

Autism Case Training – A Developmental Behavioral Pediatrics Curriculum

MCHB Autism Webcast, April 26, 2011

LAURA KAVANAGH: Good morning and welcome to today's webinar on Autism Case Training, a Developmental Behavioral Pediatrics Curriculum. My name is Laura Kavanagh and I'm Director of Research, Training, and Education in the Maternal and Child Health Bureau. Next slide, please.

In honor of autism awareness month this is the final event that the Maternal and Child Health Bureau along with the Centers for Disease Control has been sponsoring, and it has been a wonderful collaborative project between the two agencies and I'm very pleased to share with you our agenda for today. Next slide, please. Next slide.

Terrific, thank you. We're going to provide a general background and overview of the autism case training, the process that participants went through to develop it and also how it's being implemented in the field currently with teaching the cases and what the plan is for evaluation curriculum in our next steps. We also will make sure to offer plenty of time for your questions. Just make sure you type them in the window of the webinar before you. Next slide, please.

The Maternal and Child Health Bureau supports ten Developmental Behavioral Pediatric Training Network grants throughout the country and they along with Dr.

Georgina Peacock from CDC have jointly developed this curriculum as part of the Combating Autism Act Initiative, which are a variety of grants supported by the Maternal and Child Health Bureau. We're very pleased this product has emerged from this partnership.

Now onto the meat of our presentation today. I would like to introduce our wonderful speakers who have invested tremendous hours of time and their expertise in developing this curriculum so that it can be shared with you today.

First will be Dr. Georgina Peacock, a medical officer with the Prevention Research Branch in the Centers for Disease Control and Prevention's national center on birth defects and developmental disabilities. Dr. Peacock works with healthcare professionals and early educators in outreach, partnership and assessment for the "Learn the Signs. Act Early" campaign that raises awareness for parents, healthcare professionals and early educators about developmental milestones and the early signs of autism and related disabilities. She received her doctor of medicine and master of public health from the University of Kansas and a leadership education and LEND trainee, another group of interdisciplinary training grants supported by the Maternal and Child Health Bureau and she completed her developmental behavioral pediatric fellowship at the developmental disabilities center at the University of Kansas Medical Center. Welcome, Georgina.

Next is Dr. Carol Weitzman, she's an Associate Professor of Pediatrics and a child study center director at Yale University School of Medicine and the director of developmental behavioral pediatrics and a program director and co-editor of the ACT curriculum that you'll hear about that. Nationally she's on the executive board for the society of developmental behavioral pediatrics and the chair of the fellowship training committee and on the executive committee of the American Academy of Pediatrics's section of the developmental behavioral pediatrics.

Dr. Maris Rosenberg is Program Director for the Developmental Behavioral Pediatric fellowship at Einstein Montefiore and Director of Medical Education at Children's Evaluation and Rehabilitation Center at the Rose F. Kennedy University Center for Excellence in developmental disabilities at Einstein.

Dr. Rebecca Scharf is a third year fellow in the MCHB Leadership Program at the Albert Einstein College of Medicine. She's also currently completed a master's in public health and epi at the Mailman School of Public Health at Columbia University. She completed her pediatric residency at Mt. Sinai hospital in New York and medical school at the State University of New York in Brooklyn.

Finally Dr. Nili Major is a graduate of Stony Brook School of Medicine and completed her pediatric residency at Cornell New York Presbyterian hospital and fellowship in developmental behavioral pediatrics at Albert Einstein School of Medicine. Currently

an instructor of pediatrics at Yale University School of Medicine. Next slide, please.
Now it is my great pleasure to turn it over to Dr. Georgina Peacock.

GEORGINA PEACOCK: Hi, thank you, Laura. I'm pleased today to introduce the autism case training developmental behavioral pediatrics Kirk I can lum to all of you. Just in summary it's a case training curriculum with serve incases. It was written by authors who were fellows in the developmental pediatrics programs and reviewed by many experts including 17 developmental behavior pediatricians, parents and professionals both at the Maternal and Child Health Bureau and the Centers for Disease Control. What this -- these cases include are a facilitated guide. This is really meant to be a curriculum that is taught to others as opposed to a self-paced curriculum. I'll get into details a little bit about some of our next steps at the end. But it's a facilitated guide that starts out with a case and possible questions that can be asked, after which there are possible answers or different information to prompt discussion. And then there is a number of things that can be used by the teacher, including power points if they would like to use that. A number of hand-outs that have both been developed within the Federal agencies but then also from external partners. And then videos. And there are 27 videos that help in the teaching of this curriculum. Next slide, please.

As you will see, the curriculum modules were divided into three main sections. The early identification and screening and the caring for children with ASPs. They're designed for pediatric residents or other physicians in training who will be interacting

with children with autism spectrum disorders or related developmental disabilities in a sort of primary care way. So, for example, the diagnosis modules are not meant to teach someone how to diagnose autism but meant to help a healthcare provider supporting a family through this to understand what is going to happen. So in brief, the early identification and screening section include two modules. One on early warning signs of autism and another on screening for autism. In the diagnosis section of this curriculum there is a communicating abnormal results from a screening tool that really gets at the information related to how you deliver that news to a family and how you support a family through that screening process. And then making an autism diagnosis so that the physicians become -- the learners become more aware of how an autism diagnosis is made. Finally, there is a section on caring for children with autism spectrum disorders including three different modules, early intervention and education, treatment for autism spectrum disorders which gets more at the medical treatment side of things, and then autism-specific anticipatory guidance. Things like sleeping, feeding and different behaviors. Next slide, please. And I will turn it over now to our co-editor, Carol Weitzman.

CAROL WEITZMAN: Okay. So I want to just spend a few moments talking a little bit about some of the other goals that we had when we conceptualized with curriculum and review the process of developing the curriculum and I think what we've achieved. I think in addition to developing a really high-quality curriculum there were three other goals that we had in mind. One was about fostering collaboration, the other was about

the next -- the next was about promoting mentorship opportunities and the third was an effort to develop MCH leaders.

So in terms of fostering collaboration, what we were hoping to do was to both foster collaboration between agencies and between programs. So amongst the developmental and behavioral pediatric programs with each other and then across other programs with the developmental and pediatric program with the LEND programs so there was a sense of collaboration and a product that emerged, if you will, building on the strength of each individual program.

The second goal was related to promoting mentorship opportunities. And when we conceptualize this we thought it would be great to have fellows working with faculty. Fellows from one of the MCH Training programs might be paired with other fellows and faculty at different institutions. And this seemed like a really nice way to offer some cross fertilization of ideas and again to build on the strengths and talents that may lie in different institutions. And then I think the third goal that we had when we were developing this was really keeping an eye towards developing MCH leaders so that there were opportunities for fellows and fellows across institutions to have opportunities for collaboration and through this process as we were able to work with fellows who were developing cases and writing, it was an opportunity for them to strengthen their abilities in writing and to research topics and to express them and to have the opportunity to translate that into real -- into a real product. The other opportunity for leadership opportunity was that fellows were able to act and provide

peer review. So not only did they create curriculum but they also critiqued and provided feedback to other fellows and faculty. And then lastly, this has really been a leadership opportunity for our trainees in terms of teaching opportunities to be able to use the curriculum and to build around it and to use it as a way to teach a number of different learners. So again, there was just -- I think that this in many ways, I think, really functioned as a model for curriculum development. Not only is there a strong product but it really was able to achieve other goals of collaboration and cross fertilization. Next slide.

And again, just to review, Laura showed the map already. These were the MCH programs that participated that was a very strong desire for collaboration and a really strong effort from all of the programs and when I show you the time line on the next slide, you will understand why then we were able to bring this from conceptualization to a product we're now launching so quickly. Next slide.

This is just -- this slide is a time line to date that just really is designed mostly to give you an idea of the kind of thoughtful planning and effort that went into this so that one can really appreciate how much, if you will, effort and scrutiny the curriculum has had. So we started planning this curriculum really, I think, over a cup of coffee at the initial Combating Autism Act meeting in January of 2009. The teams were established in March of that year and the teams then began to draft the cases that summer over a very, very compressed timeline. But I think again because of the real belief amongst the faculty of how important it was to both mentor the fellows and to create such a

curriculum, people worked quickly and diligently. By the time we hit October, the cases were available to go out for peer review and also for multiple layers, as Dr. Peacock pointed out, of external review. The cases then were revised, pilot testing was undertaken and at which point after extensive pilot testing, revisions were made and there was then completion of the last module, which was the communicating a diagnosis module which brings us essentially to this point. In many ways from start to finish this was a two-year collaboration that involved a large number of people but again I think, because of the vision of this, and the desire to see there be a greater availability of standardized training for learners in residency programs, we were able to do this so quickly and efficiently. I'm going to turn this over now to Dr. Rosenberg.

MARIS ROSENBERG: Thank you, Dr. Weitzman. From my perspective as a faculty member, the curriculum represented a fruitful collaboration from its very onset. While we were all together at an annual program meeting and after enthusiastic acceptance of the idea the actual topics. Modules were chosen by consensus. Once the topics were agreed upon, faculty and fellows assigned themselves to working groups based on topics of interest. And there was true cross pollination, if you will. By that I mean representation of multiple groups and multiple levels. All levels of trainees and faculty as well. The face-to-face meeting ended and we were off and running. Once one returns to everyday responsibilities it is difficult to keep the momentum going so here is where I really want to acknowledge the wonderful job that Georgina, Carol and Janet did in breaking down the tasks and establishing a timeline with weekly reminders that

really kept the project moving. That in itself was a learning experience in group motivation, I think.

Lastly, while the collaboration among faculty and fellows had many benefits, one in particular for me was the ability to learn about distance collaboration from my younger, more technically competent colleagues. And, of course, establishing the relationship with fellows from other programs that was longitudinal in nature was really wonderful.

Next slide, please. The collaboration which, as Carol mentioned, was multi-faceted, as you can see here, continued and truly contributed to the richness and success of the project. Dr. Rebecca Scharf, a senior fellow in our program at Einstein will now share the perspective of a fellow who worked very hard on the project.

REBECCA SCHARF: Thank you, Dr. Rosenberg. Next slide, please. As a fellow participating in the development of the autism case series I also appreciated the collaborative experience. This was an excellent opportunity to work with fellows and faculty from across the country. During the development of the autism screening case I had the pleasure of working with two excellent fellows, one from Yale and one from Harvard. We worked via phone and email to write our case jointly. I appreciated the interactive discuss as we developed the curriculum. The MCHB and CDC provided leadership development in allowing fellows in participate in this activity. Dr. Rosenberg, provided important guidance and we appreciated the guidance provided by faculty from the other institutions as we worked together. Next slide, please.

Looking forward as I will move from fellow to faculty, I appreciate the opportunity that developing and using the cases provided in facilitating skills and teaching. I learned more about case-based instruction as well as how to focus on the needs of the learner. The autism cases are accessible and informative and can be used for exposure to the issues surrounding care for children with autism and helping medical students, training for pediatric and other residents and as teaching opportunities for fellows. These useful cases will allow many to expand their knowledge and provide better care for their patients. Now Dr. Rosenberg will discuss the experience at our institution using the cases and training.

MARIS ROSENBERG: Now I would like to share what we learned while piloting the modules. At the Albert Einstein College of Medicine each year we have up to 30 first and second year pediatric residents completing their one month block rotation in developmental pediatrics and second year family medicine residents for would weeks and outside residents, fourth year medical students, child psychology and neuro fellows. We presented five of the modules during the initial pilot phase. As early as last week I piloted the module early warning signs for autism on a group of third year medical students in an activity that is called master teach arounds. This activity is designed to have faculty introduce their subspecialty to the medical students. Next slide, please.

The modules supplemented other training activities we have included in our developmental behavioral pediatric rotation currently. We present formal sessions

relevant to topics about ASDs and we also pair trainees with developmental behavioral for children referred to our centers. These visits are termed screenings and often present with a question concerning ASDs. Our residents also visit a local public school serving children with ASDs from elementary through high school where they spend time in classrooms and observe varying treatment methods and finally they observe a live diagnostic evaluation using the autism diagnostic schedule or ADOS. They complement these activities beautifully. Next slide, please.

So now I would like to share with you some of the feedback we received from our learners. In terms of general feedback, here are some actual quotations from the residents and students. They particularly seemed to enjoy the videos, the hand-outs and the case-based format. They liked the real world scenarios and the fact that the modules fueled discussions about topics relevant to pediatrics such as temper tantrums and the distinction between ASDs and temperament. Next slide, please.

The residents were asked for their take-home messages after completing these modules and here are some examples of what they said. After completing the module on early warning signs of autism they stated that they learned that not all temperamental variations constitute ASDs and the importance of effective communication with parents and the value of close observation of the child. I would also like to add that this early warning signs module was the catalyst for a very lively discussion with the third year medical students that I mentioned encompassing typical developmental milestones. Interpersonal and communication skills and the concept of temperament among other important topics. Next slide, please.

After completing the module making a diagnosis of autism, the learners articulated the value of early evaluation involving multiple disciplines, the importance of listening to parents' concerns, and appreciation of the necessary components of the medical evaluation when suspecting ASDs. Next slide, please. After completing the early intervention and education module, the residents expressed an understanding of entitlement and the pediatrician's role as advocate. Next slide, please. Finally, in gathering feedback after completing the modules, we asked the residents what else they would like to learn since the pilot phase involved only selected modules and not all seven. As you can see, their suggestions all represent topics that are covered in other modules. For example, they asked about therapeutic interventions and alternative therapies. And both of these are covered in the treatments for autism module. Next slide, please.

They expressed a desire to learn about screening tools, which is covered in the module entitled screening for autism and more information about how to counsel parents covered in the module communicating abnormal results and in autism-specific anticipatory guidance. In summary I look forward to the opportunity of presenting all seven modules to our residents and medical students. I think it will be a great addition to our block rotation in developmental behavioral pediatrics and establishes a firm foundation on which to build other experience and much more effective than traditional didactic teaching.

As you heard from Dr. Scharf, I feel the development of curriculum provided a wonderful opportunity for fellows and faculty alike and a collaborative model that can be applied to the development of other training tools. And now I would like to turn the discussion over to Dr. Major, who will discuss the evaluation.

NILI MAJOR: Thank you, Maris. So I'm going to speak about some of the work we've done to date in evaluating the curriculum. Before I get to that I want to briefly mention how I initially became involved with this curriculum as a third year pediatric fellow at Einstein I had the opportunity to co-author the diagnosis module along with another fellow from Arkansas and faculty members from Arkansas and Brown. I want to also say what a wonderful educational opportunity this was for me particularly as a fellow and how great it was to collaborate with others in such a meaningful way. And exciting to watch the project unfold and come to fruition.

Now in my current faculty position I have been able to continue moving the process forward with the curriculum evaluation. So with that in mind we had a few goals when developing the evaluation method and I'm going to go into more detail about these as we move along but just briefly we wanted to assess changes in learner knowledge and attitudes. Describe the use and implementation of the module. Evaluate resident and facilitator overall experience with the module and explore resident attitudes towards ASB training. Next slide, please.

For each module we developed a pre and post test for the learners to complete immediately before and after the teaching session. I want to mention here that I'll be alternating between the terms residents and learners and while our primary interests was assessing the residents, other types of learners participated in the evaluation as well. On the pre-test we obtained general information about the learners including their year in training and gender and asked them about their future career plans specifically whether they were going into primary care or a subspecialty.

The knowledge and attitudes assessment was comprised of two components. For each module we developed a series of content-based, multiple choice questions based on the model's learning objectives and piloted the questions at Yale as well as developmental pediatric experts across the country to further modify these questions. They were included on both the pre and post tests to developing knowledge following the session. We designed questions to assess the learner's self-perceived changes in knowledge and attitudes as a result of participating in the session. For example, on the post test of the early warning signs module we asked learners to rate their knowledge regarding the early warning signs of ASD both prior to the module and after the module as either poor, fair, good or excellent. So as this question was included on the post test we were asking the learners to retrospectively rate their knowledge prior to taking the module.

Next we included some questions regarding learner attitudes towards autism education and I will be sharing some examples of those with you shortly. And finally, we asked

the learners to rate their overall experience and satisfaction with the session. On the facilitator evaluation form we asked them to describe their use of the module. If they thought the module during the rotation or other general teaching session. How many learners attended the session, and how long the session lasted. And then similarly to the learner post test we asked a few questions regarding their experience with facilitating the session and their likelihood of using the module again. We've just started looking at some of the data.

Now I would like to share with you some of the preliminary results. The curriculum modules and accompanying evaluation form were distributed to 33 programs at the end of January. Many of these programs had participated in the initial piloting phase of the curriculum and others were recruited at national meetings. Overall 27 programs participated by returning their evaluation form using an 82% response rate. A total of 174 learners participated in the teaching sessions including 116 residents and most of these were either pediatric or medical pediatric residents and 58 additional learners, medical students with some DBP fellows and other trainees as well. 65% of the sessions were conducted during the DBP rotation and noon conferences or pre-clinic conferences. The median number of learners for each session was six with a range of one to 30 and the mean durations of the session with 60 minutes with a range of 60 to 90 minutes. On this slide we have two examples of questions asking about the overall experience of the session.

We asked the facilitators how likely are you to use this module again in your teaching program? 13% responded slightly likely. 26% responded likely and 61% very likely.

We asked the residents rate the overall usefulness of this session to your training in autism spectrum disorders. 6% rated it slightly useful. 55% useful. 39% as very useful. Next slide, please.

So now I will share some of the data regarding resident attitudes toward ASB education. It is limited to responses from the residents alone. We asked them how important do you feel education related to autism spectrum disorders is to your career plans? 57% said it was very important. 32% rated it as important. And 11% as slightly important. No one rated it as unimportant. Next slide, please. Next we asked compared with other pediatric conditions, how confident do you feel in caring for patients with autism spectrum disorders? For this question three quarter of the residents reported feeling much less or somewhat less confident. 20% reported feeling similarly competent and the remaining 7% reported being somewhat more or much more competent. Next slide, please. Finally, we asked overall, please rate your training regarding autism spectrum disorders to date. 13% of residents rated their training as poor. 46% rated their training as fair. 37% as good. And 4% as excellent. Next slide, please.

Now I would just like to summarize some of our next steps moving forward. We'll be looking at the changes in content-based knowledge and self-perceived knowledge and attitudes across all the modules and performing sub analysis such as factors such as

trainee year of training and primary care versus a specialty and I'll turn back to Carol Weitzman who will discuss some possible future studies involving the curriculum.

Thanks.

CAROL WEITZMAN: Thank you, Nili. So just very briefly, I would like to just take a moment and talk about future research opportunities. We're very excited about having this pre and post testing that has been completed and having it on a fairly large number of trainees from a very broad cross section of programs. But this gives us really just a quick snapshot of what we're seeing in terms of kind of an initial response to the curriculum and I think there are some really interesting and exciting opportunities for future research that I would welcome any of our listeners on this call to consider conducting research around this either independently or with any of the speakers on this call who would be, you know, able to collaborate. I think again what we've been able to do here is to get a snapshot after one session with the curriculum, you know, did you feel there was any change in your knowledge or your confidence, and we'll be able to look at that and hopefully report on that soon. I think it is going to be interesting and important to look at the impact potentially of being taught the entire curriculum on things like skills, knowledge and attitude.

So a more longitudinal perspective. I think it also would be helpful and important to look at how this curriculum fits with the residents' overall exposure to autism. What role it plays and I think Dr. Rosenberg so nicely talked about a very comprehensive training program for medical students and learners and how something like this can fit

into that. But I think we want to be looking at really how does this curriculum fit in to the overall learning experience, exposure and teaching about autism? And then the other thing is really to do some kind of an assessment of the impact of the curriculum in other venues or with different learners.

So really looking at how does this curriculum work if we use it with other health professionals, not residents, but people who might be training in other disciplines? Social work, rehab specialists, etc. What is the impact on medical students? I think that many of us are very interested in pipeline issues and looking at does this -- does the use of this curriculum with people who are very early in their medical training have any influence both on their knowledge regarding autism but also around career choice? And then lastly, what about using this curriculum with other kinds of learners such as educators, teachers, early intervention providers and really what is the impact of that? I think there are quite a number of interesting research opportunities that we hope to pursue and that I really encourage people who might be interested in doing some research to either consider this independently or in collaboration with us. And with that, I will turn this over to Dr. Peacock.

GEORGINA PEACOCK: Thanks, Carol. So just to talk about next steps. I'm sure that many of you on the call are wondering when am I going to actually be able to see this curriculum? This curriculum will be available at WWW.CDC.gov/actearly. Is it not available right now but should be available by early May and perhaps even a little before then. So we will be sending out to all the participants on this call, as well as

people in the bigger combating autism initiative network, the link to that site when that site goes live and it will include the facilitated guides, it will include the video library, the hand-outs and all the things that we spoke about at the beginning. We will have print materials available as well sometime this summer between May and August. And then we are also planning on adapting each of these modules to a CME-based -- continuing medical education-based format so that people who need to do more training related to autism spectrum disorders to help with their continuing medical education needs and we will be posting that on the CDC website under development at this time. Next slide, please.

Some of the other future things that are happening that I would like to let you know about is we have just received applications for a collaborative effort between the Maternal and Child Health Bureau, CDC and the Association of university centers on disabilities called the act early ambassadors program and we will have ambassadors in different states throughout the country who will be active ambassadors for this curriculum as well as a number of other initiatives that are going on within the learn campaign and the autism initiative at the maternal and child health bureau. They'll be delivering the curriculum in a concentrated way in a number of states.

There will be future presentations. If any of you are attending the academic society meeting this weekend there will be a presentation that will feature three of the modules on May 1st in the afternoon. Sunday afternoon. If any of you are there that will be at the developmental behavioral pediatric of the pediatric academic society where you

can see pieces of the curriculum presented. And before I turn it over to Laura, I would just like, as the CDC lead, to thank the creators and the reviewers on behalf of Centers for Disease Control and Prevention and the Maternal and Child Health Bureau for the incredible amount of work you've invested in creating and reviewing this curriculum and creating a terrific product that we hope will be used in teaching programs across the country. It is really a terrific product that has come out of the Combating Autism Act Initiative so with that I'm going to turn it over to Laura for a question and answer period. Thank you.

LAURA KAVANAGH: Thank you so much, Georgina. It has been a wonderful partnership on our end as well. Thank you. I just want to remind those of you on the webinar that you can submit your questions to the speakers by selecting question for speaker and typing your questions in the messaging center on the lower right-hand side of your screen. We have several questions that we've received already. Let me field those for you. Just as, Georgina, please repeat this for the sake of the participants, I would appreciate it. How can you get a copy of the curriculum and of the module?

GEORGINA PEACOCK: The curriculum will be available in the next couple weeks. You'll be able to access it at WWW.CDC.gov/actearly website and the different listserv. The act early forum listserv as well as the participants on this call. You should have multiple opportunities to get the link to this curriculum and then there will also be a limited number of printed versions that will be available this summer.

>> Terrific. Thank you so much. The next question is how long does the entire curriculum take to deliver? That can be anyone. Dr. Weitzman, Dr. Peacock.

>> This is Georgina. I'll start and other people can add in. It was designed to be quite flexible. As you saw in the average time spent on a curriculum that Dr. Major presented, anywhere from 20 minutes to 90 minutes was used to present the curriculum and we do have within the curriculum, if you want to teach it in 30 minutes, there are places on the curriculum that are notated so you can do a briefer version of the module. I'll turn it over to the other developers.

>> I'll make one comment about that. I think, you know, just to echo, this is really meant to be used in ways that work for your program and for your teaching opportunities. I think it's really -- I guess I would say it's optimal that over the course of a residency program, residents would be exposed to the entire curriculum but that's up to each individual teacher and program. But I think it's meant to be a pretty comprehensive picture of the different facets of autism. But with that said, you know, someone might find that they have 15 minutes and so just looking through it may pull out one little piece, for instance, from the anticipatory guidance to talk about sleep issues. It's not a rigid set PowerPoint presentation but rich in that one can pick and choose from it.

>> If I can add to that from some of the data I didn't share during this presentation, when I asked the -- when we asked the residents how important they felt training in

autism was to their education we asked the further question where we presented the seven -- the different topics that corresponded to our different module topics to try to get a sense of which ones of those modules they felt were important to their training and while there were a few certainly screening for autism, treatments that were probably universally felt to be important, overall residents really did specify that all of those seven topics were important to their training in autism.

>> Any additional comments?

>> Yeah, I think it's wonderful in a rotation where we are somewhat dependent on patient show rates and stuff to have this in our back pocket. While I'm planning to schedule set times to present these modules, it is also very nice to, you know, have them available at a moment's notice and just supplement whatever is going on for the residents and they really do appreciate that. Again, I agree with Dr. Major that the topic, if you ask the residents what else they would like to learn about autism, it is a perfect segue into another module. So these are adult learners who are motivated and it really meets their needs perfectly.

>> Thank you very much. Just a reminder if you have questions, please submit them and we do have several more. I believe this is directed to Dr. Major. Are the evaluation data reported on the CDC website or a journal article?

>> We got the evaluation forms back over the last few weeks. We haven't begun to look at actual changes in knowledge but we do plan once we finish the analysis to write it up and have it published.

>> Terrific. One comment.

>> At some point once we sort of finished the analysis, it's possible that if people want those sort of the copies of blank pre and post tests we can make those available. They might be interesting for people to be able to understand their learners' perspectives also and plan for future sessions with their learners based on what they are expressing they want more teaching in, etc. So those can be made available at some point.

>> How would we make those available? Would they be posted on the CDC website?

>> That's a good question. I'm not sure. We haven't really -- we haven't figured out those details but I'm not sure if those would be posted or not. So I guess I'm going to have to take the stay tuned answer for that one.

>> Okay. Somebody could contact you directly if they wanted more information.

>> Absolutely.

>> Thank you very much. I just have a comment I would like to share. Bravo, sounds great. Looking forward to it to complement our curriculum in Hawaii. Kudos to the presenters.

>> If they want us to come to Hawaii, we can.

>> You'll personally deliver it?

>> I volunteer my collaborators here. I don't think they'll mind.

>> If there are any additional questions please submit them by typing question for speaker and including it in the message center on the lower right side of your screen. I don't have any additional questions right now. Georgina, would you mind repeating one more time the URL for the website that will contain the curriculum in early May?

>> Sure. It is WWW.CDC.gov/actearly, all one word. And that is also the website where you would find any of the "learn the signs, act early" materials as well. We would have -- when the website goes live we will certainly on the home page have a link to the actual page that will have the curriculum on it. I suspect it will be under healthcare providers but if you go to that main WWW.CDC.gov.

>> It's appearing as a broadcast message in case you need to right it down.

>> One last I don't know if it's a plug or whatever is the fact, I think, that this curriculum is going to be so accessible and that it's free. It's so incredibly important because you can have beautiful materials, beautiful things but if they're very expensive and inaccessible it is hard to get them out there and use them. These are free and they are so -- you know, beautifully put together because of the folks at CDC and at porter-NOVELLI who took the feedback of the piloting about how user-friendly it was. So I think I look forward to people getting a chance to look at that and again, to be able to just peruse it completely free of charge.

>> I have an additional question. What other disciplines had the opportunity to take the modules to date?

>> These have been -- were piloted or reviewed and piloted by a number of LEND programs. So that's the only other group is LEND trainees that are in this variety of different leadership, education or developmental disability program.

>> For those of you—

>> That's it.

>> So for those of you who might not be with the leadership education in the Developmental Behavioral Pediatric Training Network that could include medicine, nursing, social work, nutrition, occupational therapy, physical therapy, speech and

many others as well as family members who are faculty members as well as trainees. It's a diverse interdisciplinary training program.

>> I want to say some of the data we got back there were a sprinkling of other trainees. I know we had occupational therapists on one of the sessions. A few other learners. I haven't had a chance to look at their feedback but it seemed to be well received not only by the pediatric residents but other learners as well.

>> Thank you very much. If there are any additional questions please type them into the box and enter them and we'll be happy to take -- to respond to your questions while we're all online. Okay, here is another question. Are these modules free to only medical personnel or may educators as I'm a school psychologist working in the schools, can they use them as well?

>> These are free to anybody. They have been put into the public domain because they've been paid for by your tax dollars so these are all products that will be available for use by anybody. Like Carol and Nili talked about, we really would be interested if there are other sort of learning groups that are using the curriculum because we'd be interested to see how well this module -- these modules can be used over different disciplines. So if you do have a unique group of learners that we haven't talked about we certainly would be interested in how the curriculum works with those. I encourage you to use it with different types of learners. Thank you.

>> And we're happy to help to collaborate if there is interest in, you know, conducting some kind of similar research that we did with pre/post testing. We're happy to collaborate if so desired or not, if it's not needed.

>> Thank you very much. I will give it a moment or so in case we have any additional questions. We had very diverse participants on the call today. Thank you all for taking the time to participate in the call and I just want to make sure we give you an opportunity to ask any lingering questions. All right. Not receiving any additional questions for right now. I want to thank all of our presenters, both for the substance and the -- I'm sorry, I have another question. You mentioned ADOS. Are resident fellows being trained on this instrument?

>> This is Maris. I mentioned it in the one block rotation for residents. No, they aren't being trained but they do observe the administration of the ADOS from a two-way mirror and then they sit with the evaluators and actually go over the scoring and discuss the children. So it's our way of demonstrating to them the state-of-the-art in diagnosis of autism spectrum disorders. Our goal for residents is that they're familiar with it when they leave the month training.

LAURA KAVANAGH: Thank you very much for that clarification. I want to thank -- I don't think we have any additional questions. I want to thank our presenters so much both for your dedication to producing such a high-quality curriculum that I think will be widely used in many fields. Thank you for taking the time to participants today for

hearing more about the curriculum. It will be available, as Dr. Peacock mentioned, for free on the CDC website. You will receive an email if you participated in this webinar as soon as it is available and we'll also disseminate that very broadly. I would also like to remind you to please take a moment to fill out the evaluation form that's displayed in a separate window at the end of the webcast. This information will help us to better serve you for our future webcasts. Thank you so much. And thank you so much for taking the time to spend time with us during the autism awareness month. Take good care all, Bayou La Batre. Goodbye.