

## **Your Vision Screening and Eye Health Program**

April Powell: Welcome, everyone. And thank you for standing by. My name is April Powell, and I'm the resource program manager for the National Center on Early Childhood Health and Wellness. And I'm pleased to welcome you to today's webinar. The webinar today will describe the impact of vision problems on school readiness, discuss evidence-based screening tools, and review emerging practice for vision assessments. We're so excited to share this great information with you. Before the presentation begins, I have just a few housekeeping items. First, all participants will be muted throughout the entire presentation portion of the webinar. There will be a slide presentation being shown through the webinar system. There will be hyperlinks on some of the slides. But don't worry about copying them down, as you'll get the slide deck later on with those links. If you have a technical question during the webinar, please type in the Q&A box. There's a lot that we'll be covering within the next 90 minutes. But you can submit your questions at any time by typing them in the Q&A box as well. There will be times throughout the webinar that the presenters will pause to answer questions. Immediately following the webinar, you will be prompted to take an online evaluation. Immediately after you finish the evaluation, you'll get a certificate. Only those who take the evaluation will get a certificate.

This webinar is being recorded and an archive version, along with the slides, will be available to you after it ends. If they are colleagues of yours who were unable to attend this live version of the webinar, please let them know that they can still watch the webinar's archive, take the evaluation, and they, too, can get a certificate. So now, I'm going to introduce the speakers for today. First, we have Dr. Nottingham Chaplin. She has 16 years in the vision screening field and she's the former director and lead training for Vision Initiatives for Children at the West Virginia University Eye Institute. She's a member of the Advisory Committee to the National Center for Children's Vision and Eye Health at Prevent Blindness. And she's the current Education and Outreach Coordinator for the National Center for Children's Vision and Eye Health at Prevent Blindness. She's the Director of Vision and Eye Health Initiatives for Good-Lite and School Health Corporation. Our second presenter is Kira Baldonado. She has 14 years in children's vision screening and eye health. And she's the Director for the National Children's Vision and Eye Health at Prevent Blindness. She coordinates strategic and programmatic efforts for NCCVEH, including its national expert panel, advisory committee, federal-level relationships and state-level program initiatives. She has published, presented, and developed resources to support strong vision and eye health programs for children. And we have Janet Schultz, who will not be speaking today, but contributed to this presentation. She's a certified pediatric nurse practitioner. And she has 35 years of public health experience in the fields of pediatric and maternal child health bureau. And lastly, we've got Nancy Topping-Tailby, who is a part of the National Center on Early Childhood Health and Wellness. And she'll be fielding questions for us. So with that, I'm going to turn it over to our first speaker, Kira.

Kira Baldonado: Thank you, April. And on behalf of Kay and I, we would like to thank the National Center for Early Childhood Health and Wellness for the opportunity to speak about children's vision, its impact on learning, and ways that we can implement strong programs in Early Head Start and Head Start programs. On today's webinar, we'll learn the impact of vision problems on a child's school readiness, identify two evidence-based vision screening tools that can be used for vision screening of children in Early Head Start and Head Start programs, and also talk about one emerging practice for vision assessments in Early Head Start, and also provide you with access to free resources to help families obtain follow-up to eye care for their child. Vision is an important information for Early Head Start and Head Start programs. Out of the 1 million children enrolled in programs, 30,000 of those children, or 3 percent of all

the children in the programs, have some sort of diagnosed vision problem. So it's a big topic that we need to discuss and make sure that we have a strong national approach for. Vision in Early Head Start and Head Start is critical. Because we want to make sure that children are strong and school-ready as they enter into their later years. Some examples of the impact of vision on early education and education are seen in some current studies. One such study happened in 2015, which was the next step of the Vision in Preschoolers Study.

Some of you may be familiar with the Vision in Preschoolers Study, as it helped us to identify some evidence-based approaches for vision screening in children ages three through five. Their next study, the Hyperopia in Preschoolers Study, found that children ages four and five years old who have uncorrected hyperopia -- and so that's farsightedness at plus four diopters -- scored significantly worse on a test of early literacy than children with normal vision. Those children who also had hyperopia but at a lower level than plus 4 were also shown to have a difference on their performance of that test. But it was not statistically significant. That test that they analyzed with the children was the TOPEL test, the Test of Preschool Early Literacy. There's an example of it on your screen. Whoops. Too far. No. It's going to go through this again. Sorry, everybody. So the performance most affected on this test was the print knowledge subtest, which assesses the ability to identify letters and written words for the children. So those who had plus 4 hyperopia scored significantly worse on their ability to assess and identify different letters and written words. So here's an example on your screen of how a child with 4D of hyperopia sees in their world.

So, certainly not something that would help to aid them in identification of letters or trying to figure out words as they are young and early readers. Additional research shows us that there's also impact on behavior and outcomes in other large studies. So one of them is the BREDS Study, which is looking at the performance of reading and the impact of eyeglasses and eyeglass correction on children in second and third grades. And this study was conducted in several Baltimore city schools. Those children who were found to have a poor baseline visual acuity and hyperopia associated with reduced reading achievement and worse baseline reading scores. So those kids who had undiagnosed vision problems, uncorrected vision problems, had poorer baseline scores and reading achievement. Additional research has shown us that children within a specific school district, those ages three through five years, also had a significant change in their behavior after they received their eyeglasses. There was improvement in academic progress, increase in focus during lessons, increase in participation in classroom interactions, and an improvement in confidence and behavior of the children. So, correction of the vision problems made a big difference in how they interacted with their classroom and were able to learn.

And another research study has shown us that first graders, their reading ability in that first grade has been predictive of their reading ability and graduation rates as they approach their 11th grade. There is an understanding, from that first grade performance, of their reading comprehension, vocabulary, and general knowledge. So a strong early education platform in learning ability, reading literacy, language comprehension, is really important as you all are setting that baseline in Early Head Start and Head Start. It can continue to impact children through the rest of their educational career. Children who lag in first grade but catch up by third or fifth do have good prognosis for future reading level. So the sooner that we can identify vision problems in children and get them corrected, the better chance that we have for them to be performing well by the time they graduate. And then we look at the individual level. One such story that is near and dear to our heart is a story about Javier. Javier was considered a miracle baby according

to his parents. They had tried for a long time to have a child without much success, until Javier came along. When he was born, doctors were afraid that he might have a vision problem.

And so they sent him to an ophthalmologist to get an eye exam and see exactly what was going on. And unfortunately for him, they gave him a diagnosis of cortical vision impairment. And that really means that he was completely visually unaware of anything that was going on around him. So the doctors took the right step in helping to connect the family with an early intervention specialist so that they could help to prepare their household, their lives, and how to support the learning and development of a child who was basically considered blind. Fortunately, a collaboration of different stakeholders was going on in Massachusetts that allowed the early intervention specialist to become aware of a program that was going on to provide eye exams to very young children in a part of the state where there's not a lot of support for eye care. And so she encouraged Javier's parents to take him to see the doctors when they came to town, to see if they could provide any more support, or education, or information for these parents who were really unsure of what to do. So, remember, he had his first eye exam when he was born. At 12 months old, Javier had a second eye examination. And it was found that he really did not have CVI. He had high refractive error. And he was given a pair of glasses. So after 12 months, with his first pair of glasses, Javier was able to see the faces of his parents for the first time in his life.

And so he was able to get back on a path of normal development and learning baseline and good prognosis. And so on your screen is a picture of Javier. On the left is his mother. In the middle is his early intervention specialist, and then little Javier with his glasses on. So he's now able to connect with his world, the faces of his parents and the people around him, and really enjoy life. So what do these slides tell you? They tell you the importance of evidence-based vision screening. We have to make sure we're doing the right procedures, at the right age, at the right time, for the right population. We need to make sure that kids get those follow-up eye examinations and make sure that they have ongoing follow-up care if they are determined to have some kind of vision problem. And they receive their vision treatment, there aren't barriers to that treatment, and all of the related medical devices, materials, such as eyeglasses or eye patches in the case of amblyopia. And making sure that parents, families, and the children follow up on those treatment plans. And we'll offer you some resources to assist with that here later in the presentation. All of that leads to a good prognosis for education. And with that, I'll pause to see if there's a couple of questions that we need to answer. Nancy?

Nancy Topping-Tailby: So there is one that I think would be helpful to answer. And let me pull this one up. It relates to what you talked about. Can you please explain 4D and how that correlates to 20/20 vision? Okay. Or 4 diopters, you talked about, I think, Kira. And folks didn't know quite what that meant. That was unfamiliar terminology.

Kira: And Kay, this is typically from your slide set. So you may have a set response to this question already. I'll pause to see if you do.

Dr. Kay Nottingham Chaplin: Okay. A diopter is a way of measuring refractive error. And this is just to give you an example of how someone might see if they have 4 diopters of hyperopia. You can't equate a refractive error to a visual acuity value of 20 over x, because you're measuring two different aspects of vision. So if you're using an instrument, for example, and the results come up with hyperopia of 4.0, then this just gives you an example of what the child might be seeing. But again, you cannot equate that to a visual acuity value. And I'll get into this in a few moments. But refraction is basically looking at the eye.

And visual acuity is looking at how vision is interpreted at the brain level and the visual cortex and the full pathway from the eyes to the visual cortex.

Nancy: Thank you, Kay.

Kay: So that -- yes.

Nancy: So, why don't you move on. And we'll have a time for other questions later. Thank you.

Kay: Okay. And thanks. That was a great question. And thanks. That was a great question.

Kira: I will turn it over to Kay.

Kay: Okay. Sorry I talked on you, Kira. That was a great question. Thank you. So now, I'm going to be talking about vision screening to meet the new Head Start Program Performance Standard of ensuring that within 45 calendar days after the child first attends a program or the home-based program option that the program must either obtain or perform evidence-based screening. Now, hearing also, but we're talking about vision. And if the program operates for 90 days or less, then that changes from 45 days to 30 days. So we're talking about evidence-based today, for vision screening. So we're going to first look at what's currently available for Early Head Start, for infants. And we don't have a lot at this moment in time. But there is an infant vision milestones checklist that we'll be describing, and instrument-based screenings. So those are the two types of tools currently that would be evidence-based for Early Head Start. So, let's talk about the seven critical vision developmental milestones checklist to monitor from birth to nine months. Okay.

This is a slide of the child who -- one of the vision milestones is actually the very first one for the early weeks, up to about eight weeks, where baby is just basically ignoring mama, no stable eye contact. Notice the sibling there with the glasses. That's always a red sign.

But you see, this baby is totally ignoring mama. Now watch what happens in this one.

[Speaking in foreign language]

I get chill bumps every time I watch that. So baby was ignoring mama because baby couldn't see mama's face. And so with those plus lens glasses, that helped baby to see. So in this document that you will be seeing, the time to reach the milestones would be six weeks. And these milestones give you an idea of when baby should reach the milestones. And the process -- and this will make sense when you see a picture of it -- is that there are four fields. One shows the milestone and the age when that milestone should occur. Another field describes why that milestone is important to the development of vision. And then there's an example of what to do if the milestone is not met or next steps. And then the next steps describe what to do -- like if you're going to early intervention.

There's also slides for what to do with providers and, or steps for providers and family members. And when you look at the document, you will notice that many of the milestones are also related to just general overall developmental milestones. So you just kind of want to look at those from a perspective of vision. There's one, for example, for reaching. And sometimes, when a child doesn't reach, we might think that's motor. But we also need to think maybe it's vision, because maybe the baby can't see the object in order to reach. But this gives you an example, if you can see my mouse moving. So here is the milestone. Here is the importance of the milestone, the questions to ask or behaviors to monitor. And if answer is

no, then you move to the next steps. And then next steps are provided. So the ages would be over here on the left-hand side, if you can see my mouse. And this shows where you can find this checklist. And again, don't worry about writing down the URL, because you will have an opportunity to view the slides later.

And so just to give you an example of one, so the first vision milestone is at ages six weeks to no later than eight weeks. The milestone is maintains stable eye contact when awake and alert and initiated by the parent or caregiver. So think back to the video that you just saw that clearly was not stable eye contact or just maintaining that eye contact. So why is that important? A lack of stable eye contact can interfere with early emotional and general development. Think about the baby not developing bonding with the mama. So the question to ask or behavior to monitor would be, does the baby maintain stable contact when awake and alert and initiated by the parent or caregiver? If the answer is no, you go to next steps. And one is to refer to the child's medical home, medical doctor, to assess the need for a follow-up eye exam to see how well the baby can see.

And then for the family or the caregiver, a next step would be to talk close to baby's face while helping baby feel the parent's or caregiver's face. So we do try to provide next steps that aren't just refer to early intervention or refer to the medical home. There are some examples of appropriate eye contact and talking close to babies face. So we just showed you this. So we have time for a couple of questions on the birth to three component. Before we do that, though -- Okay. We didn't get into the instrument-based piece that can be used for ages one and two years in Early Head Start. But you'll see those when we look at the three to five. Three through five, you'll see the instrument-based then. So when I'm talking about instruments, I'm talking about Spot, Plusoptix, and -- here we go. So I must have missed that somehow.

Nancy: I pushed it out there, Kay. It skipped over it. So I got it back there for you.

Kay: Oh. Thank you. I was like, what happened? Okay. Let me -- Okay. So -- So after the checklist, then for ages one and two years, instruments can be used. And we'll talk about what instruments measure. But again, as I said earlier, the instruments are actually looking at the eyes and not visual acuity. So we do have -- this is the Spot, and this is the Plusoptix, and the Welch Allyn SureSight. Now, the SureSight is no longer manufactured. But if you're using them, it's okay to still use them. And these tools are just examples of vision screening tools for this age group. But these are approved by the National Center for Children's Vision and Eye Health at Prevent Blindness. So now, we have time for a couple questions, just in the Early Head Start piece. So there's a general question. If you could say a little bit about, what is evidence-based screening? Help people to understand, what does it mean to be evidence-based? Well, that is an excellent question and probably has several answers. But most often, when I'm talking about -- and Kira also -- when we're talking about evidence-based in our presentations, we're talking about tools that have a lot of research behind them, that have been published in a peer-reviewed journal and show that they are appropriate for that particular age group in that particular environment. So it will usually come from a peer-reviewed journal. Kira, do you want to add to that?

Kira: No. I just wanted to make sure that we touched on settings. And you did. So oftentimes, and this is a challenge with vision screening and assessment tools at this point in time, is there is some research. But a lot unfortunately comes from testing of tools in an ophthalmological clinic or a vision research clinic, and not necessarily the performance of that tool in non-clinical settings, so in Early Head Start, or a public health screening environment, or early education setting. We need to make sure that testing of that tool happens in these other settings by non-clinical personnel, to make sure they're just as equally effective

for that age group as they were in the other research environment. So that's something that the center really watches out carefully for.

Kay: Thank you.

Nancy: So there was a clarifying question. If you could just clarify, were you saying that the checklist should be used for children under one year and instruments for children between one and three? There was a little bit of confusion about that.

Kay: Okay. I apologize for that confusion.

Nancy: That's all right. It's complicated stuff.

Kay: At this moment, we would need to use checklists for birth to the first year. And then the tools, the instruments, would be appropriate for ages one year and two years. And then you're going to see in the next slides that instruments or eye charts, tests of visual acuity, can be used for ages three, four, and five years. So at this moment, it would be a checklist up until the first birthday, and then instruments for ages one and two years. Kira, would you agree with that?

Kira: Yeah. That's right. That's really the only evidence-based approaches that we have for this very young population.

Kay: Okay, do we have another question? Or are we ready to move on?

Nancy: Well, we have quite a few. So it's really about --

Kay: Okay. Nancy: -- if you -- we can do some now or we can circle back if there are other times to ask questions. So, whatever you think.

Kay: Let's go ahead and move forward. Because we have several slides. But we do want to answer as many questions as we can. And then there will be an opportunity for answering questions later. So now I'm going to move into evidence-based vision screening tools and procedures for children starting at age three years. So we have really two approaches to vision screening -- optotype-based screening, which would be eye charts, also known as tests of recognition visual acuity, or some software programs, or instrument-based screenings. So those are the two approaches. And I just got stuck here. Hold on. So I want to introduce you to a cast of characters that you will hear throughout this presentation. So when you see the initials NCCVEH or hear National Center, I am referring to the National Center for Children's Vision and Eye Health at Prevent Blindness. And the national expert panel to the National Center published guidelines, vision screening guidelines in 2015. Then, if you see AAP or AAP Joint Statement, that refers to the vision screening guidelines in 2016. And the groups involved in that would be the American Academy of Pediatrics, the American Association for Pediatric Ophthalmology and Strabismus, the American Academy of Ophthalmology, and the American Association of Certified Orthoptists. So you will see it's much simpler for me to just say AAP instead of all those groups.

So, again, two approaches to vision screening. Optotype-based screening, this gives you an example in the right-hand side. This is a software program that is also considered optotype-based screening. Optotype-based screening are tests of visual acuity using optotypes. And optotype is the name of the picture, or the letter, or whatever it is that you're asking the child to identify. And that, by the way, is a Herman Snellen term. So, tests of visual acuity using optotypes to measure visual acuity as interpreted by the brain. And

a definition of visual acuity is -- and I'm going to read this to you -- quantifiable -- and that's where you get the 20 over x -- a quantifiable measure of the clearness of vision when identifying black optotypes on a white background using specific optotype sizes at a prescribed and standardized distance. Instrument-based screening, there's an example of Spot at the bottom. Instruments do not measure visual acuity. And that's very, very, very important to remember, that instruments do not measure visual acuity. And too often, our documentation to report vision screening results requires a visual acuity number, or a 20 over x, and don't provide the option of just a pass/fail, which is what you would have with instruments. So we don't want to have our documentation dictate the type of screening that you do.

So instruments do not measure visual acuity. Instruments analyze images of the eyes to provide information about amblyopia and reduced vision risk factors such as estimates of significant refractive error, hyperopia, myopia, astigmatism, farsightedness, near-sightedness, astigmatism. Estimates of anisometropia -- anisometropia is a difference of refraction between the two eyes. For example, I am near-sighted in one eye, farsighted in the other. Estimates of eye misalignment that may or may not be strabismus. And amblyopia -- and that's really what you're looking for when you're doing screening at these ages, the three, four, and five. And amblyopia is -- and I'm going to read this to you -- a loss of vision at the brain level. There is the visual cortex, where we actually have sight. A loss of vision at the brain level in one or both eyes, when the nerve cells in the visual cortex of the brain receive insufficient visual stimulation from the eyes while the sense of sight is developing. Primary causes are strabismus, or misaligned eyes, cataract, or refractive errors. So that's what amblyopia is. So let's look at some optotype-based screenings. So these charts that I'm going to show you now, or these tests of visual acuity, are not recommended by the National Center or AAP. That includes the sailboat chart; Allen pictures; the lighthouse chart, often called house, apple, umbrella; the Tumbling E; Snellen -- and I mention Snellen because I had seen some programs use Snellen with three-, four-, and five-year-olds, and kids typically don't know their letters -- and the Landolt C. So why are those not recommended? Because they haven't really been validated and standardized for this group. They don't meet standardization guidelines.

There are national and international guidelines around how eye charts should be designed. Children may not know their letters. And some of these require discrimination of direction, which is not sufficiently developed. For example, the tumbling E asks children to identify the direction of the legs on the table or whatever you're calling it. Orientation and direction are emerging cognitive skills. Up and down comes in first, followed by left and right. That all does not come together until around ages eight or ten years. So using that test prior to that age, you're actually just testing cognition and not vision. And they're not well validated in the screening environment. One of the national and international guidelines is that optotypes should be almost equal in discrimination, meaning one should not be any easier than another to identify. And that's not the case with the ones I just showed you. Although the E would be, in the sense that it's the same E, same letter.

But you have to think about the orientation and direction. Plus, when you get down to the threshold where you can no longer distinguish one from another, you can guess the direction of the E by looking at either the solid line or the broken lines. So the preferred optotypes for children ages three to seven -- and I realize that's outside your age group -- but according to the National Center, according to AAP, it recommends LEA Symbols and HOTV letters. So this would be LEA Symbols, HOTV. LEA Symbols, by the way, is the only pediatric optotype where the optotypes when you get to threshold, or the point when you can no longer distinguish one optotype from another, all the optotypes blur equally. And they typically look like circles. So there will be no guessing. Now, the preferred optotype format -- and this comes from

the National Center -- is a single LEA Symbol or HOTV letter surrounded with crowding bars for children ages three, four, and five years, at five feet. Not 20 feet, not 10 feet. So here are some examples.

So this is the vision in preschoolers. These are some eye checks. You see that it's a single optotype. And it has the crowding bars, which sort of gives you the same crowding as a full eye chart. Then an option would be a full line of optotypes in a crowding rectangle. And that's at 10 feet. And I'm not going to get into all the crowding here because we're a little bit limited. But adding bars around it, I will say it makes the optotypes easier to identify, which means you may under-refer children and miss a vision disorder. So, talking about screening distance, this is important. This is a procedure. Again, 5 or 10 feet from the chart to the child's eyes. All of the standardized charts will be at 10 feet. But when we're looking at the Stop -- in other words, you won't see 20-foot charts that are standardized. But we were looking at 5 feet and 10 feet for this age group. And if you happen to have an eye chart and it's a 10-foot -- and I get this question all the time -- there will be 10/xx on the left-hand side of the chart with 20/xx on the right hand side. The 10/xx is the actual screening distance. But the 20 number, like 20/20, is the equivalent, the 20-foot equivalent. And that would be the number that you actually report. Because we get real confused when we talk about 10/10. What is that?

That's 20/20. So when you think of that measurement, you want to think about toes on the line, or more appropriately, if you mark out your 10 feet between the chart and the child's eyes and you put a piece of tape on the floor, think of the arch of the foot. And that will be in line with the eyes. If the child is seated, you want to measure the 10 feet to the back of the chair and ask the child to sit with their back toward the back of the chair, if you can see my mouse here. And hopefully they won't be like this when they're sitting in their chair. So that's screening distance. Sometimes you will see -- and this is a screening tip -- sometimes, you'll see these cards with four optotypes on one that can be called a response panel or a lap card. And if a child doesn't want to talk to you, to actually verbalize what the optotype is, they can point to the optotype on the card as a matching game. An option to that would be these four individual cards. And this is a last option. You would keep these cards in your pocket until you need them. But if you have a child who's a little difficult to screen, you can place those cards in front of the child's feet and ask the child to step on the cards. But don't put them down as you're setting up your screening environment. Because it's been my experience that young kids want to help you.

And they'll think you dropped them. And they'll pick them up for you. So keep those until you need them. So now we're going to move on to occlusion, or what you use to cover the child's eyes during screening. When you give children responsibility for their own occlusion, they're going to try to peek. And that's just because if you're covering their better-seeing eye and they're having to look out of the eye that might have some vision problems, that's uncomfortable. So they will try to peek. So the appropriate occluders, according to the National Center and AAP, would be these adhesive eye patches, or two-inch surgical tape, or occluder glasses. And in the occluder glasses -- it's kind of difficult to see this. But this one's open. And this one's open. So there's one for each eye. And then there's also these little sunflowers for small or petite faces. So these are the recommended occluders. Unacceptable occluders for children ages three, four, and five years according to the National Center -- no hands, no tissues, no paper or plastic cups, no cover paddles, like the lollipop occluders. And why are these unacceptable?

Because children can easily peek around those occluders. So you don't want to use hand, tissue, paper or plastic cups, or cover paddles for children ages three, four, and five years. So I just wonder if this could be our future for vision screening. Text the third line. You never know. Okay. So we've talked about optotype-



based screening. Now we're going to look at instrument-based screening. Again, as a reminder, instruments do not measure visual acuity. Instruments analyze images of the eyes to provide information about amblyopia and reduced vision factors such as estimates of significant refractive error, estimates of anisometropia, estimates of eye misalignment. So the instruments that are currently approved by the National Center -- meaning they have sufficient research support -- include again the Welch Allyn Spot, the Plusoptix, and the Welch Allyn SureSight. So, instrument-based screening -- and I think I may have missed a slide here. Let me back up.

Okay. According to AAP, instrument-based screening can begin at 12 months, although you'll have better success at 18 months. And according to AAP, you can attempt visual acuity screening at age three years. Or you can use instruments. And for ages four and five years, and including three, you can use instruments or tests of visual acuity. So this is to give you an example, if you aren't familiar with instruments. This is a Spot. So this is what the children see. This is what you see. So this is when it's analyzing the eyes. And then you'll have a report that tells you whether the child passed or needs to be referred for an eye exam. If you use an instrument, you do not also need to do visual acuity screening. And if you cannot capture a pass or refer result, you would want to go ahead and refer the child. Because in the research information that I am receiving, the majority of times that you cannot receive a pass or refer result, the child does have a vision disorder. So there's a group of children who are at high risk for having vision disorders, and if they have strabismus -- misaligned eyes -- after the beginning of age five months; or if they have ptosis, which is a droopy eyelid; or hearing impairment; cerebral palsy as an example; Down syndrome with a cognitive impairment; some child on the autism spectrum disorder. Diabetes, although it may not be showing up now as a vision disorder, it will give the eye doctor a chance to follow that child. Juvenile arthritis; parents or siblings with a history of strabismus or amblyopia; a child with a history of prematurity less than 32 weeks completed gestation; or parents who actually my believe their child has something going on with their vision.

So in that case -- and these are the references for that group of children -- in that case, you would use the same screening tools you use with all children. And if the children are untestable, you refer to the child's medical provider for a referral for an eye exam. If the children pass, you still want parents to know that these kids are at a higher risk of having a vision disorder and should still have an eye exam, and that, yes, you still recommend an eye exam for these kids, even if they passed your vision screening. Now, if you want to add some specific text to your referral letters, these are just some suggestions. "We refer children for an eye exam when they do not pass vision screening. We also refer children who may pass a vision screening if they are at a higher risk of having a vision disorder because of a medical or a developmental reason." And that goes back to the slide showing all those medical or developmental reasons. Or you can say, "the reason for referral -- increased risk for vision disorder because of developmental or medical reason," and then describe that reason. Okay. I thought I had a link to that. But I don't. Okay. So, now we're ready for a couple questions in this section. That was a lot of information. But you will have the slides to review later.

Nancy: And we have a lot of questions for all the information. So if we don't get to all of them, which clearly we won't, the National Center on Early Childhood Health and Wellness with support from our wonderful presenters will do our best to do follow-up responses to as many of the questions as we're able. So I'm going to try and do a couple of clarifying questions. So here's one. Are those instrument-based screening tools only appropriate for age one and older? We use our Plusoptix screener on -- so, I didn't

get -- there's a number missing here. On children of a certain age. I'd like to clarify. Looks like April's answering.

Kay: Probably at six months.

Nancy: Six months. Okay. All right.

Kay: It could be six months.

Nancy: Then let me go -- Okay. Six months. Good to know.

Kay: Okay. I -- go ahead. I'm sorry.

Nancy: Go ahead. No, no. Go ahead, Kay. Please.

Kay: The manufacturers say six months. AAP, again, says starting at 12 months with maybe more success at 18 months. But I do have pediatricians tell me that they are successful at six months. So I guess it would -- that one's a difficult one to answer. If you're doing okay at six months, I guess continue. Would you agree, Kira?

Kira: Yeah. I think if you're getting something, and getting passes and failures, and it is giving you a result, go ahead and continue. Again, I think this is where you go back -- if you have a strong vision health program, you really are making sure you get follow-up on any referrals and comparing them to your screening results. Those successful outcomes, you really need to keep a close surveillance on that, if you are using instruments at an age younger than six months. I think leaning more on the developmental assessment is probably a more evidence-based approach at this point in time for that very young population.

Nancy: Thank you. So now I have a kind of a general, bigger picture question, and then a couple of specific questions about both the LEA images and the optotypes. So can you clarify, are you saying that we should do both optotype and instrument screenings for preschoolers, or either one is enough for evidence-based screening? So the question is, do you need to do both and, or just one?

Kay: Just one. You don't need to do both.

Nancy: Okay. All right. Thank you. And since our LEA images do not have the crowding bars or lines, is it not considered an evidence-based screening if they don't have the crowding bars or lines?

Kay: The crowding bars and the crowding rectangle, those are the preferred methods coming out of the National Center. And whether it's a LEA Symbols chart is going to depend on whether it's a linear or proportional spaced. And I don't want to get into that here because Kira still has a section. But we can go into more detail when we do a Q&A later. And I can explain that.

Nancy: Okay. Do you have time for one or two more? Or should we move on?

Kay: That's up to Kira.

Kira: Let us do one more.

Nancy: Okay. So, do we only do distance vision screening and not near vision?

Kay: That is going to depend on whether you are required to follow your state guidelines and whether your state guidelines call for near. Some states are picking up near, like California, Washington, some other states. So near is not recommended across the country at this moment. That may change as more research becomes available around hyperopia. But as of right now, that's really up to your program, and if you follow your state guidelines, what your state guidelines say. Yeah. Kira, do you want to add to that?

Kira: Yeah, I will add to that just a little bit. What we're doing with the vision screening program in Early Head Start and Head Start is a public health vision screening program. So to have another visual acuity test added to the number of tests that need to be provided for children on their intake does take a considerable addition of staff, and time, and resources. So it's not a small investment to add another test, depending on what the outcome is. And at this point in time, for kids in this age group, you're just not going to get enough outcomes on your referrals and prevention of eye disease to really qualify the addition of the staff, time, and resources it takes for that test. With the approach in some states where in school-age it's optional, that test is typically implemented when there are kids that are not reading at the same level as their peers. They're not meeting developmental guidelines. Then they may take a step to implement a near visual acuity test. In the case in Early Head Start and Head Start programs, where you have kids not performing to peers or not meeting developmental expectations, that's a point in time where you can refer for an eye exam to see if vision is one of the issues. So in this case, the addition of the cost and everything of the test, it's just not going to qualify what you get for an outcome where you may already make that referral.

Nancy: All righty. Thank you. Sure. Okay, I think --

Kay: And I will now --

Kira: -- I take over.

Kay: You do. And I may have advanced you too many slides.

Kira: Well, I have to go back. Because Lincoln is just so darn cute sitting on the shoulders of his mom there. So --

Kay: Aw. Kira: -- I like to show that picture. And so that's Lincoln. He's from Texas. He is a little fella who had a vision screening early. And they found that he had a vision problem and got him corrected. And now he's finally seeing the face of his mom as well. So we have to share these success stories and remind ourselves why we do what we do. But most importantly, we need to make sure that we are supporting the families of the children who have to help those kiddos get to the eye doctor, and adhere to treatment, which is not always an easy thing to ask of them. So we need to make sure that we support them. And the Head Start Performance Standards also state that a program needs to facilitate further diagnostic testing, evaluation, treatment, and follow-up as appropriate. So it is one of the expectations of programs as well. You also must have a system to track referrals, and services provider, and monitor the implementation of follow-up plans.

So I'll introduce a resource that will certainly help you to do so. And then also assist parents as needed in obtaining any prescribed medications, aids, or equipment for those health conditions identified. So what I want to talk about here in this section is many of the resources that we have on hand at the National Center and that we have developed through partnerships to really help with adhering to this performance standard. One of the things that we really like to elevate is just how helpful other parents and peers can

be to families. Many of you may have had the experience where a child failed a vision screening, was referred to follow-up eye care, and there's a feeling of guilt, or confusion, or I should have known this, that comes on the parts of the family. I think we hear that almost daily at our work, between Kay and I. And so, with that guilt and feeling that they should have known that comes, oftentimes, a lot of confusion, which can be compounded in the event that there are language barriers, access barriers, or other issues.

So there's a lot going on emotionally when a vision problem is identified. So we really do want to encourage you guys to have peers support other families, where there can be a conversation, one parent talking to another about the types of things they did to help their child with their treatment adherence, or a referral to an eye care provider that maybe they had a great outcome with. Sometimes peers can serve as personal advocates. For those families who get nervous when they go to a doctor's office -- maybe they had a bad medical experience in the past and they're nervous about going to any type of clinician -- having an advocate there to help understand what's happening and the expectations is always great to have on hand. Those peers may also be able to help provide translation. And this is important for those families who have access issues because they can't find a provider that speaks their native language. And you don't want them going in and not understanding what's happening with their child's vision. So to have other families offer to help provide translations is a huge help. Maybe just mobility is an issue.

And helping parents get access or getting their child to an appointment can be one way a peer helps another. We also encourage peers to help share their stories. In those cases where you've had families have positive outcomes for their child, where they've had treatment, it's improved the learning experience, encourage those families to share that experience, where you may have parent meetings, e-newsletters, or maybe a blog with your program, encourage those families to share their experience and encourage each family that gets their child referred to follow-up to an eye care provider. And then maybe you have families involved in your health committees. And so you want to help them set goals for the children's vision program in your center and make sure that they're helping to reduce any barriers that may come along for their child's eye care. And communication is key among anybody involved in this system. Whether it's the program staff, or the families, or the providers that you work with, you have to have good lines of communication. So for the families, see if you can identify different ways to get follow-up on the referral. So with the families, do you have phone numbers, and can you text them, or email, can you get permission from the families to get outcomes from the eye care provider back to your program? And I'll show you a resource that helps to facilitate that communication. Make sure that you promote engaging the medical home.

So if a child is referred from vision screening in your site to go to an eye exam or to their medical home, can you get permission to communicate with that child's medical home, so that they can do their proper function to help coordinate care for that child to other medical specialists? And if a child does have a diagnosed vision problem, support the treatment plan back in your center. Does the treatment plan provide you information that says maybe this child has a loss of vision, or a visual impairment. And maybe you need to engage other specialists, such as a teacher of the visually impaired, to help make sure they have a proper learning environment and they're getting as strong of a learning basis as they possibly can. And develop those relationships with people in your community. Healthy vision doesn't happen with just one person. It takes a lot of people working together and working in a coordinated way to make sure that it stays healthy.

So I wanted to show an example of a quality improvement project that's going on right now in Arizona, just to see what happens with parent engagement and follow-up to eye care. I thought this was kind of interesting for this audience. One of the projects I'm working with wanted to help parents understand what the child was experiencing when they had a vision problem. And so they have obtained some glasses with a vision condition sort of ground into them. So when they make a referral from their vision screening to the parents, and they're giving them the referral, and they talk with them verbally, to help reinforce the importance of that referral, they have the parents try on the glasses and try and do a task, so they can see really how difficult it can make the world for their child. And so right now, they're testing to see what the reactions are of the parents to the glasses and the number of referral follow-ups. So if you are engaged in quality improvement your program and you want to try out some new things, this is an example of a great approach that you can try to help with parent education and hopefully enhance your follow-up to eye care.

So there are some resources on the National Center website. And again, you will have the links after today's presentation. But we do have resources to facilitate access to eye care through many financial assistance programs that are out there. So we have a list on our website of programs that are not just for kids, but also for parents too. Oftentimes, we find that the parents are struggling to get access to eye care. And this resource will facilitate access for both kids and adults. There's also a vision screening data collection and referral document on the website that on one side is a letter to the family -- it's available in English and Spanish -- which allows for release of information from the care provider back to your educational site, as well as the medical home. And then on the other side, it helps to collect the vision screening information as well as eye exam information outcomes. So hopefully that will allow information flow to happen but also provide a place for that information to sit. And also, the National Center website has family educational materials, largely in English, and Spanish, and some traditional Chinese, that really helps families understand what role vision plays in their child's learning ability, in their child's development, what actions they could be taking to help support their child's vision.

And like I said, it doesn't take just one person. It takes an army to help facilitate healthy vision. So one thing I do encourage is that you establish community-provider relationships. Eye care providers in your area want to support your families and keep them healthy. So talk with them about the needs of the families that you serve. Who are you seeing? What languages are they speaking? What kinds of questions do they have? And make your eye care providers be a part of your circle to help support your families. And a great project for a parent or college student that might be in your area is to create a resource listing of all the local eye care providers -- when they're open, what insurance they might accept, where they might be located on a bus line, the ages of children seen, if possible -- to help sort of narrow down the "who do we call" question when a child is referred to an eye care provider. And invite those providers to come talk to your program.

If you have meetings for families and you're talking about health, make sure that you include an eye care provider so that they can answer questions about vision. Or even ask them to join your health advisory services committee. And some additional resources we have on the website, just to help facilitate that treatment adherence and communication among all the different stakeholders, can be seen here on the Prevent Blindness and National Center website. So we've got a great little sort of 1/3-sheet flier that talks about tips for wearing eyeglasses. And that's especially important for those kiddos that receive their first pair of eyeglasses, to help them understand how to take care of them, but also their parents. In the middle is eye health and safety curricula that is appropriate for preschool and on up. And so this curricula will

help the kids understand why vision is important, how some people take care of their eyes and why they might wear glasses, and has a lot of great supporting activities that are aligned with national health and safety curricula standards. And then the third item you see there on your screen, Eyes That Thrive In School, is a treatment adherence tool that can be used in your center that has both professional educational elements, family education elements, and then treatment tracking tools built into it.

They are free for download on the National Center website. And so I encourage you to check those out. It's a lot of great tools in multiple languages that help parents understand what their children's vision problem is, what the treatment was that was prescribed for them, and then classroom tools where the kid can put a sticker on the calendar every day that they wear their glasses or their patch, so that there's some treatment adherence that's happening in your classroom while they're under your care. So, like I said, these resources are on the National Center website. There's a lot more there as well. So we've got a lot of professional development, provider education tools, technical assistance, and communication tools. Some of those that I wanted to highlight beyond the one that Kay mentioned, the infant vision milestones checklist is on that website. And we also have -- let's see here -- some published materials. So we had an article on children's vision health in Exchange Magazine. We've got some information about vision screening training, which

I'll touch on here in a second, as well as information specific to optotype-based testing or instrument-based testing. We really kind of get down into the nitty-gritty on each of these topics and have resources for them on the website. As I mentioned, we do support a vision screening training certification course. It's really most appropriate for those in Head Start and older. We're in the process of developing support around younger children. But again, that's where the emerging evidence is. So we do not have that yet at this point in time. But for Head Start and on up, we do have a certification course that's available online or in person. And the link there to that information is on your screen. I encourage you to take a look at it. And we do have a link on the website called Year of Children's Vision, which was a variety of different resources, recorded webinars, PowerPoint presentations, specific resources for Head Start and Early Head Start programs that are all living under that title of Year of Children's Vision. So I encourage you to check that out, and the center's website. So I think we've made it to the Q&A portion. Okay. Here we go. So in no particular order, since our LEA images do not have the crowding bars or lines -- I'm sorry. I think -- is this one answered? Did we answer this one? Yeah. We did that. Yes. We did. I apologize.

Kay: I think we answered that.

Nancy: Yeah. I grabbed the wrong one.

Kay: Nancy?

Nancy: Mm-hmm? Yes, Kay.

Kay: I was scanning through some of the questions. And if you don't mind, I would like to go ahead and toss a couple out that have to do with -- That would be awesome. You're okay with that? Okay, great.

Nancy: Yes. Absolutely. Because I'm trying to scroll and I didn't see that the last one had been answered. But I tried to elevate some of them to the top that I thought would be good for you. But if you want to pick some, I think that's terrific. So go ahead.

Kay: Yeah. Not a problem. Lots of questions. Lots of great questions.

Nancy: Really.

Kay: Oh, perfect questions. So I'm seeing some questions coming in about, is it appropriate to do cover/uncover, or penlight, or some of these eye doctor tests? And anything such as that that would be considered an eye doctor test is not really recommended. Because if I went over here to the Eye Institute and asked all the residents to do a cover/uncover, it's not going to be -- they're going to have some difficulty. It's not an easy test to do. So those eye doctor-type tests are not recommended. Kira, do you want to respond to that, as well?

Kira: Yeah. Again, it's just a matter of, we try to ground all of our procedures that we recommend to this field in evidence. And there just is not evidence there that this test has been consistently implemented in a nonclinical setting with proper referrals. And so it's just not something that can be consistently trained on, promoted, and implemented across the field. I'm not saying there aren't people out there that can do it well in this setting. It's just what is consistently in evidence-based for this field. And this isn't a procedure that has that evidence for this early education setting.

Kay: Yeah. That was a nice way of answering that. Because some of the folks who are doing it may be doing it quite well. But, yeah. We want to make sure it's evidenced. Then I also saw a question on whether a 10-foot chart could be used at five feet. And the answer is no. Those lines are calibrated. And I'll not get into a lot of detail. But let's just say a five-foot chart is to be done at five feet and a 10 is to be done at 10. If you did use them at different distances, you'd have to apply a mathematical equation or a mathematical formula to get the correct visual acuity value. And I'm guessing you don't have a lot of time to do that with everything else you're responsible for doing. So, no. You would not use a 10-foot chart at five feet. And now, Kira, do you want to -- Kira, Nancy, if you see another question, those are just some I definitely wanted to -- oh. Someone asked about the lighthouse chart. Why is that one no longer recommended? Two reasons. One, the design of the charts that I have seen do not meet the national and international guidelines, where there should be five optotypes per line, spacing between the lines, spacing between the optotypes has to be done a certain way. The spacing between the lines have to be the height of the next line down. The spacing between the optotypes need to be the width of the optotype on that line. But again, the optotypes should be almost equal in legibility. And there was a recent study that looked at 9 or 11 different eye charts. And those optotypes were not equal in legibility. The umbrella was easier to identify than others. So you could be under-referring children. And the LEA Symbols and the HOTV are the preferred optotypes for young children --

Nancy: And I just -- Kay: -- based on research.

Nancy: -- pushed that slide back out to the audience, Kay.

Kay: Oh, thank you.

Nancy: And I was going to kill two birds with one stone. Somebody asked to post those slides again.

Kira: Right. Right. Thank you.

Nancy: But also to clarify the passing levels for each age. So I thought we could kill two birds with one stone with this one, Kay.

Kira: Do you want to talk about passing levels?

Kay: You go right ahead.

Kira: Okay. So, for children aged three years, with the optotype-based test, they should be able to see at 20/50 or better. If they're not seeing at 20/50, anything worse, higher than that, they should be referred. For children ages four and five, they should be seeing at 20/40 or better. So if you're getting any outcome of acuity higher than 20/40, then you need to be referring them on as well. So those are the referral criteria for age three, 20/50 is where they need to pass. Anything higher than an acuity reading of 20/40 for children aged four and five, they should be referred.

Nancy: Okay. So let me go back to some other ones. We're considering the GoCheck screening machine for Early Head Start. But it's not on the recommended list. So is there any information you could share about the selection process, because that one didn't make the list?

Kira: Yeah. I'll talk about this. So, the National Center for Children's Vision and Eye Health has a formal process in place right now that we ask manufacturers to submit published peer-reviewed study for the device, which really demonstrates a validated approach to using the tool with targeted age population -- so we're looking at, really, kids age five years and younger with this group -- in nonclinical settings, and really having studies that are well designed, and have a high enough "N" used, the number of subjects used in the studies to really show with much confidence that the tools are giving the expected outcomes. Right now, GoCheck eye screen -- there's a lot of new devices emerging out there that while they show some promise, they don't have the level of evidence behind them yet to really promote them with specific populations and specific settings. So we stay in communication with those manufacturers to say, you know, we'd like to see more evidence, here's what the field is asking, so that we have the confidence behind what we're recommending to make sure that the end users, the vision screeners, are picking the right tools for the right audience and the right setting. So I know you hear me say that a lot. But we really do follow carefully what evidence is out there to promote the best use in your targeted setting. So, at this point in time, we just don't have enough evidence formed.

Nancy: Thank you, Kira. Can you say a little bit more about the training and certification that someone would need to be able to do some of these screening tests, particularly the optotypes, the LEA, or HOTV?

Kira: Sure. I can talk about our vision screening training approach, with a caveat that there are some states out there that do have training specifically for preschool age and younger. And always, the state-mandated approach will override any national approach that we have. So just keep that caveat in mind. Our training that Prevent Blindness has set up is a certification that's good for three years, recognized nationally. And again, as I mentioned, it's available online and in person. The training covers the same thing in either format, where we discuss the common vision problems in children, what we're looking for, appearances, behaviors, complaints, that may indicate a possible vision problem, approaches to visual acuity assessment, whether that's optotype-based or instrument-based. We talk about what the referral criteria are, supporting families, and then having a strong follow-up approach. If that's done in an in-person class, we cover those topics. All of those different areas have a test that's been given. And we do have to have a certain number correct to pass that test. And then in person, we have a skills competency assessment where we see you with the vision screening tools, using them, making sure you have the right approach with those tools. The online version goes through each of those different topics in a modular format. Folks can log in and use that at their own pace and complete the modules as they go. Each module does have a test that goes with it, with a required passing amount, with number correct. And you get a couple of chances to take those tests if there's any issues with it. Once you take those online modules,



complete the test assessments, and watch the supporting videos, then we set up a video chat or have a local trainer in that area observe that individual and their screening skills, making sure that they understand the environment is correct for screening, they understand what the referral criteria are and how they're going to be collecting data and follow-up. So all of those things are still checked sort of live and in person, with the same knowledge gain being done either in person or online.

Nancy: So based on your answer, your very thorough answer, I think it addresses a follow-up question from someone who wanted to know if you had to be a health care professional in order to do a screening with an instrument.

Kira: No. You just need to complete proper training and understand what you're looking for with that device, and then demonstrate that you can use it competently.

Nancy: Well, great. Thank you. Do you have anything you want to add about the Broken Wheel on three- to five-year-olds?

Kay: The Broken Wheel does not meet the national and international guidelines for standardized eye chart design. And you're also asking children for orientation and direction. And it just doesn't have the evidence to support its use with this age group.

Nancy: Thank you. And anything more you would like to add about the Blackbird system of vision screening?

Kay: Same answer. As all these different groups look at the research to support the optotypes that they recommend, there's just not the research there. And again, it doesn't meet the national and international guidelines. And I keep saying that because if the chart is not standardized, you're not getting the truest visual acuity value possible. And you could be over-referring or under-referring. Now that's not to say that if you use LEA symbols and HOTV you're going to be 100 percent. No test is ever 100 percent. But LEA symbols, for example, and HOTV, were included in the Vision in Preschoolers Study that Kira mentioned earlier. That is the benchmark study for types of screening to use in children in this age group. And that study was done in Head Start. And that test was not even included in the more common tests used. Now at one time it was used very often. But it just doesn't have the research for these national organizations to support the use.

Nancy: Great. Thank you very much. So here is a question about referral criteria and what referral criteria settings we should use for instrument-based screening tools. For example, the Plusoptix screener has five different settings to choose from for specificity and sensitivity.

Kay: Sometimes we say, talk to eye care professionals in your area and ask them what setting they want you to use to refer children. I know on the Spot, it's already set for different age groups. So depending on where you live, depending on how many eye care professionals are in your area, if it's possible, reach out to a few and say, at what point do you want me to start making referrals? Kira, would you add to that anything?

Kira: Yeah. It really is a balance of what you want to over- or under-refer in your program. When you're using instrument-based vision screening devices in more clinical settings, they tend to not try and over-refer so much. So you'll have much higher identification of disease and not so many missed or over-referred. When you're in more of a public health setting, your referral rates do tend more towards an

over-referral. So each of those different -- like in the Plusoptix the five different settings represents how much do I want to over-refer or under-refer. And so there's going to be that comfort level, as Dr. Nottingham Chaplin mentioned, that for the number of providers in our area, how much do we want to be feeding kids into the system. And so it is a balance that you should work out with your eye care providers in your area. Just say, okay. Here's the setting we're using. And with the feedback you're getting from them from eye exam results, you'll be able to compare that to your screening results to say, Okay, you know, that kid really didn't have a problem. This one did. And you can refine your referral criteria for that. So as you start off, many people use what the manufacturer has set. That's sort of the medium-of-the-road approach. If you're getting a lot of feedback from eye care providers in your community saying, yeah, I didn't find anything, or you aren't referring that many kids, maybe take another look at your referral criteria. But with instruments where you have abilities to pick your referral criteria, it takes a little bit of monitoring, assessment, and evaluation to get it right for the first year or so.

Kay: And I would totally echo what Kira just said that's incredibly important. And that is, if you can receive copies of your eye exam reports, it's always good to evaluate, and as part of evaluating your program, is to compare your vision screening results with those eye exam results. Do we have another question?

Nancy: We do. Thank you very much. But actually, this is more of a comment, I think, than a question. So this particular program is noting that they've found that the instrument-based screening is needed for preschoolers three to five who have developmental concerns. And they've had good luck with the instrument-based screening for that subset of the population who may have developmental concerns or delays. So I just thought I would share that. I don't know if that's a common experience or unique to that program. But I wanted to share that. So, let's see.

Kira: And can I just add to that statement, Nancy?

Nancy: Yes, please. Absolutely.

Kira: I just wanted to go back to Kay's slide around the children who were at increased risk. Again, she echoed this. If you want to use your traditional screening approach that you might use with the other kids, and in this case it's the instrument-based, they may pass and be successful. But there's still a good educational opportunity for those parents that their child does have a medical condition that may increase the risk. So it's still a good idea throughout the child's career to have a relationship with an eye care provider. So just continually passing visual screenings may not always catch everything. And since they are at an increased risk, it's a good idea for them to have an eye exam at some point.

Nancy: So, as a related question, is there anything you want to add? Perhaps not. But is there anything else you would want to add about a specific population that programs should be paying particular attention to because of a risk of higher incidence of eye and vision problems?

Kay: Kira, you could get into the ethnicities there. I'll add one quickly. For example, kids from Indian country are at a higher risk of having astigmatism, for example.

Kira: Yeah. As are Hispanic and African-American populations. But I would say those ones that -- if programs really want to consider their approach for those with a developmental delay, medical condition, or family history as you had in your slide, Kay, I think those are the ones that if you want to have some special education towards -- those are the families to target. I would say other ethnicities, most of them

have one eye condition or another they're at increased risk for. So the consistent screening is the right approach for the others.

Kay: And particularly in families where first-degree family members have had or still have amblyopia or strabismus -- misaligned eyes -- or they wore prescription spectacles early, those are some red flags. And you'd really want to pay attention to the children who have those family members with vision problems, disorders.

Nancy: So on a related basis, are there any age-appropriate visual acuity cutoffs for referrals to keep in mind when you're looking at the results of visual acuity screening? Kira, do you want to go over those numbers again?

Kira: Yeah.

Kay: 20/50 --

Kira: That would just be the passing thresholds. So, for those three-year-olds, it was 20/50. For four- and five-year-olds, it's 20/40. Or if you're using an instrument-based screen, you should have age-appropriate referral criteria that you're using for the device, depending on the device. And if it does indicate a refer, then you want to follow the instructions on the device.

Nancy: [Inaudible] the suggested length of the near-sight test for acuity?

Kay: If you're doing near-screening?

Nancy: Uh-huh.

Kay: 16 inches. And if you're doing near-screening, you would want a card that has a cord attached to it. Because the screening distance at near is more critical than it is at distance. And kids will lean close to the chart. So if it has a cord, that cord goes right at the temple close [Inaudible] very careful not to obviously hit the eye. And you want to keep that string on that cord tight so you know that you're maintaining the screening distance.

Nancy: Great. Thank you.

Kay: And it's hard to describe. Because I can see the chart in my head. And it's hard to explain exactly what I'm talking about. But you just want to be able to maintain that 16 inches.

Nancy: Okay. Super. Thank you. So, lots of questions about the slides. And they will be available eventually on the Early Childhood Learning and Knowledge Center, although we're migrating to the new site. So things may be available a little more slowly than at other times. Because big things are coming when we get our new site. There are certainly more. And we'll have a chance to really go through the ones that we haven't answered with apologies to folks who were very thoughtful about putting all of your questions in. But we're almost to the top of the hour. So I don't know if you guys have any other closing remarks that you want to make. Just thanks for having us on today and a chance to share the information. Again, we try to do a good job with having evidence backing up all the stuff that we recommend. But one of the best sources of information is feedback from the field. So if anybody has any knowledge, experience, opinions about the items that we have and wants to give us some guidance, we always welcome that. So you'll have a link to the center to get back to us. Okay? Great. So thank you. I'll turn it over to April. Thank you both.

April: Thank you all. Thank you, Kira. Thank you Dr. Nottingham Chaplin, both from Prevent Blindness. And thank you so much, Nancy, for helping to vet all of these questions. This was a very engaging presentation. And we see that there's a lot of interest. So we'll be in touch to get some of these questions answered. If you would like more information or if you would like to email your question directly, the info line is right there, [health@ecetta.info](mailto:health@ecetta.info).

And so now, we will go ahead and pull up the post-webinar evaluation. There will be a link on your page. And if you go ahead and click that evaluation, answer the questions. And then you will get your certificate. And also, remember, if your colleague was not able to watch this, we can now give certificates for watching the archive. So feel free to send along the link for them to watch the archive. So the link is right there. Go ahead and take it.

And that concludes our webinar. So thank you very much to our presenters. And thank you all for attending the presentation.