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Targeted Approach to Improve Hospital Newborn Hearing Screening Fail Rates

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START TIME: 10:56 AM

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>> All right. I think we're going to go ahead and get started. My name is Brittany Day I'm a pediatric audiologist and the director at Vanderbilt university and I'm the contractor consultant to the Tennessee Department of Health newborn screening program. And I'm here today with ‑‑ Charles who is the epidemiologist and we worked together on this project and Hilary and I are going to review with you some of our data. And how do we advance it? Anybody know how to advance the slides? It's not working? Oh, there it goes. All right.

I do have a financial disclosure a portion of my salary is paid with grant funding with the contract of the Department of Health. Just a little bit background on this project whenever I started with Department of Health back in 2020 I began to learn how Tennessee collects the data for the fill rates, the pass rates, the screening rates in Tennessee. I learned that the way we track babies is based on that I hospital of birth. Any screening testing that is done for a baby is essentially credited to that hospital of birth. That's how they are categorized. As I looked at the screen and fail rates at the hospitals made me wonder are hospitals get credit for any test done for the baby and how can this be a true reflection for what's happening at the hospital for that initial patient relationship fail.

How can we get real‑time data of the performance of our hospitals to see if there are areas to make sure we're getting the quality screens on the front end. So that's what this was born out of. We have three goals for this project. One that would do really good education across the board for all of our facilities. Telling them about best practices, making sure they had great guidelines, that they can base a programs off of. Second we wanted to work under 5 % fail rate for all of our facilities. We just settled on 5 % because we lumped together our babies and rural areas of Tennessee very low birth rates so it only takes a baby you two to fail to really mess up fail rate for a month. We decided on five %. Third we wanted to work on reducing our loss to follow‑up rate. We know that if we can get a really good quality inpatient hearing screening at the beginning, then there's likelihood that a baby is going to be loss to follow‑up because we're going to have fewer babies that need to be rescreened, and we're getting very valid result from the beginning.

>> As she mentioned as she was coming on our audiology consultant we began 2020 by looking at the screening rates and high fail rates across the board. We had epidemiologist at the time created a few reports she was pulling targeted reports for a few facilities we want to look at bit more then we realized we needed more real‑time data and child level that was checked by the birth hospital, and then this kind of was born into our internal Tablo dashboard that we monitor our real‑time data. This is the data dashboard just kind of a snippet. It pulls the screening data from the case management we use. It calculates the monthly screening and failure rates, and then once it's pulled we can visualize with trend charts.

>> Charles worked really hard on this dashboard and invaluable for us.

>> Some of the implementation of review process. We formally started this process in August 2022 where we got together on a monthly basis. We were pulling the data from the Tablo dashboard woo to get some of the real‑time da hes ‑‑ the facilities didn't have time for those babies to go to an outpatient clinic, audiologist, and get credit for that. We could see some of the higher fail rates. We created and updated our hospital hearing guidelines manuals and distributed those out. And a one pager that has screening and reporting best practices, and then our monthly review.

>> This is what it looks like for us. This looks like chaos. We go into our tableau around the 7th and then tenth of the following month and we look at the data that Charles has uploaded and we track it. We look at the one, six, three follow‑up and if you can see here, look at one facility and look at the one and three and 6 months you can see percentage come down. And this is showing us as those babies are going to rescreened and getting diagnostic testing that it was looking the by watching this we can say, okay. This hospital must have a really great audiology down the street because failure went from 1 % to distinguish that was a flag we needed to do some education with that facility. You see all the colors. The way we track it, the red ones are the ones really high we need to do some intervention with.

Yellow we're going to watch them, watch the trend, see what happens, especially if they are one of our hospitals that has a lower birthrate. We want to make sure it's not something we're seeing repeated and greens are ones where hospitals are doing a great job. With our outreach we send initial e‑mail and just explaining QR project. And provide guidelines make sure they have up‑to‑date and best practice documents, contact information if they have any specific questions on the reporting and any specific questions about the screening process, Brittany can answer those nor them.

Then we do a follow‑up e‑mail so this is quite a few at one year mark, three months looking back, is there any improvement. Did they take into account any of this? Are they looking at their own process? If we don't see any kind of improvement, then we're going he move on to requesting a virtual or in‑person meeting where we can do a deeper dive into their processes. We can do hands on training, look at their screening equipment. Are they doing the best practices, just kind of across the board. It's more intimate way that we can have that one to one.

>> Here's just some of the data we're finding and we're going to dive into this a bit more but to date we have fourteen individual facilities that we either began or worked through this process with. We have a couple of repeat offenders, so we've been to their facilities multiple times. And in‑person we have had 11 and two virtual. And if you look at those facilities specifically what their fail rates are looking like from 2020 when this is kind of first an idea to now we have seen about a two and a half improvement in the overall fail rates in those facilities.

We still have aways to go and under five % we want them to get under but we'll see improvement and kind of fall off. We'll reach out okay did somebody leave do you have something wrong with equipment? Really trying to impower them to be proactive when those things are happening but what we didn't expected was loss to follow‑up, we were trying to make loss to follow‑up better. We have gone to 21% in Tennessee which is pretty consistent with the national average to almost 47% in 2022. And talking with Holli as meeting with other coordinators across the country, this is not uncommon. We're seeing loss to follow‑up across the board. That's kind of one of our next objectives why is that happening? We met a couple weeks ago to brainstorm what are we thinking? I think the working hypothesis we have right now is families have medical fatigue. They are just not wanting to go to the doctor right now.

It will be interesting to see what happen with that not only in Tennessee but other states as well.

>> Just some of our observations with our e‑mail outreach we are facilitating that communication so they are getting a point person. We're creating these new relationships; we're getting to the people that we need to talk to and we're giving them additional resources. Just kind of giving them education and their baseline and benchmarks that we're looking at so that they know what to look for on their side.

>> For those in‑person visits it's been really helpful, you know, we hear kind of the same things over and over when we go to facilities, you know, a lot of nurses are doing our screenings and we hear often we weren't ever trained on this. This is something added to our Plato and nobody ever came in and actually trained us on how to do this or we are so busy and we don't have time to wait for that baby to calm and all the things we need to do to get a real quality screen. It just helps us to go in and see okay walk me through your process. How are you calming this baby. What are you reporting to the families? Who does your reporting is it you or the doctor? We can just help them beginning to end walk‑through their process and identify areas where they could kind of examine if they need to consider a protocol change.

>> Some of the information that we've learned for meeting with these hospitals, screenings were being completed earlier than recommended. Some facilities were doing as early as six to 8 hours because that's what the manufacture said that the hearing screening equipment could do so encouraging them to wait at least 12 hours and if they can 18 hours for best results. We're seeing screens reported more than two times before discharged and the hospital can we screen them again before they do? We've done some training with some of the groups just to say, hey, we really need to do two inpatient and if they don't pass we just need to go ahead and refer out for diagnostics. We're seeing high staff turnover. Nursing staff. Leadership staff. We make one connection and then we get ghosted and we wonder what's going on. Oh, okay, that person's no longer there. They've switched roles and we have to start over. All right. This is what we've been working with. How can we work with you now? Like we mentioned earlier seeing smaller hospitals where the nursing staff is performing the screeners. They do have a higher fail rate. They do have a lower birthrate too. The so we have to take it with a grain of salt.

>> We've had a lot of difficulty with equipment I don't know if you experienced supply chain issues and we had hospitals reach out we think it's something wrong with the probe and the manufacture and no ETA to get the parts. Newborn hearing screening legislated in 2008 so a lot of hospitals have the original piece of equipment they bout and it is coming to end of the life. Helping hospitals advocate for need for new equipment has been something we've been able to help with. We've had a couple hospitals that didn't have a great process for reporting those rescreens while it was done in‑person. Lack of communication between the lab, the nursing staff, the screener, whoever is responsible for reporting that information, that initial fail might get reported, and their rates are looking worse than they actually are helping them streamline think through the process of reporting.

The big one that I think is take away for something to look at in the future are referral pathways. Every hospital does that differently as whether or not a baby is scheduled before discharge. Who's responsible, who is legislate the parent know that that baby needs that follow‑up screening rating or test. We have lots of audiology desserts because we're so rural so we would go to the smaller facilities where would babies go when fail. They couldn't tell us where those kids get services so we have a director we created they can happened to families what part of the state are you in here's a ca contact for screening or testing that you need. Living in a state that has a very low SES and closest clinic hour and a half or two hours away is still a challenge.

>> These are some of the wins. So we've had one facility that has moved to in‑house screenings. They were the first to do that we did in‑person training with. They were moving from a contracted screener to nursing do it so helping facilitate that. Our facility too is kind of our star child and just our poster child for this process. We probably had four or five different conversations with this facility. With their contractors for the hearing screens, and just with the process was and looking at the time of screening, staffing models, access to medical records, and we were able to come in and facility communication between that contractor and the OB leadership and get them the resources they needed to do their job right.

We helped facility their staffing model changes and how they were paying screeners even. This is kind of a graft of our poster child. We were seeing them and they are not a small facility. They were constantly at 20 or higher. Once we were able to facility open communication they just kind of went down, and they have stayed consistently at that two to three % for the last year or so we're really excited with that one.

>> Our third facility they were one of those doing the very early screenings because the manufacture told them the screening could be done in six hours so we had a long talk and equipment can't overcome what's in the ear, so they actually changed their screening process to be after the bath. We actually just looked up their screening rate in designate '23, January 3.4%. Just making that one change. We had done some training with them on proper use of equipment, making sure they are scrubbing well, making sure baby is nice and calm not trying to force the screening so we'll be watching hoping they'll stay there but really excited to see how receptive they were.

Fourth one, sorry, our fourth one we are starting with this one so they are in the process of transitioning from contractor to in‑house screening. It's been really nice to be able to see like when we give them our information they are reaching out to us. Asking questions, they are really wanting to do it correctly on the front end so kind of the whole spectrum of all the different educational opportunities that we've taken in the examples.

>> Some of our ongoing challenges like we mentioned, various staffing, nursing screeners, contracted and some facilities that have audiology oversight. Timely consistent accurate reporting, and then the lack of communication and leadership turn over kind of go hand in hand just kind of chasing down who we need to talk to, and the correct people in finding out how we can help.

>> And like I mentioned before aging equipment that's something we're up against until hospitals get that buy in.

>> And so some of our future projects that we're going to build off of this one is just looking at examining that data of inpatient versus outpatient screenings. We were able to update our documentation and our case management to indicate inpatient screening and outpatient screening. We went from initial screen to it was initial screen and follow‑up screen, and now we've done inpatient, outpatient so we can dive a little bit deeper into that information. We're going to try to identify super screeners. If they have ticks that are covering the seven‑day workweek that we can train, you know, two or three of them that are more consistent and that can be their role in the nursery. Another thing that we're looking at is meeting with facilities that have abnormally low fail rates just as we're looking at statistically you shouldn't be failing at more than 5 %. Statistically you should be failing some. When there's zeros cross the board it's just a little suspicious so we're going to dive into those process so we're going to continue monitoring our screening rates with our contracted screeners. They have the ability to do a daily upload. And to case management system and we have reports so we can see if they are doing those uploads, if any, of them are failing, and if they are able to resubmit.

>> We're also going to examine the rural pathways and try to identify in the state where they don't know how to send the babies so they have that information. And it may be a drive for those families at least they have a place they can identify they can send and that might be beyond the hospitals that might be education with PCP as well just to make sure that communication is across the board. This kind of goes hand in hand with audiology desserts this is trying to figure out in Tennessee does that look like a telehealth, mobile ole model r model, and train local departments on screenings and we're trying to figure all of that out so our babies have access to care.

>> And that's it. This is our contact information. We're happy to take any questions. We have a few minutes left. Yeah.

>> I'm actually a labor and delivery nurse that does newborn screening and one of the facilities babies would come back three to 5 days after discharge for repeat screenings so our families wouldn't have to travel because we have audiology access in Michigan so I don't know if that's something your facility or your organization has looked at providing that ‑‑ you know, you run into paying for it and the staffing and if you could work all of that, it may be easier for your families to do something like that.

>> Yeah, we actually do have several facilities that do that and it's really a facility by facility decision for the exact reasons you said, for the billing, staffing, all of that. For our facilities that contract with a third party most of those do provide that ability to come back, but we do have a handful of nursing screening facilities that also offer that. Yeah. Any other questions? Thank you all very much. We appreciate your attention.

[Session concluded.]

END TIME IN YOUR TIME ZONE – 11:22 AM (MT)

START TIME: 10:10 AM

END TIME: 11:22 AM