>> SPEAKER: Hi. So, it's 3:45. We're going to go ahead and get started. Um, hope everybody's feeling well and good and tired, at the last session of the conference. Yay. You're almost done. Um, but I am Mallory Minter-Mohr, and this is my, or our presentation on ensuring EHDI during times of crisis and the impact of existing health disparities. Um, so, some of our authors and presenters are here at the table, some of them are in the back there. I hit the wrong button. They said to hit that button. It did not work. There it is. Sorry.

(Laughing.)

>> SPEAKER: Um, these are all of our co-authors. This is our team. Um, so, as you can see, there's Ryan Harrison, Reena Kothari and, then, we also have Ursula Findlen, Gina Hounam, and Lisa Hunter, which most of you guys are back there. So, these are just our learning outcomes. I'll just briefly read them. So, participants, you should be able to list two major changes to Ohio's diagnostic scheduling procedure. That was mostly implemented during the COVID-19 pandemic. Participants will be able to identify health disparities in Ohio's EHDI loss to follow-up, the LTF view rates prior to the pandemic, and you'll be able to identify areas where health disparities improved, worsened, or stayed the same because of the diagnostic scheduling changes, and I will fully admit, our project has evolved significantly since we submitted all of this, so, they're a little bit different, but you should still be able to get these outcomes. So, this project idea kind of originated after working with this team, um, and with the COVID-19 pandemic response and the coach protocols impact, so, if you've been to the EHDI conferences over the past couple of years, you may have seen the other related projects and presentations on this. Um, so, we decided to, kind of, take this a step further and look at some more specific populations that, historically, we've seen health disparities in, with things such as timely care and our loss to follow-up. Um, so, the data that is utilized is our final, like, annual reports that we give to the CDC for the birth cohorts of 2019, 2020, and 2021. Um, so, the goals of the study is to examine the trends of confirmed diagnosis after screening referrals and age of diagnosis. So, some of the trends we examined for the three groups, um, that we consistently see these disparities for in EHDI follow-up and care, um, are mothers receiving Medicaid at the time of birth, um, WIC, and non-Hispanic black mothers, and we're going to, kind of, compare them to their respective private parts. So, private insurance recipients, um, those not receiving WIC, um, and non-Hispanic white mothers. So, we ended up looking at the mean age of diagnosis, um, for the hearing evaluation from 2019 to 2021 and comparing these populations. So, this first graph, um, I'm going to, quickly, transition to it, is just showing the increase in confirmed dieing nose from 2019 to 2021 for everyone, and I just, kind of, put some trend lines in there, um, for you, so, you can, kind of, see that children receiving a diagnosis by 3 months of age has started to increase before the pandemic and, even though there's that very obvious dip of the lockdowns, um, you can see that it still goes up, even after the pandemic, which is good. That's what we want to see. We want to see this one going up and, then, this next graph is, um, the mean age of confirmed diagnosis after that screening referral. So, this one, we want to see that trend line going down, because we want kids in sooner rather than later. So, again, we do see that hit of COVID where you see the big bounce up, but it's still, kind of, continuing going down. So, my big question that I asked afterwards is was this the same for these groups that we historically struggle to reach? So, this is the first group that I looked at, which was Medicaid versus that private insurance, and I'll throw in those pretty lines there again. So, this graph shows that change in the mean age of confirmed diagnosis between Medicaid and private insurance. So, I, kind of, threw in the little, the months with the stars, um, after them, that shows that there's a significant difference between the Medicaid and private insurance recipients. So, you can see, in 2019, sorry, in 2019, that there are quite a few, um, more significant, like, differences between the two populations, um, but you can see that, as time is going on, um, there's, kind of, this reduction in the gap between the two populations. So, regardless of the difference of these two groups, we do see that the mean age of diagnosis for children, um, on Medicaid has been decreasing since 2019, um, with the exception of, like, the first few months of the pandemic. So, in the beginning of 2019, you can see, also, that there's, roughly, maybe, a 20-day difference between the two groups in the trend lines, whereas, by the end of 2021, you can see, maybe, a 10-day difference in the average of those trend lines there. So, this graph is looking at, um, again, the mean age of confirmed diagnosis for screening after referral, but for families receiving WIC or those not receiving WIC. So, we don't see as many significant differences as we did with the Medicaid versus private insurance, but we can see that both receiving WIC and not receiving WIC families did trend downwards, so, reducing that time to the mean age of diagnosis for both groups. Um, again, in the beginning of 2019, we can see, maybe, like, a 10-day, um, rough difference between the two groups, um, whereas, at the end of 2021, it's, maybe, about 5 days. This graph is looking at that last comparison, it's the mean age of confirmed diagnosis after screening referral for non-Hispanic black mothers and non-Hispanic white mothers. So, again, we don't see as many significant differences as we did between the Medicaid and private insurance groups, but a few more than the WIC versus not WIC groups. We can see that both non-Hispanic black mothers and non-Hispanic white mothers are trending downward, reducing the time to the mean age of diagnosis for both groups. So, in the beginning of that 2019, you can see a little over 15-ish days of a difference between the two groups and, then, by the end of 2021, it looks like, maybe, roughly, 10 days. So, some of our key findings that I took away from this, um, is that, despite the COVID-19 disruptions to EHDI, Ohio has continued to see increases in confirmed diagnosis after screening referral from 2019 through 2020 and 2021. We continue to see an increase in diagnosis by 3 months of age, which is that one-three-six goal that we're always striving for, um, and we continued to see a reduction in the age of confirmed diagnosis overall, separate from that couple of months of the pandemic when it first hit. So, we saw faster decreases in age to diagnosis, um, we saw them present for families that pay for birth using Medicaid compared to private insurance, a faster decrease for families using WIC compared to not receiving WIC, and faster decrease for non-Hispanic black mothers versus non-Hispanic white mothers. Now, I'm going to turn it over to Reena Kothari to talk about some of the work that we've done here in Ohio that we think might be potential contributors to these reductions.

>> SPEAKER: Hi everyone. So, my job today is to talk about some of the underlying foundational collaborations that we've had in our state that may have contributed some of the factors that Mallory had mentioned today in her presentation. So, we have had, in our state, um, a number of community collaborations across the years and, particularly, I wanted to highlight something that's called the coach protocol. So, the coach protocol is a coalition, so, it stands for coalition of Ohio audiologists at children's hospitals and, what we did was, in 2013, we convened a group of Ohio audiologists from children's hospitals that came together to talk about what do we do for babies once they do not pass a newborn hearing screening and go for a diagnostic evaluation. From the, um, state EHDI program perspective, we were looking at what types of diagnostic results were coming in after a non-newborn passed hearing screening. So, the premise was to develop some standardized protocols that could be utilized in our state, spread across our state through the children's hospitals that were the majority of, um, the diagnostic sites where the babies who did not pass the newborn hearing screening were going, as well as include audiologists that were working in ENT practices or other outpatient diagnostic sites. So, our coach work group developed some standardized testing procedures, um, in 2013, and we looked at that standardized protocol and, what we did was we approached, so, I was also part of that group, we approached our state EHDI program, and I work in state EHDI, and our, um, infant hearing screening advisory committee and asked for those protocols that are standardized to be, um, to be recommended protocols as the baseline protocol for testing a baby that did not pass newborn hearing screening at the hospital. So, some of the foundational work that we did with, um, our coach audiology work group started in 2013 and also extended up until today, and I'm pleased to report that, um, even though we had some initial standardized testing protocols, we've been working with our audiology partners in our state just recently to revise those state-wide protocols and create even better protocols for better outcomes in terms of diagnosis of hearing loss and deafness even earlier and spreading that work across the state with our audiology partners, um, and others. So, when we talked about, um, some of the data that Mallory presented today, we also reconvened a smaller work group in 2020. This was after the pandemic began and, so, it was a small work group of some of the same people that were on the coach work group. When the 2020 pandemic happened, in our state, we were at a point of dyer straits. Our state had shutdown, our diagnostic sites were limited in terms of when they could see babies and families and, so, we convened this audiology work group in 2020, and our very first, um, business of order was to figure out what were we going to do with the babies who did not pass the newborn hearing screening, needed diagnostic follow-up, um, and there was limited availability. There was also parent concern in terms of we now have a pandemic, I have a baby who needs a diagnostic, I'm not comfortable going in, so, we developed some guidelines for COVID recovery and planning, as well as scheduling and triaging. Um, so, I already had spoke about this, and I didn't, um, forward my slides, so, please, forgive me. I'll take just a few seconds for you to look at the information, and I will forward. The interpreters are switching, so, I'll give them just a couple seconds. Thank you. Okay, um, so, in 2020, what we did was we established this work group, we used evidence-based practice, um, protocols to develop some guidance for COVID recovery and COVID, um, planning in terms of how are we going to recover from, um, the loss of the ability to have babies tested, um, meeting the one-three-six timelines, understanding that babies may not have been able to come in by their 3 months to get their diagnostic ABR, that those timelines may be extended, we might have late diagnoses that may occur because of this. So, this work group, their mission was to look at how do we have this recovery planning, scheduling, and triaging of babies that were born right before the shutdown, through the very early months of the pandemic and, then, beyond and looking at how do we accomplish this, as sites are closed or have limited availability for appointments and testing, how do we make families feel comfortable bringing their baby in and, then, how do we get this information reported to our state EHDI programs, so, again, we can make those referrals to early intervention and that the baby gets the services that they need, as well as the family. So, this is a quick look of our work group members and all the agencies represented. So, um, this is a quick snapshot. This document is available on our website and, if anyone would like a copy, you can reach out to any of us, and we'd be happy to send it. It's a few pages long, but this is just a quick snapshot of what we utilized in terms of triaging and scheduling. So, we had some priority timelines in terms of when to schedule these babies, once sites were opening back up and had the availability to see families, how would they schedule these, because, of course, there could be a rush of families trying to come in at the same time and, then, each site had to coordinate how they prioritize those babies that need testing and, um, need it sooner than later. So, we looked at creating this chart, and we shared it with our audiologists across the state and our diagnostic sites in terms of priorities for testing. We looked at the current age, um, in terms of taking that into account to schedule older infants first and, again, I want to highlight, this was for the pandemic time period. We also looked at the associated risk factors and, um, if they had additional risk factors, how to begin scheduling, as well as the laterality of the screening, if known. If it was unknown, we assumed that it was bilateral. So, how does this apply to those that are scheduling appointments? So, we shared this information with the diagnostic sites, but we also said please share this with your scheduling area. Some of the diagnostic sites have centralized scheduling, so we wanted to assure that this information was not only shared with the audiologists, but it was also shared with those who were scheduling these appointments, that these appointments could be scheduled timely and, so, families could come in. So, um, in summary, what I'd like to say is, um, some of the ongoing efforts that our Ohio EHDI program has had is these community-level collaborations. So, we've been working very strongly in our state with our community, with our pediatric audiologists, with various initiatives and work groups, we've utilized, um, small projects as QI initiatives to help with looking at some of our health disparities, um, Mallory spoke about some of those, we also had a project in Lucas County where we looked at some other, um, social determinants of health, and we looked at community-level collaborations. So, overall, we have had tremendous work being done, as a state EHDI program, working with our community-level partners, um, and ensuring that, you know, our work from the EHDI program can be spread with our community-level partners, so that the impact can be seen across the state, not only for the babies, but for their families, and that we have great outcomes.

>> SPEAKER: So, the very last thing is just my, um, acknowledging my limitations for this study. This only looks at families that actually received their diagnosis, so, this didn't take into account those that did not come in for their diagnosis. They are like loss to follow-up, they didn't come in for whatever reason. Um, so, and, then, another one is the true uptake of recommended guidelines is unknown and will be, kind of, a subject, hopefully, for future studies. So, next steps for, hopefully, myself is to examine these trends to see if these disparities just, kind of, keep persisting or, um, these trends keep persisting, um, or they begin to widen again and, then, also, to further examine possible reasons for the reduction in this time to diagnosis and this reduce disparities and, then, hopefully, we can also, possibly, get out there some kind of survey to providers, to see about the sustainability of the changes implemented based upon, like, the audiology work group and the coach protocols and, maybe, get some recommendations for better understanding changes made, um, across Ohio. This is the reference that we have in the, one of the slides, and this is our last slide. Thank you. We have 10 minutes left for questions and conversation, which I'm, hopefully, much better equipped at. This is definitely a work in progress.

(Applause.)

>> SPEAKER: I clapped for myself.

>> SPEAKER: Question for you. The disparities that you shared, were those the only ones that you watched or monitored or the only ones you chose to share?

>> SPEAKER: Um, those were the only ones that I checked into for the time being. I chose those ones specifically because, like, we've, historically, like, they've been big indicators of our loss to follow-up, like, they're the ones that are the hardest to, like, reach and get them to, kind of, come in at the same rate as everyone else, so, they were just ones that I had chosen, that I already saw gaps in. I do want to check into other groups and, you know, um, this is what I could check into with, like, the numbers that we have, because when you're looking at, I really wanted to look at, like, Hispanic mothers, but the numbers were just so small, I just couldn't make, like, the statistical comparisons for that, but, you know, we work with what we have, and it's, like, the birth data, oftentimes. Any suggestions for what to look at? Sorry, the microphone.

>> SPEAKER: I was just thinking if there was any way for, maybe, distance from where they were birthed or facilities or, you know, maybe, rural areas.

>> SPEAKER: Yes. So, region and county is, like, another suggestion for, like, next steps, it's just a lot, there's a lot of counties, the 88 counties in Ohio and various regions, so, that was just more than I had time to do before submitting all of this. Other questions or suggestions? Yeah?

>> SPEAKER: I'm just curious, do you know how it compares to pre-pandemic levels?

>> SPEAKER: Sorry, I didn't hear that.

>> SPEAKER: Sorry. Do you know how it compares to pre-pandemic levels?

>> SPEAKER: Oh, so, like 2018 and before?

>> SPEAKER: Yeah, those disparities, how they changed over time.

>> SPEAKER: Yeah, so, like, I put in 2019 to just, kind of, show the pre-pandemic, um, but I do, I didn't go that far back to 2018 or 2017, but I know, at least for the overall mean age of diagnosis, I know that started going down even before the 2019, but I didn't look at the health disparities quite as much.

>> SPEAKER: Thank you.

>> SPEAKER: Anything else? Okay. Well, thank you for coming and, hopefully, everyone has a good rest of their week and travel safely back home.

(Applause.)

>> SPEAKER: Thank you, and if you have a chance to go on the C-vent app and look at this session and click on that and then do the evaluation, that's really helpful. If you haven't had a chance to do the other evaluations, that's really helpful as well. Thank you.

(writer standing by.)