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EDHI Conference

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Making the Switch: Improving Diagnostic Reporting to EHDI by Audiologists

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>>MALLORY MINTER: I think we're going to start, I am Mallory Minter, I work for the Department of Health. I am not the EDHI coordinator, who wasn't able to make it here so I'm here giving the presentation in her place. I'm actually the data researcher for our EDHI program. And I've only been at this job for about nine months so I'm fairly new to the world of EDHI. I have more of a background in statistics so this whole conference has been wonderful and I've got to learn a lot and how great everyone is and how passionate everyone is about everything so I'm very happy to be here.

Bear with me if I don't know the answers to all of your questions, because I am fairly new to our department. And new to the world of EDHI. But I will try and answer them as best as I can. So this presentation is called making the switch and it's about improving our diagnostic reporting to our EDHI program via audiologists through diagnostic reporting. Just to go over what we're hoping to get out of this is we're going to explore the rational and steps for our electronic reporting of audiologist diagnostic testing results. We switch from paper to electronic. Then describe the phases used to move from the paper diagnostic reporting to a state wide electronic reporting and then at the end we will discuss the importance of quality assurance that we're getting from doing the electronic reporting now.

So just to briefly go over the infant hearing program in the state of Ohio because as I've learned, it's very different from state‑to‑state so that's very interesting.

The state of Ohio actually requires that hospitals complete screenings before the baby is discharged from the hospital so if the baby has their first screening and say referred or is a nonpass, they actually have to have a second screening before they are discharged from the hospital either later on in the same day or maybe the next day if they're discharged the next day.

Then from there they go straight into diagnostic testing. There is no outpatient screening. Finally, once the diagnostic loss is confirmed and submitted through our new electronic system we refer the baby to EI. So just to give you a picture of how big Ohio is, we have 129 birthing facilities in our state, and each year we have anywhere from 138,000 to 140,000 birth per year. We just finished the 2016 report and it was a little over 138,000 births for 2016. Just to give you an idea of how many referrals we get from our newborn hearing screening is about 4,000 referrals that we get each year and we did get almost that much for 2016. Apparently we have 204 diagnostic audiologists within the state of Ohio. And we get an estimated 275 diagnostic evaluations conducted on a monthly basis so I see some big eyes so, yeah, it is a large state. We do get a lot of them. We get an estimated to 30 to 35 babies that have a diagnosed loss of some kind that are reported to us. So as you can see, it is a fairly big state! So getting all of those diagnostic results via paper was very frustrating. And it caused a lot of issues. So just to go over some of the things, reasons behind why we wanted to switch from paper to electronic, so cutting out the paper forms has stream lined the process and reduced delays in reporting so with paper forms people could fax them into us or they could mail them into us and so with that same a lot of human error so papers ended up going to different floors, different buildings entirely, different people and unless whoever it got sent to was gracious enough to resend it or send it to us, it may never have even got to us. So that was a big concern.

Then also with getting paper forms there is data entry error because once we get the paper form it has to be input into our electronic system once it's at the ODH, Ohio Department of Health, so the more hands that touch it the more room for human error via the paper way.

Then the big factor also is reducing the time between the diagnostic piece and when they are actually diagnosed with a loss when they get referred to EI. So most often when we were getting things via paper it was taking around three weeks for us to get it when they were diagnosed. Now that it's through the electronic reporting system it takes about two days for us to get it. That's a big difference and cuts out maybe a whole month almost from the time when a baby gets diagnosed with a loss to when they can be referred and get into EI.

So we are hitting that 1‑3‑6 marker quicker and it's more helpful for babies.

Also, now that we've cutout paper, it's reduced the costs because we had to send out all these forms, all the paper forms to all the audiologists throughout the state and they were ‑‑ those paper forms that are like the three papers stacked on top of each other so it's not just one paper it's three papers essentially so it's cutout a lot of costs that way. Then also with the electronic reporting system, since it is more stream lined and more timely we are able to assess things more quickly and so we are able to see whether or not certain protocols that we've been putting in place through ‑‑ we have our new ‑‑ or a group of audiologists in the state called coach that work with ODH, stands for coalition of Ohio Audiologists and Children's Hospitals ask and that's a mouthful and they've gone through and come up with guidelines for audiologists and now that it's through the electronic system we are able to see if these guidelines are working and there is not such a huge delay.

Another factor of why this was successful was the reporting electronically was made mandatory and it was mandatory by the direct or of our department, so in the state legislation as you can see it's in ‑‑ they have to report in whatever manner or format is prescribed by the detector and the past few years they've had a big going green effort and the director has decided that everything that can be done electronically should be done electronically, so audiologists were notified of this transition far in advance before they actually had to do it through a formal, written notification as well as in an email format that we sent to them.

So this written rule has greatly helped us to convince audiologists that they have to do it this way because there's no other choice. So just to give you an idea ‑‑ oh, probably should mention in the state of Ohio we use for our EDHI system we use high track and I know some of you in here use high track, too, because I saw you at the high track thing, the luncheon, so high track actually has an online submitting form that we use for all of our audiologists now for their diagnostic piece and essentially it's a web link that they can use from whatever computer they want and they can input ‑‑ you can see the information that they would have to put in, so the basic demographics of the baby and the mother, or well, I don't know if the mother's stuff is on there, I think just the baby, the patient. And once they input all that information they can pick the diagnostic test they did and input the rest of the information from there and after that it asks them for a user name and password to make sure they are an audiologist registered with our system. Then they can submit from there. It ends up going directly to ODH, it actually goes to me, the data researcher and I merge it into our data system and then we can see the results directly. Pretty much immediately. There have been times when an audiologist has submitted something and one of our public health audiologists is saying to me, someone said they submitted this but I don't see it in there yet is it in the queue to be merged in and I say, yes, here it is, let me merge it in and two minutes later we can see the result with the merged record. That's what it looks like. The process of getting started and making this big transition because it's a lot of audiologists, in a big state, so we ended up having to initially develop guidance documents that included step‑by‑step guides on how to complete the submission form with screen shots and directions for every step and we implemented ‑‑ we came up with goals for our pilot testing which we did first before we did it state wide. The pilot testing began over a year before we actually implemented it throughout the state so that began in 2015 and then they didn't actually start doing it until 2016.

The goals for the pilot testing were to see what the data quality and accuracy was, of the online submission forms, the acceptability of whether audiologists would be willing to submit this stuff directly to us, the timeliness of information getting to ODH and then if all the elements of what an audiologist needed was actually in the electronic form. Then also the he's of usefulness for audiologists. So then with that, we actually reached out to all of our audiologists in the state. We have big email list essential that will we have. We wanted to see who wanted to help us go through this pilot testing and we ended up getting 11 diagnostic audiologists to graciously volunteer and they were from speech and hearing clinics throughout the state and we ended upholding training sessions with these 11 audiologists, and we provided them with the tools and documentation that we had kind of rough drafted out and encouraged lots of feedback and questions. We worked with our high track developers, we have them on the phones with conference calls as well and we had our legal department there, too, as well as the public health audiologists that works for the state and the other researcher at the time, not me. This was very helpful because it ended up helping us generate our frequently asked questions document that we give out to all audiologists now, like all the new ones that are incoming.

So with the pilot testing, we asked the audiologists to report their weekly numbers of submissions to us so they had to agree to kind of keep extra track for a few weeks of their own stuff, and then they also had to keep submitting their paper forms along with the electronic ones so a little bit of a double submission and we ended up comparing the paper forms to the electronic ones that they were submitting to see if it was accurate and matching up and going through smoothly.

After we were done with all this pilot training which took like I said, was a whole year long process of figuring out the Kings and meeting up with these audiologists and talking with them and seeing what was successful and what was not successful, we actually began the transition in 2016 and we ended up splitting up our facilities into various groups by the size of the facility and how much audiologists were at each one,. We ended up training each group individually, or at separate times so it wasn't as overwhelming trying to train everyone throughout the entire state all at once. So what we ended up doing was we held trainings for the audiologists depending upon what their group was a month before we actually started asking them to do things electronically entirely. We started with the first group, the biggest facilities first and we began training for them in March and they started their transition in April and then group two was June/July, then group three was September/October, so it gave us a little bit of a buffer month in between each group to make sure that they were transitioning smoothly. Then we had several trainings for each group that were held via conference calls and we gave the audiologist PowerPoints ahead of time so they had a chance to look through things and read about what we were going to talk about and go through.

Each training session took about one hour each and there were multiple trainings throughout the month. What was also helpful for these training sessions was that each facility we identified a point person or person of contact that assisted us in making sure every audiologist at their facility got the training that they needed. So we weren't keeping track of all the 200 plus audiologists throughout the state. It was a smaller number and they were helping us keep track as well. So after each person was trained, they submitted their basic demographic information with their name, the facility they work for, email, phone number, and they gave it to ODH, essentially me, the researcher, because I'm in charge of High Track and in return they get a user name and log in and they can go in and submit their information electronically. They also get the electronic link then and the user guide so they can go back and reference them at any point in time.

After we completed the whole transition, what we have been doing and this is more of my job now, is creating quality assurance reports and making sure that things are actually working out. Kind of showing audiologists how successful this has been and how useful it is so it's not just an annoying task that they now have to do because they're mandated to do it, it's nice to give them something back and they like seeing it, too, it increases our transparency with them, so one of the big reports that we end up giving them is we give them a quarterly indicator report is what we ‑‑ a quality indicator report is what we call it. So these reports I give them their recent data that they've been submitting to us, so the number of diagnostic evaluations that they've done and the results for each of those evaluations as well so the number of no losses and the number of the actual losses whether they're permanent or not and also included in that is any undetermined results that they have as well so babies that they've seen but they've not made a financial diagnosis yet, and then with each of these reports now that we're doing them somewhat regularly we can show them kind of their change in trends over time, specifically one of our goals is showing them the undetermined and unconfirmed reports over time in the hopes that this reduces that number and that they can be mindful of the undetermined and unconfirmeds that they have and encourage patients to come back in and schedule them again and get them back in and get a confirmed diagnosis.

So just to go over again, the benefits of the electronic reporting, we are getting more detailed diagnostic information about the types of tests performed and the hearing status. Again, we're able to assess these changes that we may make on a state level through our coach protocols that might vary and see if these changes are having an impact immediately as opposed to a month delay. Results are also available to EDHI staff following the electronic submission not just me but also to our public health audiologists, our coordinator, anyone that has their hands on the EDHI system at the state they can see results immediately and we can also through the online reporting system ‑‑ I forgot to mention it earlier, we can see notes the audiologists put into the High Track system, the web portal as well, such as no shows for appointments or upcoming appointments that a child might have. That is my presentation. Okay, bump of questions.
(Applause.)

>>MALLORY MINTER: Thank you. Again, I am not the coordinator so I may not be able to answer every single question.

>> AUDIENCE MEMBER: Do you have any data on the number of audiologists that should be using the system but aren't?

>>MALLORY MINTER: Every audiologist is using the system so they have to be using the system. Very few of them actually give us anymore paper documents.

>> AUDIENCE MEMBER: Are they entering the data or is it staff? We do voluntary online reporting and some hospitals are like, yeah, our AG is not going to report so the admin collect the results and ‑‑

>> AUDIENCE MEMBER: The law does help.

>> AUDIENCE MEMBER: That's right, with 4,000 referrals that's a lot!

>>MALLORY MINTER: Yeah, it is a lot. I am not 100% sure if every single audiologist is reporting their own results. We open that they are, since they each have their own individual log‑in and email and password that goes along with everything. But I'm not able to directly answer that.

>> AUDIENCE MEMBER: I happen to be from the state of Ohio so at our hospital which is a large pediatric hospital our audiologists print the exact screen that they're supposed to enter into and they fill it out and sign it and they hand it to an administrative person who enters it. So the way we reduce the error is the audiologist is responsible for filling out the form so we're still using paper, but only because I think, you know, the time for them to put it in is questionable so we make sure that they're accountable for the results on the form which is a printout of the screen and they pass it to somebody who has the time to enter it in.

>>MALLORY MINTER: Thank you.

>> AUDIENCE MEMBER: If you go back to the entry screen there is also a place where you can delineate down on the bottom right it says "data entered by" so you can tell or make sure that people are doing it. I have a question, though. We're about to do this, we have High Track II so I was wondering if you could give us your training materials, basically.

>>MALLORY MINTER: Oh, yeah!

>> AUDIENCE MEMBER: We've been working on them but if you have it done.

>>MALLORY MINTER: I'm sure we can share.

>> AUDIENCE MEMBER: Should I email you or Patricia is that?

>>MALLORY MINTER: I can give you our coordinator's business card and it has all of her contact information and I'm sure we would be willing to share we're all about stealing and sharing from other states.

>> AUDIENCE MEMBER: Did you get any kickback from the audiologists about being able to have proof of submission? That was a barrier in our state.

>>MALLORY MINTER: So the fact that I can see it pretty much immediately does kind of prove ‑‑ and they do oftentimes email us even still and they're like, did this actually come through, so ‑‑

>> AUDIENCE MEMBER: They were asking for something that they could put in their ‑‑ like the confirmation sheet or something that shows yes I submitted on this date was what they were asking for.

>>MALLORY MINTER: I don't know if it sends them a confirmation email, unfortunately, I don't think High Track has that capability yet.

>> AUDIENCE MEMBER: I'm wondering, are some of those fields required and some not? First thing. Then how complete is the data?

>>MALLORY MINTER: So I know that not every single ‑‑ you mean like the demographic fields or are you talking about the different testses?

>> AUDIENCE MEMBER: Like ‑‑ be I don't know what's inside of those ‑‑

>> The purple fields are required.

>>MALLORY MINTER: Those are the required ones.

>> AUDIENCE MEMBER: (Away from mic.)

>> AUDIENCE MEMBER: There is no requirements on the diagnostic field because they don't do every test.

>>MALLORY MINTER: It's whatever test they happen to be.

>> AUDIENCE MEMBER: And with push back I've had two audiologists doing this for about a year and I'm about to roll it out to the whole state which is why the training materials would be great. Both of them are now we have to do the paper form sometimes because they don't have a patient ID or something and they say they hate that now.

>> AUDIENCE MEMBER: (Away from mic.)

>> AUDIENCE MEMBER: (Away from mic.)

>> AUDIENCE MEMBER: This can be converted into a pdf from High Track. I don't know about the system that you use but High Track can convert to pdf.

>> AUDIENCE MEMBER: You said that all your screenings are inpatient, they can't leave until the screening process is done?

>>MALLORY MINTER: Yes.

>> AUDIENCE MEMBER: What constitutes then the diagnostic at the audiologist center? Are they all doing ABRs for you?

>>MALLORY MINTER: I know some babies get outpatient screening, so particularly all of our home births and things like that so they can do any one of these testings, once they're there, but ‑‑

>> AUDIENCE MEMBER: Then it's really not all screenings are completed at this inpatient level.

>>MALLORY MINTER: Not 100% but I would say, like, 99% of all of our inpatient screenings are done at the hospital. It is machine mandated bylaw in Ohio that the inpatient screening results should be done before the baby is discharged if they were born at the hospital.

>> AUDIENCE MEMBER: But I thought you said they don't do outpatient screenings, at all.

>>MALLORY MINTER: Both are considered inpatient, as far as Ohio is concerned. I know it's confusing but hopefully that clears things up a little.

>> AUDIENCE MEMBER: (Away from mic.)

>>MALLORY MINTER: Oh.

>> AUDIENCE MEMBER: (Away from mic.)

(Conversation continues away from the microphone.)

>> We contact our audiologists if they don't have an actual diagnosis for the child and if they just complete a screen we contact parents and tell them they need more testing.

>> AUDIENCE MEMBER: (Away from mic.)

>> Even if they pass we let them know, after their second refer then the state EDHI program recommends that they complete a diagnostic test and that was not completed, they received a screening. Just how we do it.

(End of presentation.)

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