The Advisory Committee on Heritable Disorders in Newborns and Children

U.S. Department of Health and Human Services

Virtual Meeting

Day 1

Thursday, May 13

10:00 AM

Committee Members in Attendance

Mei Baker, MD

Professor of Pediatrics

University of Wisconsin School of Medicine and

Public Health

Co-Director, Newborn Screening Laboratory

Wisconsin State Laboratory of Hygiene

Jeffrey P. Brosco, MD, PhD

Professor of Clinical Pediatrics, University of Miami

Title V CYSHCN Director, Florida Department of Health

Associate Director, Mailman Center for Child

Development

Director, Population Health Ethics, UM Institute

For Bioethics and Health Policy

Kyle Brothers, MD, PhD

Endowed Chair of Pediatric Clinical and

Translational Research

Associate Professor of Pediatrics University

of Louisville School of Medicine

Jane M. DeLuca, PhD, RN

Associate Professor

Clemson University School of Nursing

Shawn E. McCandless, MD

Professor, Department of Pediatrics

Head, Section of Genetics and Metabolism

University of Colorado Anschutz Medical Campus

Children's Hospital Colorado

Cynthia M. Powell, MD, FACMG, FAAP (Chairperson)

Professor of Pediatrics and Genetics

Director, Medical Genetics Residency

Program

Pediatric Genetics and Metabolism

The University of North Carolina at Chapel Hill

Annamarie Saarinen

Co-founder

CEO Newborn Foundation

Scott M. Shone, PhD, HCLD (ABB)

Director

North Carolina State Laboratory of

Public Health

Ex-Officio Members in Attendance

Agency for Healthcare Research & Quality

Kamila B. Mistry, PhD, MPH

Senior Advisor

Child Health and Quality Improvement

Centers for Disease Control & Prevention

Carla Cuthbert, PhD

Chief

Newborn Screening and Molecular Biology Branch

Division of Laboratory Sciences

National Center for Environmental Health

Food and Drug Administration

Kellie B. Kelm, PhD

Director

Division of Chemistry and Toxicology Devices

Office of In Vitro Diagnostics and Radiological Health

Health Resources & Services Administration

Michael Warren, MD, MPH, FAAP

Associate Administrator

Maternal and Child Health Bureau

Ex-Officio Members in Attendance - continued

National Institute of Health

Melissa Parisi

Designated Federal Official in Attendance

Mia Morrison, MPH

Genetic Services Branch

Maternal and Child Health Bureau

Health Resources and Services Administration

Organizational Representatives in Attendance

American College of Medical Genetics & Genomics

Maximilian Muenke, MD, FACMG

Chief Executive Officer

Association of Maternal & Child Health Programs

Jed Miller, MD

Director, Office for Genetics and People with Special Care Needs

Maryland Department of Health Maternal and Child Health Bureau

Association of Public Health Laboratories

Susan M. Tanksley, PhD

Manager, Laboratory Operations Unit

Texas Department of State Health Services

Child Neurology Society

Jennifer M. Kwon, MD, MPH, FAAN

Director, Pediatric Neuromuscular Program

American Family Children's Hospital

Professor of Child Neurology, University of Wisconsin School of Medicine & Public Health

Department of Defense

Jacob Hogue, MD

Lieutenant Colonel, Medical Corps, US Army

Chief, Genetics, Madigan Army Medical Center

Organizational Representatives in Attendance - continued

Genetic Alliance

Natasha F. Bonhomme

Vice President of Strategic Development

National Society of Genetic Counselors

Cate Walsh Vockley, MS, CGC

Senior Genetic Counselor Division of Medical Genetics

UPMC Children's Hospital of Pittsburgh

Society for Inherited Metabolic Disorders

Georgianne Arnold, MD

Clinical Research Director, Division of Medical Genetics

UPMC Children's Hospital of Pittsburg

C O N T E N T S

P R O C E E D I N G S

WELCOME, ROLL CALL, OPENING REMARKS, COMMITTEE BUSINESS

Cynthia Powell:

Good morning. I'd like to call to order the second meeting in 2021 of the Advisory Committee on Heritable Disorders in Newborns and Children. Welcome. I'm Dr. Cynthia Powell, Committee chair. We'll first begin by taking role.

Cynthia Powell:

Kamila Mistry.

Kamila Mistry:

Here.

Cynthia Powell:

Mei Baker.

Mei Baker:

Here.

Cynthia Powell:

Jeff Brosco.

Cynthia Powell:

Kyle Brothers.

Cynthia Powell:

Jane DeLuca.

Jane DeLuca:

Here.

Cynthia Powell:
Carla Cuthbert.

Carla Cuthbert:
Here.

Cynthia Powell:
Kellie Kelm.

Kellie Kelm:
Here.

Cynthia Powell:
Michael Warren.

Michael Warren:
Here.

Cynthia Powell:
Shawn McCandless.

Shawn McCandless.:
Here.

Cynthia Powell:
Melissa Parisi.

Melissa Parisi:
Here.

Cynthia Powell:
Cynthia Powell. I'm here. Annamarie Saarinen.

Annamarie Saarinen:
Here.

Cynthia Powell:
Scott Shone.

Scott Shone:

Here.

Cynthia Powell:

We'll now go on to the organizational representatives. From the American Academy of Family Physicians, Robert Ostrander.

Robert Ostrander:

Here.

Cynthia Powell:

American Academy of Pediatrics, Debra Freedenberg.

Cynthia Powell:

American College of Medical Genetics. Maximillian Muenke.

Maximillian Muenke:

I'm here.

Cynthia Powell:

American College of Obstetricians and Gynecologists, Steven Ralston. Association of... Did I hear Steven?

Cynthia Powell:

Okay.

Cynthia Powell:

Association of Maternal and Child Health Programs, Jed Miller.

Jed Miller:

Here.

Cynthia Powell:

Association of Public Health Laboratory, Susan Tanksley.

Cynthia Powell:

Association of State and Territorial Health Officials, Chris Cuss.

Cynthia Powell:

Association of Women's Health, Obstetric, and Neonatal Nurses, Shakira Henderson.

Cynthia Powell:

The Child Neurology Society, Jennifer Kwon.

Jennifer Kwon:

Here.

Cynthia Powell:

Department of Defense, Jacob Hoag.

Jacob Hoag:

Here.

Cynthia Powell:

Genetic Alliance, Natasha Bonhomme.

Natasha Bonhomme:

Here.

Cynthia Powell:

March of Dimes, Siobhan Dolan.

Cynthia Powell:

National Society of Genetic Counselors, Cate Walsh Vockley.

Cate Walsh Vockley:

I'm here.

Cynthia Powell:

Society for Inherited Metabolic Disorders, Georgianne Arnold,

Georgianne Arnold:

Here.

Cynthia Powell:

I'm now going to turn things over to our designated federal official, Mia Morrison.

Debbie Freedenberg:

This is Debbie Freedenberg. I'm here too, I don't know if you can hear me.

Cynthia Powell:

Now, we can Deb. Thank you.

Debbie Freedenberg:

Okay, thanks.

Mia Morrison:

And can you advance to the next slide please? Thank you. So I have standard reminders to the Committee that I would like to go over. I want to remind the Committee members that as the Committee, we are advisory to the Secretary of Health and Human Services, not the Congress. For anyone associated with the Committee or due to your membership on the Committee, if you receive inquiries about the Committee, please let Dr. Powell and I know prior to committing to the interview. I also must remind Committee members that you must recuse yourself from participation in all particular matters likely to affect the financial interests of any organization with which you serve as an officer, director, trustee or general partner, unless you are also an employee of the organization, or unless you've received a waiver from HHS authorizing you to participate. When a vote is scheduled or an activity proposed, and you have a question about potential conflict of interest, please notify me immediately. Next slide, please.

Mia Morrison:

According to FACA. All Committee meetings are open to the public. If the public wish to participate in the discussion, the procedures for doing so are published in the federal register and/or announced that the opening of a meeting. For this main meeting in the federal register notice, we said that there would be a public comment period. Only with advanced approval of the chair or designated federal official, public participants may question Committee members or others present. Public participants may also submit written statements. Also, public participants should be advised that Committee members are given copies of all written statements submitted by the public and we do state this in the federal register notice, as well as the registration website, that all written public comments are part of the official meeting record and are shared with Committee members. Any further public participation will be solely at the discretion of the chair or the DFO. Are there any questions? And hearing none, Dr. Powell, I'll turn it back over to you.

Cynthia Powell:

Thank you, Mia. May I have the next slide, please. I'd now like to go over a few items of Committee business. First, I'd like to inform the Committee that in April, HRSA received a nomination package for Guanidinoacetate Methyltransferase Deficiency, one of the cerebral creatine deficiency syndromes, which was first nominated to the advisory Committee in November 2015. HRSA is in the process of conducting the initial review for completeness, and we'll keep the Committee informed of next steps. Next I'd like to discuss an update on the review of the evidence review process. Beginning in February of 2019, the Committee initiated a review of its evidence review process. Over the past three meetings, the Committee has continued this effort and gathered important input on potential updates to the nomination process, decision matrix, and review of current RUSP conditions. At the February 2021 meeting, I informed the Committee that I will convene a small

workgroup to synthesize all of the discussions we have had and summarize the updates to condition review process.

Cynthia Powell:

The individuals selected to serve on the workgroup are our immediate past chair, Dr. Joseph Bocchini, Committee members, Dr. Jeff Brosco, Dr. Kamila Mistry, Annamarie Saarinen and Dr. Scott Shown and former committee members, Dr. Sue Berry, Dr. Ned Calonge and Dr. Beth Tarini. Thank you to those individuals for agreeing to serve. As a reminder for groups that may be in the process of developing condition nomination packages, the new processes will not go into effect until the beginning of calendar year 2022. If your organization is working on a condition nomination package, and you are planning to submit in early 2022, please contact the Committee's designated federal official, Mia Morrison, who can provide you with additional guidance. Both Mia and I are available to provide technical assistance to nominators, and that's the contact email for Mia. Next slide, please.

Cynthia Powell:

Thank you. Committee members and organizational representatives for reviewing the February 2021 meeting summary, we received edits to the Committee discussion of evaluating conditions on the recommended uniform screening panel. The revised meeting summary was included in the Committee's final briefing book and also updated recently. Are there any additional corrections before the Committee votes?

Cynthia Powell:

Hearing none, may I have a motion to approve the minutes for February 2021?

Kyle Brothers:

This is Kyle Brothers, so move.

Cynthia Powell:
And a second?

Scott Shone:
This is Scott Shone, I second.

Cynthia Powell:
All right, we'll now take a vote on approval of the February 2021 meeting minutes.

Cynthia Powell:
Mei Baker.

Mei Baker:
Approve.

Cynthia Powell:
Jeff Brosco.

Jeff Brosco:
I approve.

Cynthia Powell:
Kyle Brothers.

Kyle Brothers:
Approve.

Cynthia Powell:
Carla Cuthbert.

Carla Cuthbert:
I approve.

Cynthia Powell:
Jane DeLuca.

Jane DeLuca:

Approve.

Cynthia Powell:
Kellie Kelm.

Kellie Kelm:
Approve.

Cynthia Powell:
Shawn McCandless.

Shawn McCandless.:
Approve.

Cynthia Powell:
Kamila Mistry.

Kamila Mistry:
Approve.

Cynthia Powell:
Melissa Parisi.

Melissa Parisi:
Approve.

Cynthia Powell:
I approve, Cynthia Powell.

Cynthia Powell:
Annamarie Saarinen.

Annamarie Saarinen:
Approve.

Cynthia Powell:
Scott Shone.

Scott Shone:

Approve.

Cynthia Powell:

Michael Warren.

Michael Warren:

Approve.

Cynthia Powell:

So the minutes are approved. May I have the next slide, please?

Cynthia Powell:

The Committee will meet today from 10 o'clock to 1:45 PM Eastern time. At the February meeting, we had a panel on continuity of operations planning, within the context of the COVID-19 pandemic and unfortunately, we didn't have enough time for discussion. Given that this is such an important topic, I've invited the panel back to finish this conversation. After the COOP panel, we will hear from the Association of Maternal and Child Health Programs on their newborn screening telehealth activities, conducted through coronavirus aid relief and economic security act, or the CARES act funding. Afterwards, the Committee will receive public comments from nine individuals. Our first group of public commenters will provide statements on the nomination of Mucopolysaccharidosis Type II or MPS2 to the recommended uniform screening panel. They are Dr. Matthew Ellinwood, on behalf of the national MPS society, Dr. Joseph Muenzer, Dr. Barbara Burton, Dr. Mike Hu and Ms. Cory Blain.

Cynthia Powell:

Afterwards, we will hear from Niki Armstrong from parent project muscular dystrophy on the Duchenne muscular dystrophy, New York state pilot, and the initiation of compiling a RUSP nomination package. Dylan Simon will give an update on the every life foundation for rare diseases, state newborn screening

policy initiatives. Our last public comment will be from Dean Suhr president of the MLD foundation, who will update the Committee on their involvement with the screen plus program and preparations to develop a RUSP nomination package for metachromatic leukodystrophy. At approximately 12:15 PM, the Committee will break for lunch. When we reconvene the nomination and prioritization workgroup, will present an overview of the nomination package from mucopolysaccharidosis two, and provide their recommendation for whether or not MPS2 meets the criteria to move to a full evidence review. Following the nomination and prioritization workgroup presentation and Committee discussion, the Committee will hold a vote on whether or not to move MPS2 forward to full evidence review.

Cynthia Powell:

Please note that this is not a vote to recommend MPS2 for addition to the RUSP. After the Committee votes, we will end for the day and reconvene tomorrow, Friday, May 14th from 10:00 AM to 1:25 PM, Eastern time. Next slide, please. Tomorrow we will begin with an overview of the national survey of children's health data. This will be followed by a special public comment period on the review of the evidence review process, which encompasses potential updates to the condition nomination forum, newborn screening decision making, and the decision matrix. Our final session of the May meeting will be a panel on the newborn screening, short- and long-term followup workforce. I'll now turn it back over to Mia.

Mia Morrison:

Thank you, Dr. Powell. I'm going to go over some webinar participation instructions. For members of the public, your audio will come through your speakers, so please make sure to have your computer speakers turned on. If you cannot access the audio through your computer, you may dial into the meeting using the telephone number in the email with your Zoom link. For

Committee members and organizational representatives, audio will come from your computer speakers as well, and you will be able to speak using your computer microphone. If you cannot access the audio or microphone through your computer, you may also dial into the meeting using the telephone number in the email with your user specific Zoom link.

Mia Morrison:

Please speak clearly and remember to state your first and last name to ensure proper recording for the Committee transcript and minutes. The chair will call on Committee members first, followed by organizational representatives. In order to better facilitate the discussion Committee members and organizational representatives should use the raise hand feature when you would like to make comments or ask questions. Simply click on the participant icon and choose raise hand. Please note that depending on your device or operating system, the raised hand feature may be in a different location. To troubleshoot, please consult the webinar instructions page in your briefing book. Next slide, please. To enable closed captioning, please select the closed captioning icon from your Zoom task bar, and then from the menu that appears, select show subtitles. Thank you, and Dr. Powell, I'll turn it back over to you.

CONTINUITY OF OPERATIONS PLANNING (COOP) AND COVID-19: COMMITTEE DISCUSSION

Cynthia Powell:

Thank you, Mia. May I have the next slide, please? As the pandemic continues, we're acutely aware of its impact on newborn screening in ways that we never believed were imaginable. At times, compounded by other natural disasters, state programs have faced strains, including prolonged shortages of critical supplies and staff reassignment. As I mentioned in my opening remarks, this session is a continuation of the

discussion we began in February of this year. In February, the panel representing state programs from Texas, North Carolina, New York, and North Dakota provided the Committee with information on the national newborn screening contingency plan and lessons learned from an acting continuity of operations plans during the pandemic and Hurricanes Katrina and Sandy.

Cynthia Powell:

Today, I have asked the same panel to join us once again, so that we can have time for questions and discussion. Before we begin, I would like to briefly re-introduce our speakers, Dr. Susan Tanksley is the APHL organizational representative and the laboratory operations manager in the laboratory services section of the Texas department of state health services in Austin. She manages the day-to-day operations of Texas public health laboratory, which encompasses the state newborn screening, clinical chemistry, microbiology, environmental chemistry, and emergency preparedness laboratories.

Cynthia Powell:

Dr. Scott Shone, a current Committee member is the director of the North Carolina state laboratory of public health. He is a board certified, high complexity clinical laboratory director trained in molecular microbiology and immunology. Dr. Shone spent nine years as the director of the newborn screening laboratory for the state of New Jersey. During his tenure, the program expanded screening from 20 to 55 disorders and maintained essential services during multiple states of emergency.

Cynthia Powell:

Dr. Michele Caggana is the deputy director of the division of genetics, chief of the laboratory of human genetics and the director of the newborn screening program in New York. She is board certified in clinical, molecular genetics by the American board of

medical, genetics, and genomics, and a fellow of the American college of medical, genetics, and genomics. She is the chair of the APHL newborn screening committee and a member of the national advisory child health and human development council.

Cynthia Powell:

Joyal Meyer has worked at the North Dakota department of health since November 2011 and has served as the director for the North Dakota newborn screening and follow-up program since January of 2015. Joyal has experienced working with the maternal and child health population in the optimal pregnancy outcome program and the coordinated school health program. She has worked in both the hospital in clinic setting with the prenatal population and provided nursing care to mothers and their newborns following birth. I'm now going to turn the floor over to Dr. Tanksley.

Susan Tanksley:

Good morning. Can you hear me fine, Dr. Powell?

Cynthia Powell:

Yes. Thank you.

Susan Tanksley:

Great, good morning, everyone and thanks so much for giving us a little more time this morning, to be able to answer any questions that you might have or any comments. We just wanted to give you a brief overview and some of our take-home points from our presentation three months ago. So next slide please.

Susan Tanksley:

Okay, so I presented an overview of COOP planning in newborn screening and gave some background on Hurricane Katrina and Hurricane Sandy, and how the newborn screening programs operated during that time. In addition, I gave an overview of the impact of COVID via the survey results that APHL had given. Just a

reminder, for mine emergencies, they come in all shapes and sizes for newborn screening, an emergency is anything that causes a delay in our processes because the ultimate need is to get the babies diagnosed in on treatment.

Susan Tanksley:

Every newborn screening program needs a continuity of operations plan and every time we have an emergency, we have to learn from that emergency and incorporate that into our plans and newborn screening is a system. It's not just the programs that need to have continuity of operation plans, but all of the entities who are part of that system, we must have plans. We must exercise them and of course we have to update them once faced with another emergency. Dr. Michele Caggana talked about her experiences during the, well we're still in COVID-19 pandemic, but how the New York newborn screening program has reacted, the challenges that they've faced and how they've overcome some of those challenges. Some of her take-home points were that we must maintain communication with all members of the newborn screening system, and we have to be really flexible and prepared to pivot to operate during those emergencies.

Susan Tanksley:

Next slide, please. Joyal Meyer spoke about North Dakota and the unique challenges, the unique situation in a very rural state. They outsource their newborn screening to Iowa and so they face unique challenges and although not all states have newborn screening programs, each state doesn't have a newborn screening lab, each state does have a newborn screening program, and we all have to be prepared regardless of that situation. So, she relayed some of the unique needs from the regional lab perspective and those needs for contingency planning. Then Scott Shone talked about the newborn screen com plan, its history, and the revision that he was a part of. In addition, he talked about

North Carolina and some of their issues during the pandemic.

Susan Tanksley:

Just to reiterate some of the points of the newborn screening com plan is due for an update, it's past that five-year or right at it at this point. We need funding to develop resources, to support states and to build the infrastructure that's needed to maintain operations and now more than ever, we need a systematic approach and solutions. So, we welcome your questions, and we thank you so much for this time this morning.

Cynthia Powell:

Thank you, Dr. Tanksley. Committee members will discuss first followed by organizational representatives. As a reminder, please use the raise hand feature in Zoom when you would like to make comments or ask questions. When speaking, please remember to unmute yourself and state your first and last name, each time you ask a question or provide comments to ensure proper recording.

Cynthia Powell:

Okay, I'll get things started. This is Cynthia Powell. What current challenges are facing our newborn screening labs, since we last discussed this, other than the ones that you've had a chance to review for us this morning, but are there any new things? I've heard about some equipment challenges.

Susan Tanksley:

Hi, Dr. Powell, this is Susan Tanksley. The biggest challenges that we're facing right now in Texas, is the continued supply shortages. So pipette tips continue to be an issue, anything made of plastic can be an issue at this point. In addition, we are facing some unique reagent shortages as well. It's been really hard lately for us to get some of the chemicals that are needed. So luckily, we have been able to acquire some of those,

but I think I mentioned in my talk last time, that we used to try to keep a three-month buffer on everything and now we get down to a few days and we get really, really nervous.

Michele Caggana:

Hi Dr. Powell.

Cynthia Powell:

Yeah, go ahead, Michele.

Michele Caggana:

This is Michele Caggana. I would echo that we've had issues with getting down, as you said, we'd like that cushion, particularly in light of changing budgets when the new fiscal year starts, and we have been down to four weeks supply on some tips. Luckily the community has helped, and we've been able to manage, but I think that's one of the major things. Then the other thing, that programs, at least I've heard, is the workforce issues with some attrition and inability to hire people and people being pooled for other activities as well, thank you.

Cynthia Powell:

And any new challenges regarding the turnaround time, receipts of specimens, that type of thing?

Michele Caggana:

This is Michele Caggana again. We have experienced some delays still with our couriers and also the regular mail. They're ongoing and I think they're a little bit better than they were early on, but still we have delays in specimens. At sometimes we've changed our operations, such that we're able to get everything screened and get things potentially called out as emergencies the same day that we received them to eliminate that gap.

Joyal Meyer:

Good morning, Dr. Powell, this is Joyal Meyer. As far as North Dakota, we really haven't seen a delay in courier services and screening and everything. We are able to report out time-critical results, still in a timely manner, less than five days and often it's usually by day three of life. So even though we outsource our newborn screenings to Iowa, and there's still that transportation, we haven't really seen an impact. So,

Cynthia Powell:

And Scott Shone, you had a comment.

Scott Shone:

I raised my hand, not knowing if I need to follow those directions or not, Dr. Powell, but good elementary school education, New Jersey. So, I echo everything Susan and Michele said about supply chain, and I think that I want to acknowledge a couple of quick things. There was a news article related to the pipette tip shortages, and HHS did provide a prioritization letter through APHL to all newborn screening labs across the country to use with vendors, to prioritize pipette tip distribution to them, and so I want to acknowledge APHL's work and HHS on working with us to get that accomplished. So, I think that's a great example of partnerships necessary to get through these. I also want to highlight something Michele just said, and I think it passed real, real fast and she almost said it as it's just standard operating procedure, which is we adjusted operations so that it accommodates the delays, right?

Scott Shone:

So the newborn screening program, again, I think the presentations three months ago, highlighted that, that the programs labs and follow up, continue to adapt to the changing scenarios around us and it stresses the need that Susan mentioned of really coming up with a systematic view and approach, of how the system needs

to work together to address these, not that the program continues to share the burden of solving when something in the system breaks down. So, whether you're relying on UPS, FedEx, or USPS to get samples in or something to that effect, I think we need to really, I think as a Committee need to realize that there has to be a broader approach. The com plan version two talked about it, but as part of that process to develop the version two, I think that there has to be more and so we developed a plan and as Susan said in her slides, we now need to exercise and bring all those system partners into the fold, to then test it.

Scott Shone:

Because I would honestly say that probably most of them don't realize that they have an integral role in that continuity and V3, which I would recommend that the Committee begins to push forward that HRSA identify partners to work on com plan V3, also includes an active exercise component across the country and even whether it's with our RGNs, our regional genetic networks, or another mechanism to begin to exercise these. So, all the system partners, whether it's obstetricians, pediatricians, family physicians, hospitals, couriers, all begin to engage in those system-wide exercises.

Cynthia Powell:

Dr. Caggana.

Michele Caggana:

I'll just piggyback on that too. I think one of the things that would be is really important, it would be helpful for programs is actually to, in addition to updating the com plan and also disseminating it, I think this sort of constant testing the whole system, and we need to bring that more into the forefront. I think as you've heard Newborn Screening Programs and labs have a long history of making do and managing whatever's thrown at us. And I think we almost need a

social media campaign to talk about the system and that when we have a COOP plan that we continuously update it, that we do active exchanges. We actively test the plan and not make it a back burner thing that we'll do someday when we have time. Because that's typically how COOP plans is. It's like, "Oh yeah, we got to look at the COOP plan, let's do it." And then you do it. But I think we need a constant PDSA cycle so that we routinely test it and incorporate these different challenges. The other thing that I thought about was that we really need an inward reflection from the program, the departments of health, and also some external stakeholders.

Michele Caggana:

And I think we really need to publish and share lessons learned because APHL did a really good job of, in real time helping us manage the things that we were dealing with and getting that letter was a big coup for us. And it was very extraordinarily helpful. But I think now we have to take a step back and reflect and we have to actually write up the solutions that we came up with so that the next time people can take advantage of those. And one way I think we can do that is by having COOP experts actually help us in embedding in programs, so that a COOP expert would be someone who would be just focused on helping the state, get all of that together, gather all the resources that they need and really working with the program to learn their system, their department. So that we would have a good plan that was unique to our needs when that person went back or visited the next State. So that's just some thoughts that we came up with as a group and that we put together. Thank you.

Cynthia Powell:

Thank you. Any other questions or comments from Committee members or organizational representatives? Deb, I see your hand up. We can't hear you though, you have to unmute.

Debra Freedenberg:

Sorry. I don't have a raise hand function, apparently. What I just wanted to add is that as a system, many components of the Newborn Screening system have their own COOP plans, the hospitals all have their own COOP plans. Pediatrician's offices have their own COOP plans, but what we're really lacking is integration with the Newborn Screening. All of the various systems and components of the system to have one integrated plan for newborn screening, and I think that would be extraordinarily helpful. And presiding in Texas as Dr. Tanksley can say, we face multiple disasters at the same time. And it was extraordinarily helpful to know that we had done some planning, but it didn't carry us all the way through, and adaptability and things we hadn't even anticipated came up. So, I really think that, and feedback from various parts of our system became extraordinarily important. So, I really think that integrating all of the COOP plans that are out there that are impacting Newborn Screening would be a very useful exercise for Newborn Screening and more than an exercise really, a very useful plan to have in place.

Cynthia Powell:

Shawn McCandless?

Shawn McCandless:

Thank you. Actually, my comment, I think follows naturally from what Dr. Freedenberg just said. Which is, I'm wondering if there's an opportunity here for some regional cooperation and regionalization of these plans and I'm just curious what that might look like from the laboratory directors who've spoken already.

Scott Shone:

So I don't know Susan, if you want, I can take a quick stab at this. I think regionalization is beneficial to help bring resources together, to exercise and think through the plans. The only challenge with

regionalizations is depending upon what the situation is that requires initiation of a COOP could be impacting that same region, such as a hurricane or a super-storm that hits multiple states. And so, I think that what is necessary, Shawn is, regionalization would certainly benefit working together to think through these ideas and also identify ways that if certain things happen, who the partners are. I thought about this a lot over the last several months.

Scott Shone:

And I don't know that anybody really thought about how widespread, before this happened, the pandemic would be where everybody's looking for all the same things at the same time and every system, forget newborn screening system, but every system was impacted in life. So, I think that what we're proposing is more so of making sure that there's still generalized integration across these and regionalization might be an initial approach to get at that. I know it helped when I was in Jersey, when we had the NYMAC region come together. And we just started doing the same thing in the southeast with some of our COOP plannings--not newborn screening--but it has helped us begin to have those discussions and talk about exercising.

Cynthia Powell:

Carla Cuthbert?

Carla Cuthbert:

Hi. Yes, this is Carla Cuthbert from CDC. And I just like to just mention again, responds to what Michele and Scott were just saying, the importance of being able to have relevant bench-top exercises and have a coordinated approach across the programs. Ironically, I believe it was something that we've been talking about, I believe at one of our APHL meetings, just prior to everything happening with COVID-19 last year. And again, internally we had been looking at and having some initial discussions with APHL about what it would

mean to be able to recreate some kind of COOP, a series of exercises and engaging with our CDC center for our preparedness response. About what it would take to make sure that there were appropriate agency support for newborn screening, which needs to continue during instances like these. And of course, COVID happened, which really decimated every single program and all aspects of activity.

Carla Cuthbert:

And so, things were halted to some extent, but I do agree that there needs to be some refocus on what needs to be done here. I certainly would like to make sure that we can work with agency experts in being able to lead on what needs to be done during these periods of time. I believe when we discussed this with APHL, we discussed having some level of periodicity with respect to evaluating critical States, who would become almost the recipient States for materials, if there was a single isolated issue and just to see how that would work. So that's certainly something I think that we need to engage again, certainly will be able to do this with the support of APHL and their activities, happy to work with HRSA in any way, but certainly take advantage of a lot of the internal expertise that we have within our agency.

Cynthia Powell:

Georgianne Arnold?

Georgianne Arnold:

For the States that distribute medical food or formula, has this plan discussed contingency for that?

Cynthia Powell:

Does anyone want to comment on that?

Scott Shone:

I'll just comment from... The national contingency plan does describe the need to continue these services and

does spell out, I don't remember the term, I don't have the COOP plan in front of me, but owners for different pieces and talks about organizations. But I think that question cuts at the heart of, do those people know that they've been somewhat designated as responsible within the states or nationally to help maintain that. And then is that even part of routine exercises? So I know there's others with their hands up, but I'll try to bring up the COOP plan Dr. Powell, to see if I can specifically point to that for reference after the next people have the chance to speak.

Cynthia Powell:

Okay. Joyal Meyer?

Joyal Meyer:

Hi, Joyal Meyer here. As far as the medical foods, we do have medical foods on hand, as far as formula, that we can provide in case of emergency. We do directly order them from the company now, so that they actually go to the family's house. And so we do have that, but we do not currently have a COOP plan in North Dakota. But my comment was going to be to the regional genetic groups, that if we do a regional approach for developing contingency plans, just encourage you to allow some flexibility. Just for the instance that in North Dakota, we outsource our specimens to Iowa, and Iowa provides services to North Dakota, South Dakota, Iowa, and then they also process Alaska, but Alaska is not in our regional network for the regional genetic Cooperatives. So we're in the Heartland region. And so just allowing that flexibility to allow other States to participate in something like that would be important as well.

Cynthia Powell:

Thank you. Natasha Bonhomme?

Natasha Bonhomme:

Hi, Natasha Bonhomme. Really building off of the question that was just asked. Our part... How are you planning on distinguishing where there are those handoffs when we go into treatment? We're obviously just talking about medical foods, but that may look different for all the different ranges of conditions that we are screening for who need different types of treatment. So, I'm just trying to think where does that piece fit in, in the COOP plan when we're thinking about newborn screening as a system. Or is that part of the work that you all are somewhat in envision as that next iteration of what does COOP planning look like now. Similar to what Michele was presenting or speaking to, in terms of what could be possible if there was more funding.

Susan Tanksley:

Hi, this is Susan Tanksley. I think that that is part of what we have to build. As Dr. Freedenberg pointed out, all the parts have COOP plans, but really the, how do we work together part, most of those conversations I would say, haven't happened. When you're faced with the emergency, you make the communications and you try to get the word out as to what your needs are and try to address the needs you've heard, but it would be so much better to have those conversations ahead of time. And try to determine whose responsibility is what, in each of those situations.

Cynthia Powell:

Scott, did you find your reference there?

Scott Shone:

The page just loaded, so give me a second.

Cynthia Powell:

Okay. Lets see, Michele Caggana?

Michele Caggana:

Hi, Michele Caggana again. When we were early March faced with what was happening, we did talk to all of our providers about what their charges were going to be from their hospital perspectives and how they would manage patients. Because we were hearing that a lot of the pediatric offices and the specialty care centers were closing. So, they really quickly put together a telehealth model that actually worked quite well. And to that ends APHL and a group of us put together a nice document on all of the telehealth solutions that were implemented within the newborn screening system. And that included not only the lab but follow-up and also the outside providers. And it's a system that actually worked quite well.

Michele Caggana:

Obviously, the things you can't do is a physical exam and that thing, but you really can help parents with genetic counseling, give them information about the condition, give them information about the food, see how the child's doing, and that actually seemed to work. And it's something that we really hope within the Newborn Screening community will continue beyond now. Because it's about access, it's about convenience for parents. It's less time off work. There's so many benefits to that, that we really hope that there is some kind of global move to keep the things that happened with tele-health, the relaxations in place, because it really seemed to help families out a lot.

Cynthia Powell:

Well, that will lead very well into our next presentations. I see three raised hands, so we'll take these three and then I think we need to go onto our next topic. Robert Ostrander?

Robert Ostrander:

There we go. Robert Ostrander, AAFP. I just think we need to explicitly highlight one real threat that could exist from failure to integrate both vertically with

the pediatric offices and the hospitals and the health systems, but also integrate across public health systems. And that is the threat of hoarding. If you look at what's happened in the public sphere, recently with gasoline and at the beginning of the epidemic with toilet paper. And then I hear the labs telling me we we're down to a week supply of pipettes and this and that and the other. And I fear that if various aspects of the system remain siloed like this, there really would be a potential for hoarding that would aggravate the shortages. And by integrating, that might mitigate that. I think it's worth explicitly seeing that as a threat, on the other hand, acknowledging how [inaudible] how cooperative people were with sharing things during this last crisis. But I don't think we can take that as a given.

Cynthia Powell:

Scott Shone?

Scott Shone:

So, I love that point. I agree as someone who just had to drive to six different gas stations in North Carolina, Raleigh-Durham area, to find gas. Only to see people filling up gallon containers in the back of their pickup truck. I agree about hoarding, and I acknowledge what you said at the end there, Dr. Ostrander in terms of people stepped up during the middle of this, labs were sharing, there was a lot of benevolence but relying on that won't always I think, play out. So, I agree 100% with what you just said. And Dr. Powell, so I found this, if anybody is looking. Appendix A of the national Con plan version two lays out what's called the contingency planning checklist framework, and it goes over the strategic objectives and then the sub objectives. And talks about what activities need to be in place, what resources are available to assure those activities, and then the responsible entities.

Scott Shone:

So, with respect to medical formula, there is a... Under strategic objective A, which says availability of treatment and management resources. A2 says, infants with diagnoses receive appropriate multidisciplinary services through established medical homes. And then it talks about a variety of activities, including facilitating access to medical foods, pharmaceuticals and devices. Points to resources such as WIC, Family Voices and health insurance, metabolic centers, metabolic food vendors, pharmaceutical vendors, and puts responsible entities on Newborn Screening, EHDI, MCH, Title V, as well as the local departments, newborn screening, follow-up coordinators, health care providers, local pharmacies, medical food manufacturers, NGOs, and emergency management.

Scott Shone:

So not the level of specificity that I think this recent experience has shown is necessary. So I think as I said, in my presentation, I think Con plan V2 was built on a really strong foundation of the first version. And we as a newborn screening system would benefit from gathering together, now that we're on the five-year anniversary of this and quite serendipitously coming out of an internationally traumatic event, that required us to think about emergency preparedness, to take this strong first floor and build multiple floors upon it. So that's my take.

Cynthia Powell:

Thank you. Jeff Brosco you had your hand raised before, but.

Jeff Brosco:

Yeah. So, Michele started to answer my question and I'll let you decide Dr. Powell, if you think we should... I'm just wonder if the panel is going to comment on what they learned from the pandemic that helps, that was positive and said, "Oh, we've been

doing it this way. We don't have to do it that way anymore. And this will make our lives easier and better for families in the future." You mentioned telehealth. I wonder if there are any other things that were positive about this experience in the last year.

Cynthia Powell:

Anyone want to comment?

Susan Tanksley:

Right. So, this is Susan Tanksley and thank you for that question. We quickly had to adapt and try to figure out how we would do things differently, how we would sustain our staff and keep them safe and be able to maintain operations. And so, we found some efficiencies. Michele talked about adapting and figuring out how to do some things faster. We found efficiencies in the system that we will be able to maintain going onward that may make our jobs easier. And honestly, the push to require us to integrate tele-health is going to be a huge, huge bonus moving forward. We've literally run out of space and so for some positions that don't have to be in the lab daily, that will be helpful to be able to have people be productive and work from home.

Susan Tanksley:

It's also less stressful if people don't have to try to venture through the Austin traffic on a daily basis, just to have a little bit of work-life balance to add that in, even if it's only on occasion. I think those are just two of the things that'll be really helpful moving forward.

Cynthia Powell:

And Michele Caggana, we'll let you have the last word.

Michele Caggana:

Thank you, this is Michele Caggana. I think one of the major things that we learned was we were able to

streamline our reporting. We also were able to get almost everyone as you said, access via VPN so that they're actually sitting at their desk. And that actually includes lab staff who are able to go into the actual instruments, pull the data, analyze it, quickly give a call back to Follow-up, who also were remote. Our phone centers were set up so that the Follow-up staff could call in on their own cell phones, as if they were sitting at their desk as well. And in Follow-up, we actually were able to reduce paper. And so having staff at home who actually could check instruments actually allowed us to report out time critical results, even quicker, because they could peak after hours and see if there was anything abnormal.

Michele Caggana:

And then first thing in the morning when the pediatric office opened, we'd be ready to call those out. So, I think the major things we learned were the efficiencies with the reduction in paper, and the ability of most of our staff to be able to learn how to remote in and do their duties remotely to speed up our processes. Again, to alleviate the delivery systems were hard hit because the quarantines, and so there were a lot of delays upfront. And so, we were able to ameliorate all of that with these new tools that we hope we can keep. Thank you.

Cynthia Powell:

Great, thank you. Thank you all for your presentations back in February and your summary of things today. And we look forward to knowing how the Committee can help support this very important effort. I think just relaying all of the lessons learned during this pandemic, which as we know, is still ongoing, will be critical for the newborn screening system.

ASSOCIATION OF MATERNAL & CHILD HEALTH PROGRAMS (AMCHP): CORONAVIRUS AID, RELIEF, AND ECONOMIC SECURITY (CARES) ACT - NEWBORN SCREENING TELEHEALTH ACTIVITIES

Cynthia Powell:

Next, I'd like to let us go on to hearing an overview of the association of maternal and child health program, Newborn Screening tele-health services and activities. Before we begin, I'd like to introduce our panelists. Sabra Anckner is the associate director of clinical and community collaboration at AMCHP. Prior to her work at AMCHP, she managed Alaska's Newborn Bloodspot Screening program and Title V, Infant Safe Sleep Efforts. She served as an itinerant public health nurse in Nome, Alaska, and as a nurse home visitor and maternal and child health injury prevention specialist, in the Denver area.

Cynthia Powell:

Natasha Bonhomme is the Committee's Organizational Representative from Genetic Alliance. She launched the expecting health portfolio to bring a range of consumer and professional stakeholders together to address the need for clear science-based information for families and individuals through tangible, actionable messages. Her focus is on centering families' perspectives in the policy and program design and implementation.

Cynthia Powell:

Dr. Sulay Rivera is the associate director of the Puerto Rico Newborn Screening program and assistant professor at the department of pediatrics, University of Puerto Rico medical sciences campus. Dr. Rivera has been involved in the implementation of new analytical methodologies at the Newborn Screening Laboratory, the expansion of Puerto Rico's Newborn Screening Panel, and in research projects related to study hereditary diseases of importance in Puerto Rico. Ginger Nichols is a board certified and Connecticut licensed genetic

counselor. With over 20 years of genetic counseling experience in clinical research and academia at Yukon Health and Connecticut Children's Medical Centers. She has also worked for over 15 years, writing patient facing health literature for mother to baby. Ginger is passionate about genetic counseling, health literacy, and helping to advocate for the Family voice. I will now turn it over to Sabra Anckner. Thank you.

Sabra Anckner:

Thank you, Dr. Powell, and thank you to the Committee for having us today. Next slide, please.

Sabra Anckner:

So, we really just want to start with an acknowledgement of HRSA MCHB for giving us this opportunity and this funding. Specifically, I want to thank from the Division of State and Community Health, Kate Marcell, and Ellen Volpe, who were our project officers. As well as from the Division of Services for Children with Special Health Needs, Alisha Keehn, Joan Scott, Debi Sarkar, and most of all Mia Morrison. They've all been amazing partners in this project, as well as many others from MCHB. Next slide, please.

Sabra Anckner:

So, a brief bit about AMCHP, because I know not everybody is totally familiar with us as an organization. We are the Association of Maternal and Child Health Programs. We are a membership organization of MCH leaders and programs, including Title V and CSHN leaders, family advocates, public health agencies, and officials. We welcome Jed Miller from Maryland, who is our Organizational Rep to ACHDNC and his many colleagues and partners around the country that we are fortunate to call our members. Next slide, please.

Sabra Anckner:

We want to share briefly a statement that AMCHP released in June of last year. That really helped frame

our entire project and the work of our organization, which we call our, all in statement and anti-racism commitment. This recognizes racism as a public health crisis that is infused throughout all of our health and public health systems. And we, as AMCHP are committed to dismantling this structural racism and acknowledging where we as an organization and as part of systems have failed and ask all of you to join us in this call to action, to move forward towards more just and equitable health systems. And we asked that of all of our funded partners and the teams that we worked with throughout this project, to try to really increase the equity of access and services to care throughout the work that we did together. Next slide, please.

Sabra Anckner:

As a brief overview of our project in general, we received $4 million through the CARES act from HRSA MCHB. The original term began May 1st of 2020, and ended a couple of weeks ago. We did receive a no-cost extension that, we spent most of the money. So that's something that we are utilizing too much, but it is allowing us to bridge some services, which is amazing. And our task was to support telehealth use in MCH public health systems as part of the pandemic response. But I think as you've just heard, obviously that quickly became not just pandemic response, but looking at the utility of telehealth throughout our systems long-term. HRSA was kind enough to give us three focus areas to work in. And that is where Title V, CSHN and the MIECHV home visiting programs, as well as newborn screening, both EHDI and NBS and CCHD. Next slide, please.

Sabra Anckner:

So, we were fortunate to have many national subject matter expert partners. This is a bit of an alphabet soup of a slide, but you are all familiar with of course APHL and Expecting Health, as some of the many

partners that we had throughout this project. And next slide?

Sabra Anckner:

Our project structure was... Again, we had our national SME partners, they formed our steering group and helped us in all areas of our RFP development, as well as proposal scoring. They provided technical assistance to our MCH agencies and to their own constituents nationally. And then they also were able to... We funded their own projects that again, we targeted to their national audience. So, for instance, some of the work you just heard about around updating the Continuity of Operations Plan that APHL did to include telehealth applications with some of the type of work that we were able to support at the national level.

Sabra Anckner:

We also put out a request for proposals to jurisdictions throughout the country that allowed up to $100,000 per jurisdiction for projects in one or more of the three focus areas. The awards began in October and November of 2020. So doing that math calendar quick, people had six to seven months to implement fairly significant work plans. They received TA from us and from their partners and from all of our partners. And we also offered opportunities for peer support and sharing through a series of virtual round tables. Next slide, please.

Sabra Anckner:

For this project, we had to define telehealth because there's not a unified consistent definition. And so, with our HRSA partners, this is where we landed, and basically remote delivery of services via technology. We did allow synchronous or asynchronous delivery. And the things we couldn't support were things that were solely technology based, such as hit without an actual telecommunications component or supporting telework that was not part of telehealth. So, that is not

everybody's definition. That might not even be our definition today, but for the purposes of this project, that was our definition. Next slide please. So, our priorities really overall our biggest goal was to improve the family's experience of receiving care through all of our systems. We wanted to do this by increasing health equity, expanding access to services, collaboration across systems. Some of that breaking down silos that have been mentioned this morning, full family engagement in all of our work and promoting innovation in the use of telehealth throughout. Next slide, please. And some of the strategies that we used to accomplish that included for all RFP applicants, we required that they have a letter of support from a family led organization or a family leader at the time of their application.

Sabra Anckner:

We really wanted that family engagement to not just be a token or an afterthought, but to be fully integrated throughout the course of the development and implementation of their projects. There is no knowledge base, no evidence, no best practices, as of yet for telehealth in MCH public health systems during a pandemic. So, we have to make that, which means it became all that more essential that the families that were going to be receiving those services were at the table and we were making sure that we met their needs. One of the ways to increase equity in this system was we asked all of our applicants to focus on the families who were not well-served by their programs prior to the pandemic. So, not just looking at to during the pandemic, but really looking back further, who could be better served through the provision of virtual services.

Sabra Anckner:

One way that we worked to reduce the siloing was we required one proposal per jurisdiction. So, if you wanted to have multiple programs participate, that was

great. And we had several of those and it was wonderful, but we only allowed one application as per jurisdiction to ensure that there was cooperation, there was not duplication of services and also that the IT departments who are even in agencies where there's some disparate, or chart up the chain is often the same IT department who really needed to be engaged in a lot of this work. And we really encouraged local collaborations. Again, none of us had ever done this before in this setting. And so, making sure that the folks on the ground, the communities, the clinics, et cetera, were onboard from the beginning and bought in. We offered technical assistance during the proposal process so that everybody would feel comfortable applying.

Sabra Anckner:

We wanted to fund the projects with the most identified need and the most innovative strategies to get them there, not necessarily the best grant writers. And we also offered two cycles of the RFP so that if somebody wasn't funded during that first cycle, they had the opportunity to meet with us, to go over their proposal, talk about how to strengthen it and resubmit. And then the other thing that we did was offer alternative procurement and contracting. So, as many of you know, whenever you're working in a large government agency, just literally buying things or entering into contracts can be complicated, challenging, and time consuming that became exacerbated as many things did during the pandemic. And so, we were able to do things for instance, where AMCHP literally purchased devices, supplies, equipment on behalf of agencies as needed, did some contracts on behalf of some MOUs in lieu of, and that sort of thing. Just trying to be as flexible as we could to again, meet the needs of these programs and have those sorts of bureaucratic barriers, not limit what we were able to do.

Sabra Anckner:

Next slide please. So, this is where we ended up, we awarded 1.93 million dollars, so, just about half of the total award to 21 projects, which covered 24 jurisdictions. Those that are highlighted in green there had an at least a partial NBS component and those that are in purple we're focused on some of our other focus areas. So, we had 18 states, three territories, two tribal nations, and one freely associated state, which was the Federated States of Micronesia. Next slide, please. So, then NBS projects that we funded, included Connecticut and Puerto Rico, who you will hear from in a few moments. So, I will not spoil that. Alaska is a part of, they had two separate projects, one related to home visiting and one related to screening. And then the Iowa project, their CSHN program actually worked with a community-based organization to get wireless devices to families receiving services through state programs, with a particular emphasis on getting those devices to families of newly identified children through NBS. So, making sure that those families had a way to access their providers via telehealth.

Sabra Anckner:

And then the Western States Regional Genetics Network led by Hawaii and joined by California, Idaho, and Washington has had all of the Family-to-Family Information Centers in those states, as well as other family led organizations, develop a seven module train the trainer module series for family leaders and advocates on using telehealth and teaching families about how to use it as well as trends, converting materials and videos into multiple languages that are commonly used in their region. Next slide please. So, I'm thrilled to introduce you to some of our project participants, including Natasha Bonhomme from Expecting Health, who will speak to us about supporting and engaging families virtually, and then Dr. Sylvia Rivera from the University of Puerto Rico will tell us about improving access to subspecialty care through

telehealth, and then Ginger Nichols from Connecticut children's and expanding services offered to NBS families via tele genetic services. Next slide.

Natasha Bonhomme:

Great. Thank you so much, Sabra. I can move on to the next slide, even though it would save 20 seconds if I didn't mention this, I have to mention this. First, thank you to HRSA for this, just really quick response and providing this funding to AMCHP. So, then they were able to provide the funding to states and to different groups and particularly a special shout out to Sabra and Brittany. I mean, it took a lot of compassion and great project management skills to get all of this done in such a short period of time. So, thank you for all your support in this. Next slide, please. So, I of course want to anchor this presentation in what parents were dealing with and what they still are dealing with. We have to remember even just that high level of stress that was taking place last year, that we still are experiencing to a certain extent.

Natasha Bonhomme:

Oftentimes you may think about things within that newborn screening system, but families are living their full lives during all of this, not just thinking about newborn screening or not even just thinking about health care, but the uncertainty and instability around employment, there were constantly the conflicting perspectives on the risk of accessing healthcare. Do you go in for follow up care? Do you not go in? And also kind of this crunch generation that has been talked about in other contexts, people were really feeling it now having to care for their children, of course, being home from school or just being newborns and being home as well as older parents, really trying to navigate that. So, families were dealing with a lot too during this time, and frankly, they still are. We've talked about already the benefits around

telehealth and there's going to be great examples of that coming up in the presentations after me.

Natasha Bonhomme:

But we also have to remember that while there are a lot of conveniences and telehealth and families are really happy about it, there's also another side to it. We do hear from families who say, "Yeah, it's great. I can do this online, but now I'm worried is my doctor going to be thinking, wow, her house is messy? Do I need to be tidying up? What does this say about me? What if my child's having a meltdown? So, I always want to put that into context. Not everything is all 100% great or 100% bad. It's just a lot to navigate and to think about.

Natasha Bonhomme:

We know families are also still thinking about protecting their medically sensitive children while navigating more options for other children and other family members. And that's still continuing, even as vaccine rollout is happening. And we also know that there has been a bit of a limited focus on what parents really need. I think that attention has been increasing over time, but what do they need as their own humans, as their own selves, not just in the context of their children? And of course that continued disparities around resources and accessing resources that didn't start with COVID and it's not going to end once this pandemic is over.

Natasha Bonhomme:

Next slide, please. So, we were really happy to be able to collaborate and partner with AMCHP and the other grantees around this work, because it helped us bolster some of the other work that we were already doing through our HRSA-funded newborn screening family education program. We had already started to create our online COVID-19 module to really help families navigate that. But through this collaboration, we were able to

bolster that by increasing the types of telehealth resources from other programs that were supported as well as really refine the questions that we felt parents should be asking, because we were able to pull from all the experiences from the other grantees and help that informed the work that we were doing.

Natasha Bonhomme:

And also, we were able to expand on the offerings around telehealth to really have more of a discussion on considerations for a quality telehealth appointment. What are the things you need to think about? We've all had that experience making sure your camera's at a particular angle, making sure everything works. We all here are using these technologies day in and day out. That's not necessarily the story for all families. So, really making sure that they had those tips along the way to make their virtual clinic visits go more smoothly. Next slide, please. So, one thing that we are really excited about that this gave us opportunity to do was to create a virtual triaging platform. So, as some of you may know, we have a module called Ask an Expert where for the past five years, I want to say we've had all types of stakeholders, families, pediatricians, healthcare providers, even some state healthcare professionals ask us questions about newborn screening and that's being able to respond to them.

Natasha Bonhomme:

But we were able to take that years of data collection that we collected through both the questions and the answers and streamline that and integrate the use of real-time technology to start triaging those questions much faster. So, really being able to pull all of that together and with this program, we're able to build something that was more real time to get families information as quickly as possible. So, next slide please.

Natasha Bonhomme:

So, this virtual triaging platform is going to be, I think the switch to have it go fully launched is tomorrow to be kind of a standalone site for parents to be able to submit questions and to use that automated technology, to be able to answer some of those top line newborn screening related questions. We also have the ability to have more questions added as more things roll out. I'm sure as there are vaccines available for younger and younger and younger children, I'm sure we'll start to get questions about that. We will be able to add information to this platform so that in again, real time families are getting their most pressing questions answered. And it's built in a way that we can really use it for other public health emergencies. Have it be a bit more targeted. And again, the idea that this isn't just the end of it, that this is just the starting off point of how we can reach families and be attentive to their needs.

Natasha Bonhomme:

Next slide please. So, this is my first introduction of this, but we are happy for you all to meet FIN and FIN is our Family Information on Newborn Screening platform. And it really is here to connect families to the right information at the right time. It follows all the kind of rules and regulations that we followed and still follow for, Ask an Expert, but really allows that for families to ask their questions and get connected to who they need to be speaking to in that real time. So, if they're asking a specific question that really should be referred to a state laboratory or a state program, we've already programmed this to be able to do that. Same thing if they really should be asking a clinician that we could say, this is a great question for your clinician, are you connected to a healthcare provider? How we help with that? So, we're really excited about that. Next slide please.

Natasha Bonhomme:

And then one other activity that we were really happy to be able to do as part of this work was to kind of co-lead a grantee round tables. We did this in partnership with Parent to Parent USA and our round table really focused on sustainability and ongoing family engagement and what to do around supporting those efforts with the grantees. Some of that work again, it's going to be presented next. And we really focused on short- and long-term strategies, both for material development, but just really also that broader engagement. And being able to meet month to month, I think was just such a great idea and really helped people come together and share what was working really well, what wasn't working.

Natasha Bonhomme:

I think that's always important in a project, but particularly in one that was so fast paced and had a really specific time period that you could really see the progress as grantees started talking and sharing ideas of how they were engaging with families and all the things that they were learning by really having their family organizations be central to their programs. And our work with Parent to Parent USA was just able to help them give them some more ideas and really validate all the efforts that they were doing to have these collaborations with their, whether state or regional family organizations. Next slide.

Natasha Bonhomme:

So, as I wrap up on what still needs to be done, I think some of these themes have already come up in some of the other sessions, really understanding the impact and outcomes over time. Yes, we are seeing that light at the end of the tunnel, but there's still a lot for us to learn and for us to really be thinking about what are they going to be the impacts that we're feeling a year from now? And to really be thinking about that. And that's not just from within a newborn screening program perspective, but also within families and other

stakeholders, what they're going through. As well as that, we also really need to be thinking about participating in and encouraging the ongoing discussions. I think, again, something that's been said time, and again, the fact that people are able to come together with their colleagues and with their peers and be able to say, okay, how are we going to address this? Did that work last week? Do we need to pivot?

Natasha Bonhomme:

We saw that in this program too. So, finding ways to support those types of interactions is key. And lastly, and this is particularly for families that can really relate to anyone is that it's never too late to ask and answer lingering questions. So, much was rushed because it needed to be. But we have some parents who have reached out to us and said, "I know this happened a year ago and I didn't follow up. It was just so hectic. Can I still ask that question? Is that still relevant?" And just to encourage that, I think is important again, that is that building of partnerships and saying, "Yes, we're listening. We're listening to each other; we're listening to families. And there may be some things that are still lingering in terms of health and health care that we want to make sure we circle back around to." So, next slide, I believe that's it for me. Yeah, thank you.

Sulay Rivera:

Good morning, everyone. My name is Sulay Rivera, Associate Director of Puerto Rico Newborn Screening Program. It is an honor to be here presenting our experience of implementing a telehealth system in the Puerto Rico Newborn Screening Program. Next slide, please. The Puerto Rico Newborn Screening Program has been a free service for more than 30 years. Our program is the only facility in Puerto Rico that provides the newborn screen service in our country. Currently we are offering a theory of the 35 core conditions recommended for a screen. Next.

Sulay Rivera:

As many of you probably know, Puerto Rico has faced different emergencies in the last years. In 2017, we had two catastrophic Hurricanes, Irma and Maria, with terrible consequences in our country. In January 2020, we had an earthquake that affected mainly the south part of the island. And now as the rest of the world, we are facing the COVID 19 pandemic with serious consequences on the different health systems. Next slide, please. The follow up division of our program has been directly impacted by all these emergencies. Our follow-up division is in charge of coordinating the different repetitions that we need. For some cases, is in charge of referring our families to a specialist, is involved in the coordination of confirmatory testing and other health services, including nutrition, social work, access to medical food. We provide a service of genetic counseling, education to families and health care professionals. In addition to that, our follow up division is directly involved with clinical care of our families.

Sulay Rivera:

We have a clinic with a pediatrician that we have in collaboration with the Puerto Rico Department of Health. And in addition to that, we collaborate with the different specialists that are in both with our program, including the mythologies and the chronologies genetics, immunology and MOU. Next slide, please. Looking for alternative based on our experience with all these emergencies, in order to sustain and protect the newborn screening service in Puerto Rico, we present presented this project about establishing the first telehealth program to provide from follow-up to patients and identify by the Puerto Rico newborn screening program. And the goals with these telehealth projects is to obtain basic equipment, including laptops, to be distributed among the clinicians, provide them with a complete telehealth platform in order that they can use it for the telehealth service.

We obtain tablets for our patients and also other accessories complimentary to these telehealth service. In addition to that, we obtain funds to cover the expenses related to telehealth certification, something that is required in our country for our physicians in order to provide the telehealth service. Next slide, please.

Sulay Rivera:

Initially, when we started to think about this project, we were thinking about emergencies, but now we are clear that with this telehealth project, it is not just for the emergencies. It is more than that. It is another alternative, another options for our families in order to improve and increase health equity. With this telehealth system, we will facilitate this screen health care services by different ways in our work program. We will provide the families, the option of have clinical evaluation with a pediatrician that we'll be collaborating directly with our program. The families will have the option of have clinical evaluation, but different specialists that collaborate directly with our program. We will have clinical evaluation with a specialist from USA's that are involved in the follow up of some cases that are identified with the newborn screening service. We will have a clinical evaluation of patients with facade economic disadvantages.

Sulay Rivera:

For example, I can assure you that we have families that doesn't have transportation to come to San Juan to our facilities in order to receive the health care services. So, the telehealth assistance is going to be an option for them. As mentioned before, the initial idea was that this is going to be an option for the families during emergencies. And in addition to that, we will have with this telehealth project, our plan is to establish different collaborations with other medical centers in Puerto Rico. With all this system,

what we think is that the experience of the family will be improved by having immediate access to healthcare specialist, reducing the waiting time for appointments with a specialized physicians and obtain the final diagnosis and the corresponding treatment that these families need and having the opportunity of a multi-disciplinary health care approach. Next slide, please.

Sulay Rivera:

In addition to implementing this telehealth system in our program, we collaborate with the Puerto Rico Family-to-Family Center in order to develop these telehealth educational kits, which is a simple but very complete guide for the families related and informing the families about what is telehealth? What are the necessary steps that they need to complete to have a successful experience? They, in this educational kit, they will review about the [inaudible] and they will have access to other websites and other groups in which they can look for additional information. And in order to get completely educated about the telehealth service. Next slide, please. With the Puerto Rico Family-to-Family Center, we also developed a survey that is meant to be completed by the families in order to receive feedback for the families in terms of their experience using these telehealth services.

Sulay Rivera:

It'll also provide the families some educational materials obtained from Family-to-Family Voices. Next slide, please. Future goals of this project is to provide internet options to our families. And also, as I mentioned, our plan is to collaborate with different pediatric centers around the area to provide these telehealth services. Next slide, please.

Sulay Rivera:

We want to acknowledge on the Puerto Rico newborn screening staff for all their commitment with the service, especially to Ledith Resto, which is the

follow up supervisor and other person that has been working directly with this project. We want to give thanks to the Puerto Rico Family-to-Family Center for our collaboration in the development of the educational kit and but also the Puerto Rico Department of Health and a special thanks to AMCHP, and HRSA for funding this project and especially to AMCHP for all their support and commitment with our project. Thanks very much. Next slide, please.

Ginger Nichols:

Hello. Thank you for the opportunity to present. My name is Ginger Nichols. I'm the Genetic Counselor that works in newborn blood spot screening in Connecticut. Next slide please. Connecticut's newborn system has two parts. I started working with the Connecticut Newborn Diagnosis and Treatment Network, which we refer to as "the Network" for short, in late 2018, when the Network was formed. The Network is funded by the Connecticut Department of Public Health newborn screening program, which houses the State Laboratory. The State Laboratory sends all presumptive positive newborn blood spot results to the network and we coordinate the diagnostic workup. We also provide support to the health care teams and the families, and then that work has developed a registry to track short- and long-term follow-up. Next slide, please.

Ginger Nichols:

We had two main goals with our application overall, it was to develop a telehealth system for the network nurse and genetic counselor. And in doing this, we wanted to increase access to health care and support families in the pre diagnosis phase of newborn blood-spot screening. We also wanted to gain a better understanding of how the newborn screening system was currently functioning and to identify areas for improvement based on the family experience. So, part of the project included the creation of a family advisory group in partnership with our State Path Family Voices

Group. Next slide, please. The outcomes we hoped for with our goals were to increase equity and access to health care, but having no charge telehealth visits with a genetic counselor or RN for the families and the newborn screen pre-diagnosis phase. One main area we hope to see improvement in was a decrease in the amount of time and the pre-diagnosis time.

Ginger Nichols:

So, a decrease between when the initial newborn screen flagged or follow-up testing and when the disorder was either ruled out or confirmed. And this was because we had and the Network had noticed that some families did not understand why it was important to have follow-up testing in a timely manner. So, our nurses wanted the ability to directly connect with families to support the primary care providers with follow-up education. During that conversation of care coordination needs were identified such as transportation issues, then we hook the family into our center for care coordination to help with resources. We also wanted to ease the burden of parents of newborns who needed genetic testing or additional support to have the telehealth access to the genetic counselor without. So, having that availability without having any drive in, as you know, having a newborn, sometimes there's driving restrictions because of C-sections and their sleep deprivation difficulty taking time off from work, finding childcare for other children, et cetera. Next slide, please.

Ginger Nichols:

Prior to this grant opportunity, our network was a virtual department. We had no clinic space to see patients. We are now a schedulable department in our electronic health record, which at our hospital, we use Epic and we have the ability to schedule the tele health visits at that went live at the very end of March, 2021. So, so far I've actually had seven genetic counseling sessions, but we haven't announced it. We

are next week, announcing my availability to the other health care providers and teaching them how to place the orders into Epic. Next slide please. In addition, this grant allowed me to work with a consultant called Health Equity Solutions Incorporated to create an invitation to genetic counseling, a letter for sickle cell disease, newborn screen regulation. We learned from our advisory group that people still have no idea what a genetic counselor is and what can be expected in a genetic counseling visit.

Ginger Nichols:

So, in addition to letting them know about the opportunity for no cost telehealth visit the letter also explains what genetic counseling is. We created two versions of this letter, one for all newly diagnosed families and one geared toward teenagers to offer them a chance to chat with me as they start to transition into managing their healthcare as adults. This letter is also in production phases, being printed, kind of like a wedding invitation, fancy format, and it will be mailed out next month. One of our most amazing experiences from this grant was the creation of a very strong partnership with our Connecticut chapter, PATH. PATH stands for Parents Available To Help Inc. And our Connecticut PATH is also the Connecticut family voices and parent to parent group. They provided our staff cultural diversity training and help you create and run our family advisory group. And the Network has already begun to incorporate feedback into our program based on feedback from the family advisory group. Just some of the highlights, we explored many topics, but just some highlights where the families wish that they had heard about newborn screening during their prenatal period, even if briefly for some name recognition. So based on this, we've created rack cards that are now in our OB-GYN offices and blood drawing stations.

Ginger Nichols:

The families did agree that they wanted their pediatrician to be the first person to reach out to them, to talk to them about any issues that came up from their child's newborn screen. But they really liked the idea of being able to then, reach out to our network, to talk with the nurse or genetic counselor, because they felt like their pediatricians usually can't answer all of their questions.

Ginger Nichols:

The biggest frustration, and maybe this is happening everywhere, was around lab experience. There's actually a lot of anger that came up with it too. Families have been turned away from the blood draw station saying we can't draw babies here. Babies are being stuck more than two times. And even as terrible as that is, parents expressed getting the urine sample was more frustrating than getting the blood sample. So we're working with our Quest blood draw stations in the state to train staff, and we're identifying centers of pediatric excellence to help direct families to that location that's closest to them that hopefully have someone on staff that's experienced now drawing from babies.

Ginger Nichols:

And our nurses are urging and educating the pediatrician's office to help offer place the urine bags for the sample. And that's actually going smoother, and parents, we're seeing a change with the frustration level. We're very grateful to have this opportunity to identify areas that can be improved with our family advisory group. We're excited that we're incorporating their feedback already, and we are going to continue our partnership with Path Family Voices to expand this group and to continue it moving forward. So last slide, please. Just a very big thank you to HRSA for making this possible for us. Thank you.

Cynthia Powell:

Thank you. And thank you all for your presentations.

Sabra Anckner:

We have a whole second, we have another set of slides, Dr. Powell.

Cynthia Powell:

Oh, I'm sorry. Go ahead.

Sabra Anckner:

I just wanted to wrap up a little bit and summarize. So some of the challenges and lessons that we've learned, so thank you to each of you for sharing. And I think that you've really heard some themes come across there from these example programs. Some of the challenges obviously, are a timeline and competing priorities, which are always challenges. But, boy were they, with this with the pandemic. Sustainability planning is particularly challenging right now with unstable funding sources, as well as, especially with telehealth, a lot of things becoming allowable and with parity and reimbursement being a part of a public health emergency orders and not permanent regulations. And so, there's still a lot of uncertainty about what will be permissible, what will be reimbursable, et cetera. And that will all kind of shake out jurisdiction by jurisdiction as Medicaid policies are made at that level and not so much at the federal level.

Sabra Anckner:

There are no great options for providing data service directly to families through the private companies that do that, if you are an organization that is surprisingly challenging, I will say. And the FCC did launch as of yesterday, a temporary emergency plan to reimburse families $50 a month for broadband service. But that is only expected to last for a few months. And then we're back to square one. But what we learn is flexibility and adaptability are essential. This is

something that newborn screening people tend to sort of do naturally, which has been a great boon. And the family and community engagement improves these programs, that it is only a benefit add in every circumstance that we have come across. And we are so glad that has been so fully embraced by the projects.

Sabra Anckner:

And the impossible can be done. Basically, nobody was using telehealth. We weren't doing this. 14 months ago, this was just a note. And now, look at where we are. It's remarkable how something that was just impossible is now pretty fully integrated into a lot of systems. Next slide.

Sabra Anckner:

Of course, newborn screening has its own special challenge and lessons. Obviously, as we heard from the first presentation this morning, lab capacity and staff reassignments have been particularly difficult. And really, I think, the truly heroic work of newborn screening lab and follow-up staff throughout the country can't be overemphasized. And it's the additional work that folks took on to tackle telehealth, to tackle some of these other issues is just astounding. For our purposes, we had to limit our funding to telehealth. And so, we did run into some sort of, there is a lot of room for telework, as Susan Tanksley shared in a lot of this space, but there's, there's some upgrades that need to happen. There's some additional funding that could really go to support and expand that.

Sabra Anckner:

The newborn screening system is more decentralized than our other focus areas. For the most part, direct services to families are in the private sector. And it's made it somewhat more challenging, I think, at times, for blood spot screening programs. They sort of don't necessarily have as much control over what

happens in the PCP in specialty end unless they oversee those clinics directly. But nevertheless, telehealth clearly provides opportunities to address known systems issues. For instance, the well-documented very high stress time and that pre-diagnostic phase that we know families experience, and some novel applications or addressing it, which is really exciting. Next slide.

Sabra Anckner:

So, our next steps, as I mentioned at the beginning, we have this, a bit of a no-cost extension through MCHB and we're very excited that last month we received a supplemental award from an existing grant that AMCHP has from CDC Birth Defects and Developmental Disabilities Center. So we are thrilled that we, as a team at AMCHP will be able to continue our work. We are shifting our team name to be Clinical and Community Collaboration, which really encompasses what we want to continue doing.

Sabra Anckner:

Telehealth can be one piece of that, but really supporting MCH agencies, Title V AMCHP programs, newborn screening, home visiting, all of you to really improve and expand on those, those collaborations within your own communities. We are offering ongoing technical assistance to any MCH program that is exploring virtual services, so it's not just the folks that we have already funded. That is available to anybody. And we are supporting ongoing data collection and evaluation efforts of the projects that we funded, so that we can really actually start to have that evidence-based. And we will be having new opportunities for peer sharing, which again, will be open more broadly and not just to the projects that we funded. Next slide.

Sabra Anckner:

So, this is how to get to us. That's me, Sabra Anckner, with a much easier to spell email address.

Telehealth@amchp.org. And we do have a website, amchptelehealth.org, which will take you both to our contact information and a Contact Us page, but also to all of the resources that we have discussed here today. As things launch, they will continue to be added. And so we're thrilled to be able to share all those things with all of you. And I don't know if we still have time for questions or how we go from here.

Cynthia Powell:

Yes, thank you all again. Yes, we do have some time for questions. As usual, we'll take questions and comments from Committee Members first, followed by Organizational Representatives. Please use the raise hand feature, and I'll call on you in order of when you raised your hand. And please unmute yourself, speak clearly, and state your first and last names. And first, well, I'm going to go ahead. Dr. Robert Ostrander has his hand raised. So, we'll go ahead with him.

Robert Ostrander:

Yes, hi there. Bob Ostrander, AAFP, great presentations. Thank you so much. I've got a couple of comments. One is that I'm proselytizing a little bit about my experience with newborn screening. Several years ago, when I had a Mennonite patient with SCID, I was co-managing with the team at Nemours. And we used telehealth then. And there are two take homes that I would hope to share, maybe spread.

Robert Ostrander:

One is that we accomplished the telehealth visits as a team does it. And I think there's a lot of potential to do that. Instead of doing the telehealth visit in the patient's home with the specialist or with myself, the patient came to my office, which was not a burden. And then we did a telehealth with our sub-specialists across state lines. And not only did it provide an access that they wouldn't otherwise have had, but it

provided the benefits of a team visit, which goes a lot better. Because that way the medical home primary care doctor, the sub-specialist, and the patient are on the same place at the same time, so to speak. And if the sub-specialist needs eyes and ears to do a specific part of an exam or focus the camera, et cetera, that can happen. So, I'm really, become a promoter of this telehealth visit in the primary care office, or other sort of medical center, with either a primary care doctor or an experienced nurse to help facilitate.

Robert Ostrander:

And the second piece is I think that, we, to the extent that we can individually, and as a Committee, promote the ability to do telehealth across state lines without all these licensure problems. That's important because that's become very clear during this pandemic. I've had patients traveling out of state, and I think technically, if I'm not licensed in the state that in, there's an issue licensure. And I think one of the things we want to see opened up and certainly not closed up again, is the ability to do some of this across state lines. And it's especially important for kids with special healthcare needs and newborn screening, where the consultants may indeed, be in a different state and the burdens... Well, the burden administratively and expensively of having multiple state licenses is a barrier.

Cynthia Powell:

Thank you, Annamarie Saarinen

Annamarie Saarinen:

Hi, Annamarie Saarinen, Committee Member. You touched on a couple things that I was planning to say, which is just these hurdles that have been around like way before the pandemic, particularly for children and individuals with rare disease or complex conditions have, it's difficult, depending on where are these babies are born, where their families live, for them to

necessarily access care in any sort of nearby geography, much less than the same state often. So, if these continue to be barriers for access to care and services, I'm interested in hearing after working on this for 12 years, like what the recommendations are to fix that, like where do we have to go.

Annamarie Saarinen:

And I think I'm speaking as much as an advocate, as a Committee Member, where do we have to go to substantively change the rules and regulations in place right now that are creating these burdens and barriers to care that completely exacerbate the health inequities that Natasha was mentioning earlier as well? Secondarily, the definitions of telehealth and telemedicine, great presentations, by the way, thank you for covering so much ground in a short period of time across the different projects that you were working on. That said, I really think about, and the Newborn Foundation certainly thinks about this all the time, is how we can do more with telehealth and telemedicine to help with remote and resource-poor settings.

Annamarie Saarinen:

And it's got to be a bit more than just being able to open your laptop and have a secure, undocumented communication with your provider. And I don't know that any of you are not seeing that. But what the things that we think about at least in the heart community, or kids that have congenital heart disease, is how can we use other devices and telehealth platforms to have information going electronically back to our provider that can better facilitate that remote visit? Because I know from personal experience that it was very difficult for me to get my daughter in to clinic during the pandemic. It simply wasn't allowed for, I would say, the first five months anyway, of pandemic. Only kids that were in acute heart failure and on surgical roster were going into the hospital. Everyone else was

pushed back, which led to sort of flood of the cardiologists having to catch up with these patients.

Annamarie Saarinen:

But I think now, about the number of opportunities or what have been for remote care that would have been safer for the facilities and for the patients, and how this kind of ongoing way... I mean, no one wants to take their kid that's already medically vulnerable into a clinic that's, germs everywhere and just the hurdle of driving a couple hours to get to that clinic. So, I really, really appreciate the creative thinking and the ability to make these programs sustainable into the future far past pandemic, to improve access to care for these kids. I just want to make sure we're thinking about other sort of remote monitoring tools that can be used to help facilitate this care, and not just about being able to have a face-to-face communication the way it was presented in the talks earlier. Thank you.

Cynthia Powell:

Sabra Anckner.

Sabra Anckner:

Hi, Sabra Anckner from AMCHP. Thank you for your comments. And yet these, the projects that we just shared, are just a small snapshot of the 21 projects that we funded. So, a couple of examples of other projects. In Nevada, they set up a partnership with UNLV for high-risk maternal OB patients, using remote patient monitoring with Bluetooth-enabled blood pressure cuffs, pulse oximetry monitors, and glucometers for people with gestational diabetes. It's targeted to families in areas that were far from a high-risk OB center. So, they are working on that actively.

Sabra Anckner:

In Kentucky, they purchased some Bluetooth-enabled devices for CSHN'S specifically, some pulse oximetry

monitoring, and things to get that started, along with other devices. In Wisconsin, we're particularly excited about one facet of their project, which includes handheld tympanometers to do rescreening. And they include audiometers that actually can do diagnostics on older children to screen for hearing loss. They placed those with six tribal home-visiting programs in northern Wisconsin that are very far away from a pediatric audiologist, about a six to seven hour drive minimum. And so, they have those now, with the home visitors themselves. So, the home visitors can go to the homes. They're trusted people in the community. They don't necessarily just... It's not open just to families that are enrolled in the home visiting program. And that allows those families to receive the eddy services that they need. So, we are tackling sort of all things in all directions. And really, we're encouraging all that kind of innovation and strategies that we saw throughout the country.

Annamarie Saarinen:

Thanks, Sabra. Thanks, I appreciate that follow-up, and congratulations on all this work. It's great.

Cynthia Powell:

Yes, thank you all once again. I'm sorry. For the sake of time, we're going to need to move on to our public comments section. So, thank you to all the speakers. And we hope to hear more about this very important work as we move forward, and particularly the sustainability of telehealth and its relationship with the newborn screening programs.

PUBLIC COMMENT: GENERAL

Cynthia Powell:

As I noted earlier at the May meeting, we'll have two public statement periods. Today's period is open to any newborn screening-related topic. We received nine requests to provide oral public comments. Several

individuals also submitted written versions of their statements which were disseminated to the Committee. The next five individuals will deliver comments on the MPS II nomination to the RUSP. First, we'll hear from Dr. Matthew Ellinwood, Dr. Ellinwood, please begin.

Matthew Ellinwood:

Hello. My name is Matthew Ellinwood, and I'm the Chief Scientific Officer with the National MPS society. I have been working as a preclinical research in the MPS field for over two decades. And the majority of those years, I have known and been part of the national MPS society. And I've shared its mission of using science to develop the best technology for early diagnosis and effective therapy for MPS disorders. I am thrilled to say that for MPS II, we are there, with both the treatment, as well as a way to identify children at birth. When beginning treatment, we'll be transformative to the lives of those children and to their families.

Matthew Ellinwood:

For many years, we knew the broad outline of what we needed to do and how we needed to get there. And through the concerted and coordinated efforts of researchers and advocates in academia, industry, the nonprofit community, and with decades of support from the NIH, we have now come to a point in our journey for the last steps necessary to fully enable Hunter patients to have the best chance at life we can give them. And that step is the addition of MPS II to the RUSP, by approving newborn screening for Hunter syndrome.

Matthew Ellinwood:

After a career in research, I am now working for the society. And being on the inside has shown me firsthand, the incredible job we do in our mission to help families and patients. I witness every day, the terrific accomplishments of the society in our role of

helping families and patients all throughout their journey, from that first diagnosis to assisting with the end-of-life considerations and the grieving that await our families where there are no effective therapies.

Matthew Ellinwood:

Today, I am here to implore the Committee to advance this nomination to evidence review. The science and the clinical practice indicate that it is time for newborn screening for MPS II. With RUSP approval, you will give the society and the patient community, the last tool necessary for us to make the biggest impact in the lives of our MPS II patients. We know there will still be efforts needed to refine and improve the delivery of treatment but starting that treatment as early as possible is without question, the one thing we can do to have the greatest possible positive impact on these children and their families. And for that to happen, we need this nomination advanced to evidence review. Thank you.

Cynthia Powell:

Thank you. We'll next, hear from Dr. Joseph Muenzer.

Joseph Muenzer:

Thank you, Cindy. It's certainly my pleasure to hear talk about MPS. I'm going to give an overview of the disorder. MPS II or Hunter syndrome, is a very rare, x-linked recessive lysosomal storage disorder caused by the deficiency of the enzyme, iduronate 2-sulfatase, which leads to the accumulation of the complex sugars, glycosaminoglycans. It's a progressive disorder due to the ongoing GAG storage. And it's characterized by significant clinical heterogeneity with a spectrum of disease from severe to attenuated.

Joseph Muenzer:

All individuals with MPS II typically appear normal at birth. Therefore, they're not diagnosed in a prompt

manner, but develop physical involvement after one to two years of age. In addition to the cognitive impairment seen in the severe MPS II patients, there are also significant neuro-behavioral symptoms that significantly impact on the caregivers. Although individuals with attenuated disease do not develop cognitive involvement, they typically can develop all the clinical features we see in the severe MPS II, including neurological complications, such as communicating hydrocephalus, spinal cord compression, and hearing loss along with the physical features, coarse facial features, valvular or heart disease, airway obstruction, decreased night and peripheral vision, enlargement of liver and spleen, bone involvement, and decreased joint range of motion.

Joseph Muenzer:

These are incredible difficult diseases. Life expectancy is shortened in patients with severe disease, due to overwhelming neurological involvement, along with airway and cardiac disease, with death typically occurring, unfortunately, very premature in the second decade of life. Patients with attenuated disease typically survive into adulthood, but their life status is significantly shortened, typically due to the airway and cardiac involvement. Most of the disease in MPS II is typically irreversible once it occurs. So it's not like you can, you can take it back once you have it, with exception, typically, of the liver and spleen enlargement. Intravenous ERT has been successful at preventing disease, but do not correct a reverse the clinical features once established. This is observed when an MPS II patient is diagnosed, is made in a younger sibling after an older sibling diagnosed at three to five years of age on clinical grounds.

Joseph Muenzer:

If the intravenous ERT begins prior to six to 12 months of age in the younger sibling, the somatic benefits at three to four years of age are significant, with little

to no evidence of somatic disease. But most individuals don't have that opportunity to be diagnosed early. I've also seen the benefits of early treatment in the intravenous ERT trial for severe MPS II individuals under three years of age. The starter treatment has done much better in terms of their cognitive function, compared to the severe patients when treated over six years of age.

Joseph Muenzer:

The rarity of MPS II and the variable onset of clinical feature result in MPS II being diagnosed late, and typically only after irreversible disease has occurred. I strongly support newborn screening for MPS II, which will result in significant improvement in the long-term somatic and CNS outcomes, as we develop new treatments for the CNS disease. Thank you for your attention. I hope you consider advancing this for evidence review. Thank you, Cindy.

Cynthia Powell:

Thank you. Next we'll hear from Dr. Barbara Burton. Dr. Burton. You're muted. Can you...

Barbara Burton:

Very good, finally. Yeah, sorry. I was clicking the wrong place. Thank you so much for giving me the opportunity to address the Committee. I'm a professor of pediatrics at the Northwestern University Feinberg School of Medicine and Director of the MPS treatment program at the Lurie Children's Hospital in Chicago. I also serve as chairman of the Newborn Screening Advisory Committee for the Illinois Department of Public Health. I asked to speak today to encourage you to vote to move forward, the RUSP application for mucopolysaccharidosis type II, for full evidence review.

Barbara Burton:

We have been doing statewide screening for MPS II in the state of Illinois since December of 2017. Testing is performed in the state laboratory by measurement of the iduronate 2-sulfatase enzyme activity, and the dried blood spot. Infants with enzyme activity below 10% of the daily median are referred for follow-up testing. As of the most recent data tabulation, a total of 489,269 infants had been screened, and 44, which is less than 0.01%, were referred for diagnostic testing. Six cases of MPS II were identified.

Barbara Burton:

The incidents in our state thus far, is one in 81,500 infants screened, higher than the literature would suggest. Most of the screened-positive infants who do not have MPS II, were diagnosed as having pseudo deficiency for the I 2-S enzyme, a finding that is easily distinguished from true deficiency by normal urine or dried blood spot GAG glycosaminoglycans. Of the six identified infants with MPS II, four have been started on enzyme replacement therapy, in most cases, at four to six weeks of age. All are doing very well. The oldest, now three years of age has no sematic manifestations of MPS II whatsoever, despite having a known severe mutation in the gene. There have really been no issues in the implementation of MPS II newborn screening, and the benefits have been clearly apparent to everyone involved.

Barbara Burton:

In addition to the infants identified thus far through newborn screening, I have had the opportunity to treat a number of other MPS II patients from shortly after birth, who were tested and identified because of an older effected sibling or other family member. I have seen very clearly, the benefits of early pre-symptomatic treatment. It is apparent that prevention of somatic manifestations is possible, whereas our ability to reverse those manifestations once they have developed, is much more limited. This is really the

primary reason for newborn screening. Given the evidence for the benefits of early treatment and the feasibility of newborn screening as demonstrated by the ongoing programs in Illinois and Missouri, I believe there is ample justification for full evidence review for this condition. Thank you.

Cynthia Powell:

Thank you, Mr. Mike Hu.

Mike Hu:

Thank you, Dr. Powell for the opportunity to comment. Hello everyone. My name is Mike Hu a co-founder of Project Guardian, a nonprofit organization dedicated to push newborn screening forward. I'm a father of three boys. My two older sons were diagnosed with MPS II in 2011. Over the past decade, my younger son has shown better outcome all over, due to his pre-symptomatic diagnosis and treatment, which has inspired my passion for newborn screening. I want to thank the Committee for the initiative of reviewing the nomination process for improvements. While we have witnessed the powerful impact of newborn screening on hundreds of thousands of newborns and families, we also face challenges, in particular, the growing number of genetic diseases with approved treatments like the MPS II, and not being screened for. Though we generally appreciate how early detection and treatments can maximize the therapeutic benefits, very few of these treatable diseases have been nominated, which has been a substantial bottleneck and expanding the RUSP.

Mike Hu:

The common hurdles for nomination includes lack of natural history understanding at the newborn stage, lack of biomarker data in pre-symptomatic newborns, lack of beneficial evidence of early detection and intervention, to name just a few. Clearly, some are chicken and egg conundrums. They are important evidence to support routine screening. Yet, they are very

difficult to obtain without a substantial cohort of neonatal patients, which could only come from active screening of the newborns. How can we have our cake and eat it too? Members of this Committee and other experts have suggested having provisional recommendations to facilitate nomination of conditions where most of the required evidence exists and treatments are available. A provisional recommendation could work as a strong endorsement and legislative cue that can help unlock additional resources to enable pilot screening programs to gather the remaining evidence needed. A review at predefined time points will help ensure timely action to either fully recommend or retract conditions if appropriate. As a parent and researcher, I fully support this framework and will be most willing to collaborate with the Committee and other stakeholders to enable this critical pathway. We know the potential benefits of early diagnosis and treatment are tremendous. After fighting with MPS II for a decade, my older son has been transitioned to a palliative care while my younger son has just started a new promising clinical trial all because his early treatment was able to sufficiently delay disease progression so that he was still eligible for the new trial. To the rare disease community, hope is among the best gifts one can ask for. A newborn screening is a critical piece in bringing hope. Thank you for your consideration.

Cynthia Powell:

Thank you. Ms. Cory Blain.

Cory Blain:

Hi everyone. Thank you so much for allowing me to be in your space today. My name is Cory Blain and I'm a rare disease parent. My husband and I live in Michigan with our two boys. And this is our story. In December of 2019, I took our oldest son Sawyer to a pediatrician we had never seen before. And towards the end of the appointment, she happened to notice some features in Sawyer that led her to believe that he had a storage

disorder. So, we were referred to genetics and after blood tests and urine samples and what felt like a decade and a day, we received on February 23rd of 2020, Sawyer's confirmed diagnosis of MPS type II, Hunter syndrome. Since it says a genetic disorder and any male that I bear has a 50-50 chance of having this condition, further testing on our younger son was needed.

Cory Blain:

So, we went through this process again, and just a couple of weeks later, our son toxin's results came back and we pleaded and prayed with God to spare our second child but he tested positive. So, both our sons have MPS type II, Hunter syndrome. For 10 months, both our boys received the current enzyme replacement therapy and after that we were enrolled in a clinical trial. And so, we travel weekly out of state to Chicago to receive this clinical trial drug. This clinical trial drug is not a cure. It's just one to provide a little more hope for better treatment. Our sons suffer from things like kyphosis, hip dysplasia, speech delay, moderate to severe hearing loss, vision issues, behavioral issues, hyperactivity. They need things like hip braces, orthotics, hearing aids, glasses, speech OT and physical therapy is weekly. Before receiving our official diagnosis, I was in disbelief. One of my first thoughts was that this couldn't be true because they both passed their newborn screens. But what I didn't know then that I know now is that not all diseases and disorders are on newborn screens.

Cory Blain:

Out of the seven different MPS types, in Michigan there's only one MPS type on newborn screen and that is not the type that our boys have. MPS I is on Michigan's newborn screen. MPS II is not. I opted for newborn screening to be done on our boys at birth with the hope that if there was something it could be caught and treated right away. Instead, we had to wait three

years. Three years for this silent killer to show face and one that had already done damage and destruction. And it wasn't... Because of our older son's diagnosis was the only reason that our younger son was prompted further testing. Things could be so different if they would have been diagnosed at birth. Maybe my son could have more than just 15% of his hearing. Maybe my other son could play and run around a lot more easily with his peers. Thank you for this opportunity to speak.

Cynthia Powell:

Thank you. We'll now go on to our other public commenters. From Parent Project Muscular Dystrophy, Ms. Niki Armstrong.

Niki Armstrong:

Thank you. On behalf of Parent Project Muscular Dystrophy, thank you for the opportunity to speak today. My name is Niki Armstrong and I serve as the newborn screening program manager for PPMD. I am pleased to provide an update about our Duchenne Newborn Screening Pilot in New York state. For the last seven years, PPMD has been leading a national of efforts to build a newborn screening infrastructure for Duchenne in the US aimed at developing the evidence to support Duchenne newborn screening. This initiative and the associated collaborations have resulted in publications as well as diagnostic tools and resources for primary care providers and families. Our Duchenne effort has convened experts and established the partnerships required to implement nationwide newborn screening for Duchenne. PPMD's Duchenne newborn screening program incorporates expertise from leaders within NIH, HRSA, FDA, CDC, AAP, ACMG, past Duchenne pilots, the broader newborn screening community and the Duchenne community.

Niki Armstrong:

As we have shared previously with the Committee, since October of 2019, we have been conducting a Duchenne newborn screening pilot in New York state in order to

set up, validate and conduct a consented pilot screen for infants born at select hospitals in New York state. Our pilot is being conducted through a unique model that utilizes tools, resources and expertise at PPMD, the Newborn Screening Translational Research Network and the New York State Department of Health with funding support from PPMD and a pre-competitive consortium of bio-pharmaceutical industry partners with a commitment to early diagnosis and intervention in Duchenne. The pilot is guided by a steering committee, comprised of representatives from federal agencies, provider groups, and key Duchenne stakeholder communities. The pilot utilizes the FDA approved CKMM assay. More than 24,000 boys have been screened in the state of New York as of the end of February. And four newborn boys with Duchenne Becker and one carrier female have been identified.

Niki Armstrong:

Families with a child with Duchenne Becker are followed in the health systems associated multidisciplinary neuromuscular clinics. Parents are completing surveys in order to provide input on the family perspective. We are so grateful to the leadership within New York state, within the state laboratories, the birthing centers, the specialty clinics and the primary care provider sites. We are grateful to all those working with us to ensure that babies identified through this program are receiving the most immediate expert and chronic comprehensive follow-up care possible.

Niki Armstrong:

Having surpassed several milestones in newborn identification and pilot timelines, I am pleased to share that we have also achieved an important inflection points and have initiated efforts to begin compiling the RUSP nomination package for future consideration by this Committee.

Niki Armstrong:

We have begun a systematic process of reviewing the evidence from our community's decade of work in newborn screening and infrastructure development, the New York state pilots and additional Duchenne newborn screening pilots. I look forward to engaging with you as we move into this critical next stage over the coming months. Today we would like to extend our gratitude to the families, experts and partners who have helped us get this far. With now five approved therapies and a research pipeline filled with potential therapeutic options, newborn screening will provide optimal opportunities for care and treatment in Duchenne. Thank you.

Cynthia Powell:

Thank you. Next we'll hear from Mr. Dylan Simon from the EveryLife Foundation for Rare Diseases.

Dylan Simon:

Thank you. On behalf of the EveryLife Foundation, I would like to thank you for providing you the opportunities to speak to the Committee today. The EveryLife Foundation for Rare Diseases is a non-profit non-partisan organization dedicated to impairing the rare disease patient community to advocate for impactful science-driven legislation and policy that advances the equitable development of, and access to, life-saving diagnoses, treatments and cures.

Dylan Simon:

Today, I want to update the Committee on our recent newborn screening initiatives and intended to support the Advisory Committee and expand the reach of newborn screening programs recommended by the Committee. At the federal level, we have been leading the rare disease community coalition efforts with our Newborn Screening and Diagnostic Working Group members support the passage of the Newborn Screening Saves Lives Reauthorization Act. We are pleased that the House and Senate both introduced the legislation earlier this

year, containing identical language, an update from last session in which the House and Senate bills differed.

Dylan Simon:

The legislation currently holds bipartisan support in both chambers. In addition to working directly with Congressional champions to advance the bill, the Foundation convened a virtual advocacy event in March, they included nearly 700 rare disease community advocates, and 373 hill meetings. Known as Rare Across America, this event enabled advocates to educate their representatives and senators about the importance of newborn screening and to seek the support of the legislation.

Dylan Simon:

We'll continue to work with the rare disease community to ensure that policy makers understand the importance of reauthorizing and funding critical newborn screening programs as proposed in the bill. We also remain focused on shortening the timeline between when a condition has been added to the RUSP and when it is screened for at the state level. The RUSP Alignment legislation works to ensure that a state must screen for all RUSP conditions within a specified amount of time following the conditions addition to the RUSP. The legislation will also ensure that there is a long-term funding source for the newborn screening program to help facilitate the implementation of new conditions. The current state-by-state implementation requires significant resources and many more years of waiting for the patient communities. Years that newborns go undetected and lack access to potential lifesaving therapies and interventions.

Dylan Simon:

The EveryLife Foundation previously led the passage of this legislation in California and Florida. This year, we are pursuing similar legislation in Arizona,

Georgia, Ohio, and North Carolina. To date, our legislation has been introduced in all four states. In Georgia the legislation unanimously passed the State Assembly, and it was recently signed by the governor into law. In Arizona and Ohio, legislation has passed out of one chamber, and is currently waiting passage out of the full assembly. In North Carolina, where it was recently introduced, it actually did pass out of the State House Representatives this week.

Dylan Simon:

None of this is possible without the great work of the dedicated rare disease community advocates in each of those states, working to ensure that the importance of this legislation is understood. Your work as a Committee to build a trusted and comprehensive review process for the RUSP conditions has also contributed to the success of the legislation as States understand the value of leveraging the work that you have done to evaluate the appropriateness of each new condition. We're grateful for all the work that is occurring within newborn screening space, and are committed to continue to empower our teams to effectively navigate the existing newborn screening system and engage meaningful within the community. Thanks so much for your time today.

Cynthia Powell:

Thank you. And our last public comment today will be from Mr. Dean Suhr from the MLD Foundation.

Dean Suhr:

Thank you, Dr. Powell and Committee: good afternoon and I stand between you and lunch so I'll try and be brief here. This month has been an exciting month for MLD Foundation and newborn screening overall. And I summarize some of this in my written comments, but just briefly here. Our first milestone for us MLD foundation turned 20 earlier this week on Tuesday. We have a long history with newborn screening. We helped pass the

Newborn Screening Saves Lives legislation in 2007 as Mr. Simon just shared, back then it was Genetic Alliance, now a lot of work with the EveryLife foundation and other partners. We've been attending these ACHDNC meetings since almost the beginning. In 2012, we started work on an MLD assay with Professor Gelb at the University of Washington. 2015 we launched the RUSP Roundtable, a non-MLD specific gathering of experts and key stakeholders throughout the ecosystem.

Dean Suhr:

We've been on hiatus during COVID. We hope to reserve soon. 2016, we helped provide the original RUSP alignment language that was in that California legislation that Dylan just spoke about. In 2016, we started de-identified pilot studies for MLD in the state of Washington 2018. We were involved in the grant prep for Dr. Wasserstein for what is now known as ScreenPlus. And 2020 was a busy year for us. Gene therapy was approved in the EU. Our newborn screening expert advisory group started formally meeting at the beginning of 2020. They've got seven working focus groups, supporting them. We are working on an assay that has three tiers. It's based on traditional blood spot for urinary sulfatides... Excuse me. For sulfatides in blood and then enzymes in blood and then finishes with sequencing. And we'll talk about that in a moment. We also have an identified MLD pilot that started in Germany last summer.

Dean Suhr:

2021 the ERT trial was fully populated. The second milestone, which is significant, not only to MLD, but to many other disorders is this past Monday, the screen plus program formally launched and poked the heel of the first baby in parts of New York state. Dr. Wasserstein, Dr. Orsini and Dr. Goldenberg, names I think that is familiar to all of you, are the co-PIs for that. This is the nation's largest and broadest consented newborn screen pilot program. It's a public

private partnership based around an NIH grant, but there's a funding an active participation from BioPharma and the advocacy. It has an intentional ethical component, so they're not just validating and working through the screening process, but there's a whole ethical arm of that as well. Scientific and community advisory boards are part of that program. There are 14 disorders on the initial panel, including MLD and the criteria to get on that panel is somewhat consistent with the RUSP requirements in terms of therapy and viability and off the screen and those sorts of things.

Dean Suhr:

New disorders can be added. So, we do expect over the life... I shouldn't say we. Dr. Wasserstein has expressed that over the life of this program, there might be additions and perhaps some removals of conditions from the ScreenPlus program. But that brings up a number of areas of focus, concern, and perhaps opportunity as well. With ScreenPlus and 14 disorders could very realistically lead to half dozen or more simultaneous nominations or reviews. And we know that that would be a significant opportunity, but also a burden for the committee and particularly the expert review group. So, the request is that you let... You think about this and we know that you have been but let us know what you need.

Dean Suhr:

Advocacy, as you've just heard, is here to help you, particularly in these areas of policy, appropriations, legislative issues, and so on to bring that support together. Clearly, we have connections with patients and researchers as well, but that policy side is something I think that's somewhat unique to what advocacy can help. With sequencing, concerns that we're addressing for MLD and I know they're concerns for other organizations, is the basis unknown significance. Variations of unknown significance later onset forms of

disease that are being identified, uncertain onset forms, and then secondary indications. We think that this might be something that the Committee might take up as an umbrella issue to start to put together some guidelines and some thoughts on how you might deal with, not the certainty that sequencing brings when it works. That's over 50% of the time for MLD as best we know, but what happens in those areas where it's a little bit more grown up?

Dean Suhr:

The second area of opportunity, I think is long-term follow-up and lost to follow-up. This is... With the Committee being a federal committee, we believe this is an opportunity again for the Committee to provide some guidance, not only to improve newborn screening and to do the relatively short term and near term where sometimes it's described as a long-term improvements in patient care and in observing outcomes. But we're very interested, particularly as advocacy in very long-term follow-up. What happens to these patients over time? How can we continue to improve their quality of life? How does that affect therapies that are earlier in the pipelines and in the trial process? So long-term follow-up is private, perhaps more broad for us than you, but I think this is a place where we can work together on a national effort that helps coordinate the data that's coming from states, with families that are moving in and out of states.

Dean Suhr:

And particularly those that are lost to follow up with public health, can't keep up with them, but perhaps advocacy could. And then my final thought is on the access and reimbursement. One of our emerging therapies, as I mentioned, was a gene therapy that was approved in the EU. And we hope that will be soon approved here in the United States. These therapies and others are very expensive. And we think it is part of the Committee's purview to know that these therapies

are approved and accessible, but we don't think that it's in your purview to be talking about the reimbursement or the cost or the price or the value of that. That's a whole topic that is taking up extensive effort and energy of a lot of other organizations and groups. It's very complicated. There are changes coming in our reimbursement systems, both public and private and with the BioPharma that the people that are supplying those therapies.

Dean Suhr:

And I think that would just cause you to get caught up in kind of what this whole whirlwind of discussions. So I would suggest that you might want to let the reimbursement side of that not be part of your purview. Do make sure that it's approved and it's appropriate for infants. But beyond that, I think that that's left to resolve itself and then feed back into your system. So, with that, thank you very much as always, we appreciate the hard work that you all put in. Look forward to the next time that we can be together in person.

Cynthia Powell:

Thank you. Thank you, members of the public for taking your time to provide comments to the Committee. We'll now recess for a lunch break and reconvene promptly at 12:45 PM ET.

BREAK

ROLL CALL

Cynthia Powell:

Welcome back everyone. Before we reconvene and begin the nomination and prioritization workgroup summary of the MPS II nomination package, I'd like to take attendance. Committee members, Kamila Mistry.

Kamila Mistry:
Here.

Cynthia Powell:
Mei Baker.

Mei Baker:
Here.

Cynthia Powell:
Jeff Brosco. Kyle Brothers.

Kyle Brothers:
Here.

Cynthia Powell:
Jane DeLuca.

Jane DeLuca:
Here.

Cynthia Powell:
Carla Cuthbert.

Carla Cuthbert:
Here.

Cynthia Powell:
Kellie Kalm.

Kellie Kalm:
Here.

Cynthia Powell:
Michael Warren.

Michael Warren:
Here.

Cynthia Powell:
Shawn McCandless.

Shawn McCandless:
Here.

Cynthia Powell:
Melissa Parisi.

Melissa Parisi:
Here.

Cynthia Powell:
I'm here, Cynthia Powell, Annamarie Saarinen.

Annamarie Saarinen:
Here.

Cynthia Powell:
Scott Shone.

Scott Shone:
Here.

Cynthia Powell:
And our representatives Robert Ostrander. I think he just stepped away. Deborah Friedenberg.

Deborah Friedenberg:
Here.

Cynthia Powell:
Maximilian Muenke. Steven Ralston. Jed Miller.

Jed Miller:
Here.

Cynthia Powell:

Susan Tanksley.

Susan Tanksley:
Here.

Cynthia Powell:
Chris Kus.

Chris Kus:
Here.

Cynthia Powell:
Shakira Henderson. Jennifer Kwon.

Jennifer Kwon:
Here.

Cynthia Powell:
Jacob Hogue.

Jacob Hogue:
Here.

Cynthia Powell:
Natasha Bonhomme.

Natasha Bonhomme:
Here.

Cynthia Powell:
Siobhan Dolan.

Siobhan Dolan:
Here.

Cynthia Powell:
Cate Walsh Vockley.

Cate Walsh Vockley:

Here.

Cynthia Powell:
And Georgianne Arnold.

Georgianne Arnold:
Here.

MUCOPOLYSACCHARIDOSIS II (MPS II) NOMINATION SUMMARY

Cynthia Powell:
Thank you. The Committee has received a nomination for MPS II for consideration, for addition to the recommended uniform screening panel. In terms of the nomination process, the first step is for HRSA to conduct the initial review for completeness. After it has been determined that the nomination package has all of the required components, the nomination and prioritization workgroup reviews the information submitted in the package and provides the Committee with a summary and recommendation as to whether or not the condition ought to move forward to a full evidence review. The Committee will then vote to assign or not assign the nominated condition to the external evidence review workgroup that conducts the evidence-based review.

Cynthia Powell:
Today, on behalf of the nomination on prioritization workgroup, Committee member Dr. Scott Shone will present the summary and workgroup recommendation to the Committee. Dr. Shone will review this in his presentation today, but I would like to remind the Committee that at this phase of the nomination process, there are three core requirements for a condition to be considered in addition to the information requested on the nomination form. One, validation of the laboratory test. Two, widely available confirmatory testing with a

sensitive and specific diagnostic test. Three, a prospective population-based pilot study. I'd now like to turn it over to Dr. Schone.

Scott Shone:

Thank you, Dr. Powell. So first I want to thank my fellow workgroup members, Doctors Brosco, Cuthbert, McCandless, and Powell for our work together to review the package that was submitted nominating Mucopolysaccharidosis type two for consideration, for evidence review, for the RUSP and also to them for trusting me with sharing our workgroups activities with the rest of the Committee, as we move forward in this process. As Dr. Powell stated, this is not an evidence review that is left up to the evidence review workgroup. This is this effort that I'll present is focused on an assessment based on certain criteria. So if there is enough material provided to move forward where they full evidence review for consideration of the RUSP, I'll review that process a little bit as well as the disorder and the nomination package we receive. Next slide please. So, the slide here shows the nominators and co-sponsors thank you to those members of the team who submitted this package to HRSA. Next Slide.

Scott Shone:

And as some of our public commenters highlighted and Dr. Muenzer did a great job discussing this. I'll highlight a few topics here and appreciate Dr. Muenzer’s patience with me as I try to channel best what I've learned from the nomination package and from working with him. So MPS II is a Lysosomal Storage Disorder. As you mentioned, it is a progressive multiorgan disease with onset from about one year of age to early, early adolescents. There are, as I mentioned, attenuated and severe phenotypes, both phenotypes present with significant somatic symptoms, the severe phenotype manifests with profound cognitive impairment and developmental regression, typically with

death in the second decade of life. And then the attenuated form presents with somatic symptoms largely without significant cognitive involvement. And survival is typical into adulthood with some premature mortality, as was mentioned earlier. Next slide please.

Scott Shone:

So, with respect to the genetics and epidemiology of MPS II, as was mentioned this as an X-linked recessive inheritance pattern with clinical heterogeneity, as I mentioned, two primary phenotypes attenuated and severe. These are caused by the deficiency of the iduronate-2-salfatase enzyme, leading to accumulation of glycosaminoglycans dermatan sulfate, and heparan sulfate. The incidence in the United States is not well-described. And in fact, in the nomination package that the team stated, "In reality, newborn screening will determine the incidence of MPS II in the United States." There are estimates of less than one to just over two per hundred thousand. I wrote down Dr. Burton's comments earlier about one in 81 and a half thousand from the experience in Illinois. And I'll talk more about Illinois in my slides coming up. As you see here this is data from... That was submitted as part of the package from Illinois that only included I think about 380,000.

Scott Shone:

And as Dr. Burton mentioned that the 490,000 almost now. I'll talk a little more about the minute and in the Missouri pilot... And I refer to these as pilots, but these are actually live screenings. I mean, these states mandated screening for MPS II and have been screening babies for this disorder for years now. And then in Missouri, they're finding about one in 73,000. Females with MPS II are rare, but do typically have a severe phenotype. And thus far, literature has described carriers as largely asymptomatic and the nomination package and our research found that there are some varying numbers of variants, but I will state

here that in ClinVar, there are about 400 disease causing variants and IDS locus, and that there is variable genotype phenotype correlation, which will come up later in my slide. Next slide, please.

Scott Shone:

And Dr. Powell just mentioned this and that the core requirements for nomination and what HRSA does before forwarding the packages onto the nomination and prioritization workgroup is to review the packages for these three components. And as Dr. Kemper mentioned last meeting, as we're reviewing the process, we are going by the current existing N&P process, which includes these three core requirements. And that is, validation of a laboratory test, widely available confirmatory testing with a sensitive and specific diagnostic test, and also a perspective population-based pilot study. Next slide, please.

Scott Shone:

So, the key questions that the workgroup reviewed and considered are as follows. Is the nominated condition medically serious? Is there a case definition and is the spectrum of conditions well-described? How to predict the phenotypic range of those children who will be identified based on population-based screening. Are perspective pilot data from population-based assessments available for the disorder. Does the screening test proposed have established analytic validity? Are the characteristics of the screening tests reasonable for the newborn screening system? Among other aspects we considered is there a low rate of false negatives? Is there a widely available CLIA and or FDA approved confirmatory test or diagnostic process known? Do the results have clinical utility? So, in this case, if the spectrum of disease is broad with a screening or diagnostic test identify those who are most likely to benefit from treatment, especially if treatment is onerous or risky? And I'll spend a little bit of time covering that question. And are

there defined treatment protocols, FDA approved therapies, and is the treatment widely available? So next slide please.

Scott Shone:

So, I'm going to go question by question on each slide. Is the nominated condition medically serious? The answer that the nomination and prioritization workgroup found is yes. Despite a range of phenotypes, MPS II is a progressive, multiorgan disorder. All forms have somatic implications, including skeletal, joints, heart, upper- and lower-airway impacts, hearing and visual defects. The severe form also impacts the central nervous system as I mentioned earlier. Left untreated, patients with a severe form survive only until the second decade of life and patients with the attenuated form may survive until the fifth or sixth decade of life as described in the literature. So, the answer to this first is yes. Next slide please.

Scott Shone:

Is the case definition and the spectrum of the condition well-described to help predict the phenotypic range of those children who will be identified based on population-based screening? The workgroup found that the answer to this question is unclear. Prior to onset of symptoms, it is not always possible to predict the severity of the phenotype or cognitive involvement. As I mentioned earlier, there's not a clear phenotype/ genotype correlation. Now, many patients have rare private mutations in the IDS gene, for which there's no pre-existing phenotypic information available. Now it is documented in literature that a complete gene deletion or large rearrangement results in severe phenotype, but there are still questions around that phenotype genotype correlation. Routine diagnostic assays that measure the activity of I2S cannot distinguish alone between the severe and attenuated MPS II patients. So, we've determined that the answer to this question remains unclear. Next slide, please.

Scott Shone:

Our prospective pilot data, us and or international from population-based assessments available for this disorder. And the answer to this is a robust yes. Two states, as we mentioned earlier, Illinois and Missouri have been screening for MPS II for many years. Illinois began full population screening December 2017 and Missouri the same in November 2018. So, we have multiple years of screening under our belt to assess. And what I'm presenting here is what was shared with us in the nomination package. I will acknowledge Dr. Burton shared some updated data from Illinois, which generally tells the exact same story. So, I'm going to focus on what was submitted, and what are my slides in front of you.

Scott Shone:

So, through February 2020, 340,000 infants screened in Illinois. There were three positive diagnoses confirmed by urine gags and molecular analysis. And there were 28 false positives. So, a total of 31 screen positives out of that 340,000 babies screened. In Missouri, through the end of June last year, or yes, last year, approximately 147,000 infants screened. Two confirm by urine gags and molecular analysis, and 27 false positives. So, out of the 29, 27 false positives, but two confirmed. I will note that both states and the stats I present, I include the pseudo deficiencies that were mentioned earlier during public comments, as part of false positives. Next slide, please.

Scott Shone:

Does the screening test have established analytic validity? The states I mentioned in the last slide actually use different methodologies to screen for MPS II. One state, Illinois, uses tandem mass spectrometry, and Missouri uses digital microfluidics. Neither method in use is FDA cleared. They are laboratory developed tests, but the data provided, is sufficient with respect to limit of detection, recovery, linearity,

accuracy, precision, interferences, and reference ranges. Those that are necessary for CLIA validation of a laboratory developed test, and the data provided demonstrate that both methods, DMF and mass tandem mass spec have acceptable analytic validity. Next slide, please.

Scott Shone:

So, are the characteristics of those screening tests reasonable for a newborn screening system? And again, we have a yes for this question. As I mentioned, they're laboratory developed tests of benefit for both tests that can be multiplexed with other analytes, specifically for lysosomal storage disorder screening, and of note, both tests are multiplex with Mucopolysaccharidosis Type One. The false positive rate for these tests are similar to other first tier assays for current RUSP conditions. There's been a lot of discussion around, and we mentioned the genetic testing, and the need for potentially second or tertiary level tests. But with respect to first tier analyses, the false positive rate is similar. As I mentioned earlier, you had 31 screen positives out of 340,000 Illinois with three confirmed. So about a 90% false positive, and the same with Missouri with a 31 screen positive out of 147,000, two confirmed.

Scott Shone:

So again, about 10%, 10% confirmed or 90% false positive rate there. As I mentioned, second and third tier tests are clearly ideal when considering these algorithms such as sequencing of the IDS gene, and then either dry blood spot, urine in heparan sulfate and dermatan sulfate. Now, there is current insufficient data on measurements of heparan sulfate, and dermatan sulfate in dry blood spots.

Scott Shone:

I am aware that many newborn screening programs are looking at this, but with respect to what was provided,

there is somewhat insufficient data to comment conclusively on that. The false negative rate is unknown, but thus far in the years of screening in Illinois and Missouri, there have been no false negatives identified to the programs there. And there are other disorders that can be detected through the screening methods, specifically multiple sulfatase deficiency. And I'll talk about how that's ruled out, and how that was commented on in the nomination package on my next slide. I think that it's important to point out again that the false positive rate is reasonable, given the rarity of this condition. It's not a simple rate conversion. I know there's many discussions around positive predictive value and false positive rates. But, the nomination prioritization workgroup looked at this with respect to other first-year assays for the remaining RUSP conditions. Next slide, please

Scott Shone:

So, is there a widely available CLIA and or FDA approved confirmatory diagnostic test? There's no FDA cleared test for Mucopolysaccharidosis Type II. There is quantitative demonstration for deficient I2S activity in combination with quantified elevation of urinary dermatan and heparan sulfates, glycosaminoglycans, I mentioned. A second sulfatase is quantitatively assayed in plasma, or white blood cells to rule out that multiple sulfatase deficiency I mentioned in the prior slide. Sequencing of the IDS gene is not diagnostic, but it is helpful to predict phenotype. As I mentioned, the lack of a strong phenotype genotype correlation, and I'm not specifically calling out these laboratories for any reason other than they were described in the nomination package as a performing confirmatory test for MPS II. So, there are laboratories that can provide that diagnostic confirmatory testing. Next slide please.

Scott Shone:

So, are there treatment protocols or FDA approved drugs available? There are two available therapies that were mentioned earlier. There is enzyme replacement therapy with IV recombinant human I2S, and then also Hematopoietic Stem Cell Transplantation. ERT is the standard of care with weekly intravenous infusions with idursulfase, which was FDA approved in 2006. Right now through the IV, this drug does not cross the blood-brain barrier and therefore does not alter CNS disease. HSCT is infrequently used, and there's limited data on sematic and CNS improvement. And I will say that the focus of the nomination and prioritization workgroup was not to evaluate the efficacy of treatment, but if it exists, it would be if this condition is moved for an evidence review, the efficacy of treatment would be evaluated. Next slide, please.

Scott Shone:

And finally, do the results have clinical utility? If there's a spectrum of disease is broad, will the screening and or diagnostic test identify who is most likely to benefit from treatment, especially if treatment is onerous or risky? And the workgroup found this to be unclear. There is considerable clinical heterogeneity in the onset and rate of disease progression, but it is clear that early intervention is important, particularly, as we've heard with enzyme replacement therapy. Screening does not clearly predict phenotype and the most serious phenotypes may be identified by sequencing. It's been clear that treatment can prevent somatic disease progression, but not reverse disease.

Scott Shone:

That was also commented earlier. And that was in the nomination package, and the impact of treatment on CNS remains unclear. What's also unclear is if asymptomatic, what is the true benefit of asymptomatic initiation of ERT? It's apparent that newborn screening may actually be needed to evaluate HSCT versus ERT. And

I think they're important in the workgroup, thought there were important ethical questions of treating the body, knowing that the mind and the CNS may still progress. And I will say that if this condition is moved forward through evidence review, clearly that process will need to do a deep dive into the impact of therapy and benefit literature that's available to understand those ethical questions. Next slide please.

Scott Shone:

Oh, back up. Almost gave away the conclusion. In summary, is the nominated condition medically serious? The answer to that is yes, but it was unclear with respect to the case definition, the spectrum of conditions. There's robust, prospective pilot study data available, and the tests used both have analytic validity, and the characteristics of those tests are reasonable for newborn screening. There is a widely available confirmatory diagnostic process. There are treatment protocols available, including enzyme replacement therapy, but the clinical utility of screening and therapy remains unclear. With that, considered, the nomination and prioritization workgroup did decide, next slide, please, that we recommend the Advisory Committee move the nomination of MPS II forward for a full evidence review, to thoroughly address those questions and vet the literature to help us understand as a Committee, whether or not this should end up ultimately being recommended for the RUSP. So, Dr. Powell, I turn it back to you for discussion on our recommendation.

COMMITTEE DISCUSSION

Cynthia Powell:

Thank you, Dr. Shone, and thank you to the other members of the nomination and prioritization workgroup. We'll now have time for a discussion. We'll take

questions and comments from Committee Members first, followed by Organizational Representatives. As a reminder, please use the raise hand feature. I will call on you in order of when you raised your hand, please remember to unmute yourself and to clearly state your first and last names before speaking. Georgianne Arnold.

Georgianne Arnold:

Hi, Georgianne Arnold from SIMD representative. Of the positive patients in the trial groups, were they early onset or late onset? And were there any patients who had indeterminant status?

Scott Shone:

Dr. Powell, I'll have to pull up my notes. I didn't have that slide in front of me. Give me one second.

Cynthia Powell:

Sure.

Scott Shone:

You want to go to Dr. Baker? You might have an easier to answer question.

Cynthia Powell:

Okay. We'll come back to that. Mei Baker. Mei, you're muted. We can't hear you.

Mei Baker:

Sorry about that. Actually Scott, I was hoping you can go back your slides on that genetic and the epidemiology part. I have a question on that slide.

Scott Shone:

Mei, I'm not controlling the slide, so I think you have to say what slide you want again?

Mei Baker:

Oh, it's the genetics and the epidemiology of MPS II. I was reading briefing paper. I don't know the updated ones, including this or not. Can I just describe it? So, you mentioned that a female with MPS II?

Scott Shone:

Right.

Mei Baker:

Yeah, okay, you said typically more severe. It's not common, but are more severe, and also you state carriers are general asymptomatic. So, I think it's because of the X-Linked disorders. So, I just want to be sure, I understand. When you say severe phenotype, because you described the two types, severe and attenuated. So, when you say severe, it means in that a category, or? I just don't fully understand this comment.

Scott Shone:

You don't understand the comment that females are rare, but typically severe?

Mei Baker:

Yeah.

Scott Shone:

So, that was described in the literature that the workgroup review. I don't know. And I don't know if Shawn McCandless wants to chime in here because I know that we had a discussion of how to phrase some of the genetics and epidemiology, or even Dr. Powell. But it's my understanding that, that most of the females at least identified tend to have a more severe phenotype.

Cynthia Powell:

Think that includes some with X chromosome abnormalities. So, with an additional genetic condition. Shawn McCandless may want to comment.

Shawn McCandless:

This is Shawn McCandless, thank you. I think that's exactly correct, Cindy. It's also, I think, and I don't know if Joe Muenzer's still on. He would know the answer to this better than I would, but I think that it's a relatively rare, and it's more of an observation that girls that have something wrong with one of their X chromosomes and have an I2S variant on the other X chromosome. Just for whatever reason, they're more like severe boys, but its probably has more to do with the severity of the mutation and the unmasking and the additional component of the X deletion, or the abnormality of the other X chromosome. And I think it is a very small number, and it's just more observational than a known scientific fact that there's something about females that if they're symptomatic, they're worse. I don't think there's any evidence to support that, that I'm aware of.

Mei Baker:

Well, thank you. The reason I ask because this is a kind of a little bit atypical when X-linked disorders. A female's supposed to be a little bit mild, and just because of questioning, I think maybe I looked at a different reference, and I did do the search, and the one paper I found out they had this study on 10 female patient. Three have a more severe, like a typical boy. Again, I think maybe we just look at a different reference. I just want to be sure I understand it correctly. Thank you.

Shawn McCandless:

Mei. This is Shawn McCandless. I think it's important to point out that we did not do an in-depth literature review as part of this assessment. That is the purview of, as we understood the charge, for the Committee. That's the purview of the Evidence Review Committee.

Mei Baker:

Correct, I think I understand that. Because I think you will appreciate it, I mean, it's different than we generally understand about the X-linked disorders is why it get my attention. And then, when I do the search, I didn't find the support evidence. I even went back to the nomination package. But anyway, I think we're discussing now from there be during the evidence review, that can be more clear on this part.

Cynthia Powell:

Can we go back to Dr. Arnold's question?

Scott Shone:

Thank you, Dr. Powell. So, this is Scott Shone. So, all of my notes indicate that all of the positives from Missouri and Illinois had elevated urine gags, significant elevations in both dermatan sulfate and heparan sulfate with previously reported pathogenic mutations and IDS gene. Well, let me back up and say that, one at the time of nomination, had declined therapy. So, I don't see in my notes that there was an actual, just to attenuated or diagnosed severe, but that specifically was significant elevations above dermatan sulfate and heparan sulfate, and all with previously reported pathogenic mutations.

Georgianne Arnold:

Thank you, I was also interested in whether or not there were any patients who couldn't be definitively assigned as affected or unaffected, which you probably don't know from the publication. So.

Scott Shone:

In the literature provided as well as in the summaries, there were cases where there were either a suitor deficiency with normal gags or mild elevations. And with adjustments clearly monitoring over time changes with potential variants. There were some variants that were previously reported in other countries and novel variants identified as part of the screen positives. I

think, and I'll just echo Dr. McCandless in terms of looking, needing to look at a more, I guess, deep dive in the literature, the evidence review, would do to look at some of these other variants that have been identified to assess their clinical impact.

Shawn McCandless:

This is Shawn McCandless, Georgianne, I'd also add that in on page 249 in the briefing book, there's a section describing the pilot program from Washington state, and they said that they did identify two additional samples.

Shawn McCandless:

Well, they identified seven. The last paragraph on the Washington says seven samples with less than 5% of daily mean. Two additional samples were considered to be at risk for potentially developing an attenuated form of MPS II. And they have two variants listed there. So, one affected for sure, two possible attenuated, and then four that were no variants were identified. So, I think your question is a good one, but we're not going to have the answer to it today, but it's like everything else. It seems likely there will be cases that you can't identify...we've certainly seen this with MPS I that there are cases that you're not going to be able to classify in the first month or two of life.

Georgianne Arnold:

Okay, thank you.

Cynthia Powell:

Scott Shone, did you have another...

Scott Shone:

Something Dr. McCandless mentioned, triggered a comment that I forgot to make, that he mentioned a Washington state pilot, which I didn't mention in my presentation specifically. It was part of the nomination submission,

but it was a de-identified pilot, so no follow up could be done. So, all of the results from the Washington data, while robust, didn't allow for a clinical follow-up, so all the work was done on de-identified spots to look at I2S and DBS as well as then reflex for genetics. But again, there's no clinical follow-up to know what those manifestations were. So, we intentionally left them out of the presentation because the Illinois and Missouri pilots had a substantial amount of prospective identified data available. But, I do want to acknowledge the work of the Washington state team.

Cynthia Powell:

Mei Baker, did you have another question or comment? Still have your hand raised so.

Mei Baker:

Sorry, no.

Cynthia Powell:

Okay. Okay. Any other Committee members with questions or comments? And how about organizational representatives?

VOTE ON WHETHER OR NOT TO MOVE MPS II FORWARD TO FULL EVIDENCE REVIEW

Cynthia Powell:

Okay, is there a motion to hold a vote on whether or not to move the nominated condition MPS II forward to full evidence review from a Committee Member?

Kyle Brothers:

This is Kyle Brothers, I move to move forward with the vote.

Cynthia Powell:

Is there a second?

Annamarie Saarinen:
This is Annamarie Saarinen and I second.

Cynthia Powell:
Before holding the vote, are there any final questions or comments from Committee Members? Okay, hearing none, we will go forward with the vote. Does any Committee Member have a conflict of interest regarding this vote and need to recuse themselves? Are there any abstentions? Committee Members, I will read your name. If you were voting to approve that MPS II move forward to evidence review, please say yes. If you object, please say no. Mei Baker?

Mei Baker:
Yes.

Cynthia Powell:
I believe Jeff Brosco had to step away. Kyle Brothers?

Kyle Brothers:
Yes.

Cynthia Powell:
Carla Cuthbert?

Carla Cuthbert:
Yes.

Cynthia Powell:
Jane DeLuca?

Jane DeLuca:
Yes.

Cynthia Powell:
Kellie Kelm?

Kellie Kelm:
Yes.

Cynthia Powell:
Shawn McCandless?

Shawn McCandless:
Yes.

Cynthia Powell:
Kamila Mistry?

Melissa Parisi:
Yes.

Cynthia Powell:
Melissa Parisi?

Melissa Parisi:
Yes.

Cynthia Powell:
And I vote, yes. Cynthia Powell. Annamarie Saarinen?

Annamarie Saarinen:
Yes.

Cynthia Powell:
Scott Shone?

Scott Shone:
Yes.

Cynthia Powell:
Michael Warren?

Michael Warren:
Yes.

Cynthia Powell:

Thank you. We have all yeses. So, MPS II is moving forward to full evidence review. I would like to thank the Committee for their thoughtful consideration. MPS II will be assigned to the evidence review group. The Committee now has nine months to complete the evidence-based review and vote on whether or not to recommend MPS II for addition to the RUSP. This concludes day one of the meeting. Thank you to the Committee Members, Organizational Representatives for meeting, and members of the public for attending day one of the May Advisory Committee Meeting. We will reconvene tomorrow, Friday, May 14th at 10:00 AM Eastern time. Thank you all.

Sean McCandless:

Thank you, Dr. Powell.

Cynthia Powell:

Thank you.

END OF DAY 1