Marwah, Mandy McClellan, Mary Ellen Nevins, Tammy O'Hollearn, Stephanie Olson, Jamie Perry. Karl white. I'm excited that this topic is included in the plenary, and that the person that they chose to speak to this is the most enthusiastic and excellent speaker for this topic. I think that this general topic is really important to EHDI and the quality of EI services. So Christine Szymanski is the director of research and evaluation at the Laurent Clerc center. She is a trained psychologist and specializes in the treatment and behavioral interventions of children with developmental disabilities. To get flavor of her training, she trained at Kennedy Krieger, and you may not know about the Kennedy Krieger, but this is one of the most excellent training clinical and research programs focusing on developmental disabilities in the nation. She also has trained at Oregon Health and Science University, and the University of Rochester. Her research focuses on children who are deaf and hard of hearing who also have developmental disabilities such as Autism, and in 2012, with collaborators from Gallaudet, she published the first ever study on children with hearing loss and Autism. She has really contributed to the field. She has traveled nationally and internationally discussing treatment, diagnostic, and intervention practices pertaining to deaf children with Autism and other disabilities. If you know her at all, or you don't know her, you will quickly recognize her personal passion and extreme expertise in this topic. So please give a warm welcome to Dr. Szymanski.

[Applause]

(Video game music and sounds).

>> CHRISTINE PETT: Good morning! Now you are all awake for sure, right?

Wonderful! I know many of you went out last night and enjoying Louisville. I want to make sure that you are present and accounted for.

I am delighted to be here. I am happy to be here to talk about Autism and deaf and hard-of-hearing population and other disabilities. I really want us to reconsider who we are and where we're going. So first I will tell you that I am a child of the '80s. This is my cool technology here. You can see me with my sister and brother here. Now, the way that I know that I am a child of the '80s is that all five of us, all of my siblings are named after characters in the TV show "Dallas."

All of us!

[Laughter]

I'm Christine. I have a sister named Danielle. I have a brother named Andrew. I have another sister named Jamie. And my youngest brother is JR.

[Laughter]

But let me allay your fears. I did not shoot JR.

[Laughter]

I've started presenting to parents about parental expectations and their deaf child and their perspective on that and I thought let me ask my mom about her experience. And I said what did you think about me when I was a kid? And I'm ready for her to say you were smart, you were motivated and passionate. And she said, oh, yeah, you were stubborn.

[Laughter]

Took me back for a moment. And she explained that I had a myriad of interests. I like to read. I like to write. I was interested in a lot of different things. I really liked to dance. That didn't end up so well for me.

[Laughter]

I like to draw until I found out I was color blind.

[Laughter]

But I really like to work with other people. I'm a people person. And my interests have evolved over time. The last 30 years, definitely. And other things have evolved as well. Computers, for example. You've got mail. That happened in 1989. Before that, you would get a letter. Facebook took the world by storm in 2004. Google arrived in 1998, and that reduced our library time, right. Other things have evolved as well. Cell phones, SmartPhones. Anybody remember the original cell phone? The brick you carried around? How many of you have one of these in your pocket today? We all do. Cameras, e-mail, we can go on and on about all of the things that have changed, and baby-sitters as well. Hearing aid technology has evolved over the last 30 years immensely. Completely different from when I was a kid. And cochlear implant technology as well. So everything has evolved. What else has evolved? My favorite, Mario. Mario has evolved as well. So Mario arrived in 1985. And Mario is still around. He has not aged a day!

[Laughter]

But let's look at his evolution. When Mario was first introduced on the Nintendo Entertainment System, NES, he was a 12-pixel character. And at that time that video game, that system, only could display 12 colors. That was it! 12! Now Mario today, the character on the right, is 2,563 pixels, and the video console can display 1.07 billion with a "B," billion colors. But Mario is still recognizably Mario, right? Or has he evolved in other ways? We can tell by his face, and we know that that's Mario. But what's inside Mario? And what is that significance? So I want to talk to you about Autism this morning. I'm using Mario's timeline. Autism arrived on the

scene in the '40s. And then in the '80s there were about 1 in 25 children that would be diagnosed with Autism. So it was a fairly rare occurring situation. The DSM explained how you would identify and diagnose a child. But that number has changed over time. And how we define Autism has changed. So there is an evolution just like we saw with Mario. Just last year we said that Autism happens 1 out of 68 children. So we go from the 1980s when it's 2,500, and now we come to 68. That's quite a difference. So for my number-cruncher friends out here in the audience, my statistics folks, we can look at the trend of Autism and the prevalence by this graph. Now, you have heard that the numbers are on the rise. You can see it on TV, in the news. There are discussions about why Autism is on the rise. And that's not my purpose today, to talk about its causation. But I wouldn't be a good researcher in the field of Autism if I didn't take a moment to say, please know that vaccines do not cause Autism. We can debate it later --

[Applause]

but I do have to put that out there and make sure that we keep that in mind. And the reason that we believe that is because when we got Mercury out of vaccinations, the numbers still continued to increase. So it's my duty to say that. So what does this really mean for us? As the numbers have gone up, how we have defined Autism has changed as well.

I know that this is the wrong music. I couldn't actually find the right music for Pac Man, but my brother sent it to me, and said, sorry but this is what we're left with.

[Laughter]

Why I chose that slide is to talk to you about Autism. When Autism first was diagnosed, like I said, in the '40s which was a fairly new diagnosis, if you think about it. It's a recent phenomenon. There were only a couple of different ways to receive a diagnosis of Autism. The criteria were fairly -- they're right here on this slide, a couple of bullet points, and that's it when it first appeared in the DSM in the '80s, it was the DSM-III, maybe there were 30 different ways that you could receive a diagnosis of Autism. Fast-forward to the DSM-IV, and there are over 2,000 different symptoms that could get you a diagnosis of Autism. So the definition broadened greatly, and the numbers obviously increased. Now the new DSM, let me show that to you. There are only 11 pathways to that diagnosis. So we may see a change in the numbers. Maybe Autism, or our understanding of it, will evolve again. And the new DSM is pretty cool actually. As a psychologist I have to admit that they did a nice job. But there's also a change in our thinking about Autism. Historically, we said that children with Autism had deficits in three areas: Social communication, communication and behaviors. And that's changed a little bit. So for some children, language will be impacted. But not for all. So now the emphasis in the newest

version of the DSM is really about that social communication piece, and the behaviors. Now this is a snapshot that I think really explained it clearly. You can see the larger bubbles, and the areas of possible deficits in Autism and the emphasis on social communication deficits and repetitive behaviors. And now all of those constellation of symptoms around those two are probably present in children with Autism, and the closer those bubbles are the more likely they are to co-occur. So as you see, as you get further out on the slide, some of the symptoms may not appear. Now, for some of you sitting here, I can imagine you're wondering, "A lot of those characters kind of sound like something else."

Concerns with behaviors, academics, interactions, anxiety, restlessness, aggression, communication, all of those issues kind of sound like our deaf and hard-of-hearing population. And they don't have Autism. But they have struggles with communication. So keep that in mind, and let's move on. Communication is key. We all know that. And I'm not talking about language or modality. I'm not talking about spoken English and oral method, Cued method, and American Sign Language. I'm talking about communication. The ability to interact with someone, to smile, to nod, to hug. That's the heart of communication. That's key to this whole process. And when someone can't engage in those behaviors, our reaction is that that's a little bit unusual. There is something odd going on. And it should bring up sort of a red flag that something else is going on here. But the interesting thing is in the DSM, in the newest version, and for all of us in this room, it's not new. We know that. This is sort of old news for us. They should have asked us about some of the issues. So we're talking about social communication, and that impacts, as you can see on this slide, everything. You can be anxious, you can be aggressive, you have trouble attending, you might have mood disorders, you might have reactive behaviors, you might basically be a "bad kid."

So, for example -- oh, it's gone. Maybe it will come back. For example, speaking of my own experience, I was not born deaf. I was born hard of hearing, but it was not diagnosed until I was in 3rd grade. There was no newborn hearing screening for me. And I was a bad kid. I hit, I ran, I fought, I screamed, and it didn't help that I actually was bigger than my teacher.

[Laughter]

I was a big kid! I was a beast!

[Laughter]

They nicknamed me "tank."

[Laughter]

Now, of course, I don't remember exactly, but my mom clearly remembers going to the school, you know, the nurse's office for the hearing test where I used to go every year for that hearing test. I passed the hearing test every year. Because the nurse would put her

finger down on the button, and I would raise my hand!

[Laughter]

I was a smart kid. I knew how to play the game. And then one day the nurse had her back to me. Oh, I failed. I couldn't see what she was doing. So I got home with, you know, a letter, and I thought, I'm going to be in detention again or discipline. And my mom read the letter, and broke out in a grin. And what my mom's comment was, "Finally I know what's wrong with my kid."

[Laughter]

And she was really ready for that diagnosis of the she was okay with it. She said, okay, you know, that explains why these behaviors were there. You couldn't hear, you know, you were picking on other kids, your speech wasn't totally intelligible. So that changed the pathway of my communication. Why is communication so essential in the world of Autism? The funny thing is that when you think about Autism, if you read the textbook definition they say things like the child appears to be deaf, you know, they don't communicate clearly. Before you make a diagnosis, you want to make sure that the child isn't deaf. So, wait a minute. What is it about being deaf, or hard of hearing, a child who is hard of hearing, a child with any degree of hearing loss, what is it that makes them sort of look Autistic? It's the social communication piece. Research shows us that regardless of background, language, choice, implantation status, children who are deaf or hard of hearing do have struggles in several areas of life, such as anxiety, mood, attention, listening. It's there. So these kids, no matter what, need us to be mindful and thoughtful of how we can help them. Now, Autism has evolved. We didn't think about these factors before. We just thought, you know, put them in the institution and send them away. And now we have people with Autism today who are running Fortune 500 companies. It's a different world. Now I want to pause for just a moment. It's a lot to think about. Autism has really changed, but the question is, as psychologists, as educators, have we changed with it? What else has changed? You know, as a psychologist, and a researcher, we do a lot of research. And this is what we strive for. And this could reflect any research, any topic from, say, the '70s, the '80s, even the early '90s, the goal was to find the average, that average group. That's that normal curve right there. And that was good research, and that would get published. And because we're good researchers, we erased, eliminated the outliers. We don't need them. It doesn't fit our sample. Our sample of deaf and hard-of-hearing children from the '80s, the '90s, probably were white, middle-class, children who had deaf parents, who used maybe one hearing aid on the right who had a pure tone average of 80-decibels on the left, et cetera, et cetera. How many of you in this room, if I ask you, could even give me a list of 10 students that you work with who have Nucleus® cochlear implant, who go to a mainstream public school setting, who have no additional

disabilities, who have one sibling who is deaf, I mean, you can't do it. But in the past we could. And we probably had a group that was more similar. Today what we see in the numbers, that's my research sample right there. The middle ground of normal average is not there. Who is average anymore? My definition of "average" and your definition of "average" are not the same anymore. But all of our research and all of our interventions and treatments is based on this old model of finding the average. If the average doesn't apply to our current population, that's a head scratcher. We need to evolve. This is probably my most formal slide. When we think about deaf and hard-of-hearing children, one of the things that impacts that thought process is why do we have so many more outliers? Or do we? One thing we know is that there are several risk factors for disabilities, and you can see them here on the slide. Genetics, infections, issues during pregnancy, low birth weight, head trauma, medications. Now, many of those things are also risk factors for hearing loss. So sometimes I like to say maybe what turns on the disability turns on the hearing loss as well. Now, before we didn't know that. We didn't have enough testing equipment, what have you. But today we know it. There is something going on here. We also know that most of us in the room serve the outliers. 40-60% of all deaf and hard-of-hearing children have an additional disability of some kind. They have something else, some stuff going on. Maybe it rises to the level of disability. Maybe it's just something not totally normative, typically developing. We also know that for many severe disabilities, hearing stuff is also often involved which means that for early intervention, in general, as a field, you're working with a lot of stuff. A lot of stuff statement. -- at the same time. With resources and information that's not based on the current picture. It's based on the old stuff. That's a problem. So if you can see at the bottom where it says "Autism," children with Autism are 10 times more likely to have some degree of hearing loss. And for the speech-language pathologists in the room, you're working with hearing children with Autism because of the communication issues, and you're working with Deaf children as well. You are going to see both. You are going to see that in both of them. And think about Deaf children with Autism, a lot more who have severe-profound hearing loss will end up being diagnosed as Autistic. Now, we can argue the reasons why that happens, but if that social communication is so severely impacted, it would make sense to go down that pathway. You know, as a researcher in the field of Autism, I feel like I need to share this with you. The risk factors for hearing loss and Autism are fairly similar, CMV, gestational diabetes, other medications, you know, maybe these genes get turned on in the same way by the same pathways. But what's a little bit different is that for most children, you'll know that they have hearing loss before you know that they have Autism because of the newborn hearing screenings. So

they get that diagnosis of hearing loss. You start that EI road, and then you find out that at some later date that they have Autism. And that's true for professionals and parents alike. So it brings up the question what are we providing early intervention for? What's accessible? Are we giving them the right interventions? And we know that that newborn hearing screening isn't perfect. The follow up, loss to follow up, the follow through obviously is not 100%. And how does that impact the social communication piece? And we know that for Deaf children who receive a diagnosis of Autism, they sometimes don't meet the criteria, sort of that typical criteria. They may be able to maintain eye contact. You know, they may perhaps not maintain it as consistently, but they are able to initiate it, or at least be aware. So they may have access to communication because of that. But they're still Autistic. So let's go back to what today's research results look like. We have these outliers. That normal average group doesn't apply. Okay. This is a bit fuzzy. You remember playing video games back in the early days? You would take the tape out, blow on it to get it to clear up?

[Laughter]

Right? That's where we are. We're at a place where we need to reset what we're thinking, because guess what? Can you imagine -- I'm sure that we all have -- if today's 4, 5, and 6-year-olds were playing with Nintendo and NES, they would tell you that it's broken. They would tell you that it's boring. They would complain to mom. My nieces and nephews still play with my old Gameboy, and they make fun of it. You know, it's a huge blocky machine. And I said, hey, that was cool back in the day. So being a child of the '80s, it's cool. No regrets. But using research based on the '80s, that's not cool anymore. So who are these outliers? What are the game pieces we're talking about today? We have to consider communication. Their access, or lack thereof. The technology. The location. The school placement. Whether it's in a Deaf School or a private school or a charter school or a public school. Their parental hearing status, and even if they're deaf, what kind of language they use in the home. We can't assume anything. You can't assume anymore. Same as hearing parents. Maybe they're speaking English. Maybe they're speaking Spanish. We don't know. What is the language of the home? The level of depression and anxiety in the mother. If you have no language, you can't produce language. There are a lot of game pieces, a lot of puzzle pieces. That probably existed in the 1980s, but we didn't know it we didn't look for it. Just like that sort of fuzzy Mario character. You couldn't handle all of the game pieces, all of the pixels. It just wasn't built yet. But today we have the structure. And now we have to figure out how to use it. And these are our Deaf and our hard-of-hearing children in 2015. And we have to consider all of this stuff that they bring with them. And more. And I guarantee you that the children of 2050 will look back and say,

"Oh, yeah, they forgot this, that, and the other thing."

So we've got a new game, a new average. Heterogeneity in the Deaf and hard-of-hearing population is huge. My guess is it's more heterogenous as a population than it ever was. And there is earlier identification than before. There are more choices and more decisions to make than ever before. I mean, when I was a kid, my mom just had a couple of things to decide about. My biggest choice was what color mold my hearing aid would have. That was the choice I could make. I didn't have to worry about different screens, filters, mapping. The hearing aid was either on or off. And then you added the telecoil and now you were high-tech. Today it's a completely different world. There are so many choices. And there's a lot of pressure to make the right choice. And parents don't know, and I don't think that we as professionals are doing a great job of supporting them. Sometimes. And we know the number of people with disabilities is on the rise, just generally speaking, across the populations. And society in general is not ready for that. Hello! And are we? Even within our fields? If we only study the average Deaf child, will we stay in that rut? Can we pull those kids out of the average? Can we come up with a new average? Can we enhance and enrich their lives? Can we accept where we are? Can you imagine if we had accepted the Nintendo Entertainment System, or accepted AOL, there would be no Google. What would you do without Google?

[Laughter]

No Siri!

[Laughter]

So the game pieces have changed. And the players have changed as well. In the '80s and the '90s, there were only a few professionals that parents were interacting with. There was the teachers who knew everything even if they didn't. There was the ENT and they had a very important role to play. The audiologist, the speech-language pathologists. As a young adult if you were lucky you had VR support. But today the game players, parents have access to the language services, the communication services, the technology services, the audiology, the speech, the legal arguments, the IEPs. There's a lot going on. There were no IEPs when I was first born. I mean, there was no ADA. There was no navigating that system. But today parents are supposed to be able to navigate all of those systems. And for most of the professionals in this room, that's not really what you are trained to know about. So we have to change. We have to evolve.

(Video game music).

All of these players have to fit and complement each other. It brings up the question of what is your reality? What is your current level? What does your world look like? And how on Earth do you assemble the right players to accommodate that child? When the game hasn't even started yet. We are expected to know who are the right people to bring into the room to bring to the table, but there is a

problem with this situation. The kid is growing up. And they're changing, and that changes everything. We have to start from square one again. That is a lot to consider! And we need to know who those players are, what those resources are. We need to be ready to address that. Because that old model of blowing on the cassette tape to reset it, it didn't actually work forever, right?

[Laughter]

Many of us had to come to the point where, yep, it's broken. We can't break our kids. So what are the game changers? Knowledge. Research is very clear that parents who feel that they know what to do, even if it's actually the wrong decision, have kids with better outcomes. Let me say it again. Parents who feel confident in their efficacy, they can make decisions for their kids, and they know what is the right path to take. The kids will have better outcomes no matter the pathway. So how do we get there? How do we instill that confidence in parents? Another game changer is intervention. We know the earlier the better. We know that. But what intervention are we offering? And, surprise! It doesn't need to be the right intervention to work. We don't want to do the wrong intervention. That's not going to help. Communication obviously I've said it before, and I will say it again, it is key. We all know that. We all also know that there is a huge struggle in our community, but we need to move on. We need to accept that communication is key and get to the next level. Otherwise, we're stuck at Level 1, and of all the cool stuff is up at Level 10.

[Laughter]

Level 1 is kind of boring. Level 2 is a little better, 3, 4, and then you beat Bauser!

[Laughter]

But we are not even in the castle, people!

[Laughter]

We are stuck over here (indicating). We need to move. Obviously cooperation, another game changer. It was called Super Mario Brothers for a reason. There were two of them. And even though they always tried to save Princess Peach, and we're not going to go into that right now, but there were two of them. And you know that the princess actually saved Mario in the end, and in 2006 there was a change. There is a game for the girl. That change was finally put out there!

[Laughter]

Another game changer is technology. We can't ignore technology. In the future, I will probably be presenting in another country holographically. I mean, we don't even know. And we should be a little bit frightened by that. I think robots are going to rule the world. I think that might happen. So we want to be careful. But we can't ignore technology and its role. I want to do just a quick review of interventions, and you can see on the slide the ton of

interventions and supports that are out there for Autistic Spectrum Disorders. They work if they're the right one, and if they're validated. Not all of these treatments up here are effective. So now we've got changing colors. Those in green are interventions that we know actually do some good. Those in red are the ones that we know either cause harm or have no effect at all. There is no evidence supporting them. And the ones in yellow, we don't know yet. The jury is out, but they may be helpful. And, again, it only works if it's the right intervention for that child. Now, here are the treatments and interventions for Deaf children with Autism. Here is what we know works. So these are Deaf children with Autism, or Deaf children with any additional disability. Let's see what's going to go green. Hmm. Let's look at that again. There's no green. A couple of yellows, a whole lot of red. We have all of these treatments and none of them are green. None of them are validated. They are not validated as effective. So has the research related to Deaf and hard of hearing children related to Autism evolved? Or are we stuck in the '80s? I don't think there is anybody here who is stuck in the '80s, at least from what you are wearing. But what about your mind-set? We are seeking to provide evidence-based practices based on a clean sample of non-outliers to decide if something is effective. But today's non-outliers, maybe that's our clean sample. Maybe the time has come to flip our paradigm. Now, why do I say that? Okay, you know, we've all been in an airplane. How many of you flew to come here? Well, that was kind of dumb. Most of you did. Okay. Okay. So an airplane. First time somebody thought let's jump out of an airplane. You know, in order to do that, you know, you need to have a parachute, and that have experience of jumping out of a plane. How many evidence-based studies were done of parachutes before they were put into practice? Who joined the control group with no parachutes?

[Laughter]

To see if they had better outcomes than those who had parachutes? Anybody willing?

[Laughter]

If it was okay to jump with parachutes without having a control group, why are we withholding all of the knowledge that we have about what might work, and help our deaf and hard-of-hearing students, because they haven't yet found that clean sample of non-outliers to study. Now, I'm not here to support any specific intervention. But obviously I want you to pick something that has a foundation, and that you -- something that you can implement. In good faith. I want you to implement it accurately and effectively. And maybe those non-that may be those non-outliers. Maybe that becomes our sample. So now what, right? There are some things that are coming that are important. Video games aren't going anywhere. And did you know that the average age of video games -- video-gamer is 33. It's not 5 and

6 and 7-year-olds that are playing video games, but it's 33-year-olds. I'm one!

[Laughter]

This is a new video game that you might see in the fall. It's called Evo. They want to be the first evidence-based treatment for Autism via video game. And there will be a clinical trial in the fall. For this video game. We already have the brain research. We know with TBI, we know with attention this is something that might help. And for our deaf and hard-of-hearing children who benefit from visual stimulation regardless of the communication modality that has been selected for them, the visual stimulation is important, and this might just be a game changer. If you want to do more work on development, you should maybe see me. So deafness, Autism, disability, they're not going anywhere. Now, this is pretty cool for those of how don't know. Google, my favorite, loves to make graphs. And what you see here on this graph is the history of every time the words have shown up in print. So from the Bible to 2009. And you can do it for any word. You can search for any word. Just type into Google the word that you are looking for, and you can see the prevalence of that word across the printed text. And you can see disability as a word, meaning there is more research, there are more publications using the word "disability," Autism as well on the rise. But look at the word "Deaf."

It seems that there has been a decrease in publications referencing deafness. That concerns me. Because where are those kids going? Why are we not writing and publishing about them? Why are we not naming them? What are we calling them instead? And you see here if you look at the data, CDC data, it seems that the number of Deaf people is actually decreasing. But the newborn hearing screening, and the number of births have been stable. So what this might suggest is that after we track the newborn hearing screening, we lose track of these children. We don't know where the Deaf children are and for all of those of you working in the States, you know that you know that you can't get state-level data on who has passed the CCSS. Or the PAARC, or all of the State standard tests. You know that, because the state doesn't know who the Deaf kids are. That is a problem when we're trying to address the new average. The new game. We can't find them. And the last point that I want to make is that in the new DSM there is a new disorder called Social Communication Disorder. And some of our Deaf and hard-of-hearing children really struggle with that area, with that social communication piece. By definition, hearing loss can be a communication disorder. So I want to caution all of you to make sure that all of our deaf and hard-of-hearing children don't get dumped into that bucket. Providing the appropriate intervention for only social communication disorders is not going to solve all of our problems. It would be the wrong game. You know at the end of the game Mario, if you really did

win, you would get this screen, you know, "game over. Press button "B" to select your world."

What is your "B"?

The original Mario only had 12 colors, and that was our lens. That's what we saw. Today's Mario is billions of colors. I challenge you to change your lens, to have it match reality. We can change how your brain thinks and functions. If we can do that, we can change the outcomes of any game. We can change what the needs are. We can change what we're doing. We can change how we approach it. We can change how we think about it. But we can't do that using an old paradigm, the old Mario. The old Mario is not even in the new game at all. So I challenge you to strive for a new level, to strive for a new "B" and have fun! Thank you very much!

[Applause]

>> SUSAN WILEY: Thank you so much for that excellent presentation. I don't know if we have a little time for questions, or not really. Okay. So catch her in the hallways, her knowledge and expertise is exceptional. We do have a few reminders, and then we'll get to the honors. Remember to please complete all of your evaluations and turn them in. They really look at this information. Your input is important, and they look at that every year to make changes and enhancements to next year. So remember the overall meeting and poster evaluations are in your program book pocket, and you can turn them in at the registration desk. You also may have noticed that this year's EHDI meeting had only three plenary sessions, and instead of closing plenaries this afternoon, we have a lot of breakout sessions and opportunities, and really we hope you that stay and learn from all of those wonderful sessions. So this is our last general session. We would like to thank our silver-level sponsors, Otometrics audiology systems, Natus Medical Incorporated-Peloton, and Vivosonic incorporated. Oticon pediatrics has provided a bronze-level sponsorship this year as well. We really appreciate everyone's support. The sponsors as well as those attending to make the meeting a fantastic event. We also really recognize that everyone participating here, their creativity, hard work, and preparation has made this an exceptional opportunity for all of us attending. And really hope you that go home thinking about what you've learned together, what we've shared about what we know, and work to improve our EHDI system. We've had a lot of pre-sessions, more than ever, stakeholder meetings, networking opportunities, poster sessions, and many exceptional presentations to give us new skills, broaden our perspective, and inspire us to carry on our work with new energy. So we hope that you will join next year at the 2016 EHDI meeting in San Diego. I'm assuming that the weather will be a little nicer. It's March 13-15th, so until then, enjoy the rest of the meeting. We do want to -- I want to bring up Tony Ronco now to give the information about the website awards.

>> Good morning! So this is about the EHDI website awards, and the websites have two goals. One is to make sure that it's easily accessible, and the second thing is that it has good content and really those two things wrapped into one means it's user friendly. So let's go forward! There we go! So a quick review of our past winners. And so here we go. So we had Pennsylvania in 2011. We had Minnesota in 2012, North Carolina and Oregon in 2013. Last year we had Kansas, and this year we'll announce it and so quickly here is our website committee. These are mostly stipend awardees, and it took a lot of time to do this amount of work because we had to go through an extensive checklist, and that means reviewing each and every website. And so that's really 52 websites in total. 50 states, plus Guam and Washington, D.C. It's a lot of work. Here is that team. Thank you! Thank you all of you! And here are the basic components. This key website components is available online, so if you are an EHDI director or you are involved in any way on your EHDI team, you can bring it back to your team, to your website developer, it's right there online. And here is the checklist if you do. And here are the components that we review. And you can see that you are starting to appreciate how many there are. So here are our finalists. And quite a few websites. We've had dramatic development and dramatic improvement. Unfortunately there are only five that we can recognize, and then finally a winner. So I wanted to say that the overall average did go up. It shows a lot of effort for every one for that to happen, and so thank you for every one! But we'll see our five finalists, which is Guam, Idaho, Louisiana, Virginia, and Washington. A lot of states in here that were in the top 5 that did a dramatic and great improvement. Unfortunately we can only have one winner. So our winner is, weight for it -- wait for it, Washington.

[Applause]

And while they're making their way to the stage, let me review their home page. And so they had it grouped, as you can see here, by interests, by stakeholder. Here are some of their web pages on that. As you can see here, they have a lot of visual, a lot of content for parents, and here is, okay, where to find your service providers. And thank you, Washington! Come on up!

>> I just want to thank Marcy who did the majority of the work on this it's really her's.

[Applause]

>> Next up we will have Sharon Ringwald, and she will present the winner of the poster sessions. I don't know if you've gotten to visit the posters along the hallway. But, wow, there is a lot of work that's been done.

>> Thank you, Tony. I first want to thank my committee members, Lindsay, Kelly Daniel, Louanne Jones, and Vicki Thompson. They devoted a number of hours to helping to judge the posters outside,

and there are some great posters out there. So I also want to thank all of you who submitted posters. We had 69 submitted this year, and that's the most that we've ever had. I also want to thank Steve Richardson who Chaired this committee last year, and passed on guidance that helped of all us, and Joy Briscella who prepared the certificates and is putting up the blue ribbons. So our first category is family-centered focus. I'm going to ask folks to come forward to get your certificates, and then stand with Tony down there so the whole group can get a picture at the end. So the family-centered focus winner was poster number 59, measurements of parent language facilitation strategy during story book reading. And the poster -- oops, sorry! The poster authors were Shannon Peters, Lori Nelson, and Karen Munoz. So if the three of you would come forward?

[Applause]

And Tony will hand out the certificates while I move to the next category, which was the cross-cultural focus. And the winner there was post number 45, feedback from parents and professionals. And the authors were Nanette Nicholson, Patti Martin, and Mary Liz Kriegler.

[Applause]

And then the next category is communication -- oops. I'm sorry. Communication technique which is sort of the overall impact of the poster in the way that it communicates to the reader about sort of the showiness of the poster. And the winner is number 13, lucky number this time, and the authors were Fin Won Chow, and the title was multi-variant analysis on factors associated with lost-to-follow up after initial newborn hearing screening in Tennessee.

[Cheers and applause]

And the next category is relevance to advancing practice. The winner was number 23, which was lost-to-follow up trends in North Carolina. And the authors were Sandra Hill Markland, and Lizzie Guffey.

[Applause]

And the next category is scientific merit. And the winner was poster number 5 which was eliminating the practice of rolling up results increases the detection of hearing loss in universal newborn hearing screening. The authors were Beverly Gail Lim, Brenda Summer, Maria Perez Abollo, and Seana Flowers Morales. Congratulations!

[Applause]

The next category is student author, and there were a number of student posters this year, and we really appreciate all of those. The winner was number 55, music, a tool for expressive and receptive vocabulary for children who are Deaf or hard of hearing. And the authors were Lauren Smith, Lori Nelson, and Nichole Martin. Congratulations!

[Applause]

And the final category is overall impact. The winner is number 65,

which was testing for CMV following diagnosis of sensorineural hearing loss, a clinical practice. The authors were Jennifer Butler, Sydney Bednars, and Rehab Al-Khalil. Thank you all!

[Applause]

>> KARL WHITE: Okay. Thank you everyone for a great opening plenary today. We look forward to the rest of today, and you're free to go and have a break, and then attend the other sessions. So thank you so much for a great plenary and for all of the awards!