US DEPARTMENT OF HEALTH AND HUMAN SERVICES

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HEALTH RESOURCES AND SERVICE ADMINISTRATION

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THE ADVISORY COMMITTEE ON HERITABLE DISORDERS IN NEWBORNS AND CHILDREN

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MEETING

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TUESDAY,
MAY 10, 2016

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The Committee met in the Conference Room at NIH Events Management, 5635 Fishers Lane, Suite T500, Rockville, Maryland, at 10:00 a.m., Joseph A. Bocchini, Jr., Chair, presiding.

MEMBERS PRESENT:

JOSEPH A. BOCCHINI, JR., Chairperson
JEFFREY BOTKIN
COLEEN BOYLE
CARLA CUTHBERT
KELLIE B. KELM
FRED LOREY*
DIETRICH MATERN
STEPHEN McDONOUGH
KAMILA B. MISTRY
JOAN SCOTT
CATHERINE Y. SPONG
CATHERINE A. L. WICKLUND

DESIGNATED FEDERAL OFFICIAL:

DEBI SARKAR, Health Resources and Services Administration

ORGANIZATIONAL REPRESENTATIVES PRESENT:

NATASHA F. BONHOMME, Genetic Alliance
CHRISTOPHER KUS, Association of State & Territorial Health Officials*
CAROL GREENE, Society for Inherited Metabolic Disorders
ADAM KANIS, Department of Defense*
EDWARD R. B. McCABE, March of Dimes*
ROBERT OSTRANDER, American Academy of Family Physicians
SUSAN M. TANKSLEY, Association of Public Health Laboratories*
BETH TARINI, American Academy of Pediatrics
KATE TULLIS, Family Health and Systems Management Delaware Division of Health
CATE VOCKLEY, National Society of Genetic Counselors
MICHAEL S. WATSON, American College of Medical Genetics and Genomics

ALSO PRESENT:

LISA FEUTCHBAUM
ALEX R. KEMPER
K.K. LAM
TIINA URV

*** via teleconference**

T-A-B-L-E O-F C-O-N-T-E-N-T-S

P-R-O-C-E-E-D-I-N-G-S

(10:00 a.m.)

CHAIR BOCCHINI: Welcome to the second day of the May meeting of the Advisory Committee on Heritable Disorders in Newborns and Children. I'm going to start by taking attendance for this session. First committee members, Don Bailey?

MEMBER BAILEY: Here.

CHAIR BOCCHINI: Jeff Botkin?

MEMBER BOTKIN: Here.

CHAIR BOCCHINI: Coleen Boyle:

MEMBER BOYLE: I'm here.

CHAIR BOCCHINI: And Catherine hasn't made it yet. Kellie Kelm?

MEMBER KELM: Here.

CHAIR BOCCHINI: Fred Lorey, on the phone.

MEMBER LOREY: I'm here.

CHAIR BOCCHINI: Dieter Matern?

MEMBER MATERN: Here.

CHAIR BOCCHINI: Steve McDonough?

MEMBER MCDONOUGH: Here.

CHAIR BOCCHINI: Kamila Mistry?

MEMBER MISTRY: Here.

CHAIR BOCCHINI: And then Joan Scott for HRSA?

MEMBER SCOTT: Here.

CHAIR BOCCHINI: And Alexis is unable to join us today. Cathy Wicklund?

MEMBER WICKLUND: Here.

CHAIR BOCCHINI: And Debi Sarkar?

MS. SARKAR: Here.

CHAIR BOCCHINI: And then for the organizational representatives, Bob Ostrander?

MR. OSTRANDER: Present.

CHAIR BOCCHINI: Beth Tarini?

MS. TARINI: Here.

CHAIR BOCCHINI: Michael Watson?

MR. WATSON: Here.

CHAIR BOCCHINI: Joseph Biggio, by phone? Joseph Biggio, by phone?

(No audible response)

CHAIR BOCCHINI: Kate Tullis --

MS. TULLIS: Here.

CHAIR BOCCHINI: Susan Tanksley, by phone?

(No audible response)

CHAIR BOCCHINI: Chris Kus, by phone?

(No audible response)

CHAIR BOCCHINI: Adam Kanis, by phone?

MR. KANIS: Here.

CHAIR BOCCHINI: Natasha Bonhomme?

(No audible response)

CHAIR BOCCHINI: Ed McCabe, by phone?

MR. MCCABE: Here.

CHAIR BOCCHINI: Cate Walsh Vockley?

MS. VOCKLEY: Here.

CHAIR BOCCHINI: And Carol Greene?

(No audible response)

CHAIR BOCCHINI: I want to thank you for joining us for this second day. We're going to start today with a presentation. I think that we certainly have significant concerns about issues with retained blood spots. And so, Jeff Botkin today is going to discuss prenatal education about newborn screening and dried blood

spots. Jeff?

MEMBER BOTKIN: Thank you, Dr. Bocchini. And, Alaina, thanks for setting that up. This is really a nice opportunity to be able to present some of the results of a study that we've been conducting here over the last couple of years. And it's a wonderful opportunity for us to be able to let you know what we found but also, hopefully, obtain some feedback from this very learned and experienced group about what next steps might be in this particular line of work.

And so what I'm going to do is present a little bit of background material about issues that this group will be quite familiar with, show you a couple of movies that we've developed on these issues, and then show you some results about prenatal education, about these topics and the response that we've had from our study.

All right. So again, a bit of Coals to Newcastle for this group. Education in this domain has primarily been through brochures

provided in birthing facilities. I think it's widely recognized that that's not a particularly effective way to educate or inform parents about these issues.

For the most part, these brochures are not read, providers do not consistently address this material Everybody knows the perinatal period is not conducive to a thoughtful discussion about these issues. And frankly, there's been relatively little incentive for health departments to do a more energized job in this domain.

So what the surveys have shown over the years, a number of them, is that parents want to know about this information prenatally. Pregnant for a long period of time, they're very interested in almost anything that is relevant to the baby. And so this theoretically would be an opportune time to address these issues rather than in the perinatal period alone.

But we do know at this point, or at least what surveys tend to show, is that prenatal

care providers are not really plugged into newborn screening and are not addressing these issues on any sort of consistent basis.

So the AAP, back in 2000, had their statement supporting prenatal education about these issues. And in addition, in 2011 ACOG also had a statement that basically says obstetric care providers should make resources available to patients during pregnancy.

And they provide a couple of thoughts about how that would be done. And it's a fairly passive statement in terms of making materials available. But it's significant. And ACOG has influence, substantial influence over the obstetric care community. Although this statement, to our knowledge, has not had a substantive impact on how obstetricians address this issue or whether they do.

So this is a study by Terry Davis' group at LSU. Dr. Bocchini was a co-author on this paper. This has been an influential study. It really provides an evidence base for the type

of information that they felt ought to be provided to parents.

They did a series of focus groups and developed seven things parents ought to be, parents ought to know about newborn screening. And I'm not going to go through these in detail. You can see how simple they are. And I think this is consistent with our experience as well. People don't need a list of the 35, 34 conditions on the RUSP. That's not the type of information that's useful for people.

It's really a basic set of information about how the programs work, what they can expect, what's going to happen to the baby, et cetera. So our educational interventions have been based around this data about what parents want to know.

Residual dried blood spots, again, folks are familiar with this issue, available on virtually every baby for at least a period of time and potentially are highly useful for QA, QI, rarely for forensic uses and biomedical uses,

biomedical research, of course, being the primary potential use of these. That is controversial. I mean, QA, QI is really the primary, most frequent use. But the research applications are the ones that are potentially more controversial.

This is from NewSTEPS. Marcy Sontag, from August of this last year, giving a breakdown on what current blood spot retention times are in state newborn screening programs. And so you can see diversity still exists with a number of states keeping them for ten years and longer.

So the blood spots really do have extraordinary potential value for biomedical research. Folks have done a whole host of studies, genetic epidemiology, infectious disease studies, HIV and CMV being good examples, particularly useful in some of the early stages of the HIV/AIDS epidemic and really demonstrating who was infected, how many folks, pregnant women were infected. Who were those folks in terms of the geographic locations, et cetera?

I'm going to predict that the Zika

epidemic, it's not an epidemic yet, but the Zika development is going to demonstrate the clear utility of blood spots for demonstrating when and where these infections are occurring in pregnant women.

We are currently conducting a literature review. We've identified so far 1,900 publications in the English language that report use of dried blood spots from newborn screening sources. And we're going to break those down on what types of research are being conducted, what states are involved, et cetera.

So we should have our report out in the next six months or so about that, which I think will help support the field in terms of demonstrating how useful these have been traditionally.

So we've been conducting a project over the last couple of years, a four-year project, NHGRI supported. I'm the overall PI. Nancy Rose is the site PI for Intermountain Healthcare in Salt Lake City. Miriam Kupperman

was site PI for UCSF and Siobhan Dolan at Albert Einstein in New York City.

Oh, here's the rest of the team. This was just a terrific team and quite a bit of fun to conduct this study over the three sites. Utah, California, and New York chosen as sites, in part because of the quality of these collaborators but also because they approached newborn screening and dried blood spot management in a similar way.

So we didn't have to create separate informational resources for the individuals, for the parents in those states. Their policies over the retention of blood spots and permitting parents to opt out was also consistent across those three states. Obviously, all of that's changed now in the aftermath of the Reauthorization Act. But this was true during the conduct of this study.

So here are our specific aims. Determine what pregnant woman, young mothers, and their partners want to know regarding the

retention and use of residual blood spots.

Create multimedia tools to use in the prenatal care environment, so provide basic information about newborn screening and then dried blood spots.

Implement those tools and determine the impact of that prenatal education on knowledge, attitudes, and decisions regarding newborn screening services and the retention of dried blood spots and then to examine the ethical implications of those results.

So here's the results from specific aim one. What do parents want to know about this dried blood spot issue, and policies, and practices? So we, too, identified seven things that sort of, theoretically based, is a good number that people can readily remember.

So these are the first four of those seven. And again, you can see the level of sophistication of these. The parents want to know basically what happens and what they can expect in terms of information.

So a couple of key things that we hadn't necessarily anticipated beforehand, no extra heel pricks are done to collect the blood for potential uses. So this was a big deal for parents. They would have been quite a bit more concerned about this practice had there been an extra stick for the baby.

Safeguards in place to protect privacy and to ensure the ethical conduct of research. This was a revelation to most folks in our focus groups. Folks had, of course, no idea what the process of research is. And as you described, basically the IRB process, it's like, well, that's a pretty good idea. Because the other ways don't have any idea how it is that investigators decide what to do with these blood spots.

One of the things that you'll see in the movie is that consistently folks came forward to say yes. I mean, what would be your concerns about research in this domain? Folks don't have a vocabulary, they don't have a background. And

so cloning came forward as the single most frequent concern that folks had. So as you see in the movie, we try to address that quite explicitly.

So this is the other three of our seven things parents want to know. You identified blood spots, and therefore you're not going to get results back from the research. This was also a consistent expectation of folks to say, well, if you're using my baby's blood spot, I would expect to get the results of that research back. So you have to let folks know that that's not how the system is likely to work.

Then the last one, parents may request that their baby's blood not be used. Again, this is pre-Reauthorization Act language.

So our interventions are theory-based. I'm not going to go through these, but we tried to make these interventions as rigorous as we could, both in terms of the empiric data from parents about what they wanted to know and how to structure these interventions.

So I'm going to show you the two movies now and hopefully get some feedback.

(Off the record comments)

(Video 1 playback started)

FEMALE SPEAKER: Newborn screening, what parents need to know. Most babies are healthy when they are born. However, some babies that look healthy at birth have serious diseases.

These diseases can cause them to become sick within days. Without treatment, these diseases can cause serious health problems, such as mental retardation. But when these diseases are detected early through newborn screening, the babies can be given a special diet, medication, or other treatment before they become sick.

Newborn screening is one of several tests done on all babies right after they're born. It's one of the ways your state health department is working to protect your baby's health. Since the program began 50 years ago, newborn screening has saved countless lives.

FEMALE PARENT: Before our first child, I had no knowledge of newborn screening.

MALE PARENT: Eli came back from the nursery with a A while on his heel. And I kind of vaguely remember a nurse saying they took some blood tests which was routine.

FEMALE PARENT: Our pediatrician called me and let me know that the test had come back either inconclusive or possibly positive for PKU. We repeated the blood work to confirm that it was positive for PKU. If we had not had newborn screening, the results could have been absolutely devastating. And they would have mental handicaps at this point.

MALE SPEAKER: I worked in the storeroom at the University of Utah Hospital. We basically just stocked everything for all the nurses and the doctors.

FEMALE PARENT: We try to make their life as normal as possible. We've encouraged them to never allow PKU to limit their activities or their abilities.

FEMALE SPEAKER: What health conditions are screened for? Because it's so important that every baby be tested, newborn screening is run by state health departments. Different states test for different diseases, but most screen for at least 30 treatable conditions.

FEMALE PARENT: How will my baby be tested?

MALE SPEAKER: Newborn screening is very simple test. While the baby's in the nursery, a few drops of blood are taken from the heel of the baby with a simple heel prick. Those blood drops are put onto a filter paper and sent to a laboratory. In the laboratory, those few drops of blood can be used to measure a whole host of disorders.

FEMALE PARENT: Will I receive the test results?

FEMALE SPEAKER: The test results come back to your baby's healthcare provider in about two weeks. At your baby's first visit, be sure to ask the provider about the results.

FEMALE PARENT: Will my baby need to be retested?

FEMALE SPEAKER: Your baby might need to be retested for these reasons. If there is a problem with the blood sample, such as too little blood was collected. If your state requires a second set of tests. Your baby may need to be retested if the first test shows your baby might have a health problem. A second test can confirm or rule out a serious disease.

If your baby needs additional testing, a provider or the state health department will contact you. They will tell you why your baby needs to be retested and what to do next. It is very important that you follow their instructions.

FEMALE PARENT: Can I choose to not have my baby screened?

FEMALE SPEAKER: Newborn screening identifies babies with certain serious diseases. The health benefits of early treatment for these babies are so important that most states do not

ask parents' permission to do the testing. However, most states allow parents to refuse newborn screening for religious or personal beliefs.

What parents need to know. It is important to do everything possible to help children lead happy, healthy lives. Newborn screening is one way you can help your baby get off to a healthy start.

Here is a summary of the key things you should know about newborn screening. The state requires a blood sample to be collected from all newborn babies before they leave the hospital. This sample is used to test for over 30 serious disorders.

Babies with these disorders may look healthy at birth. If the disorders are found right away, treatment can begin before a baby gets sick. A nurse will take a few drops of blood from your baby's heel for testing. The test results will be sent to the baby's healthcare provider and the hospital. Ask about

the results at your baby's first checkup.

If your baby needs to be retested, you will be notified. For the health of your baby, it is very important to get retested as quickly as possible. Talk to your baby's healthcare provider if you have questions.

FEMALE PARENT: As new parents, there are so many things that we do for our babies that help them to grow and help them to have normal lives. And I think newborn screening is just one of those responsibilities that we have as parents to ensure that our children are healthy and can have as normal a life as possible.

(Video 1 playback ended)

(Video 2 playback started)

FEMALE SPEAKER: After newborn screening, what parents need to know about leftover blood spots. Newborn screening is testing a baby gets right after birth. These important tests identify babies with certain serious diseases so they can receive treatment before they get sick.

Testing is done on small circles that are punched out of the newborn screening card. The testing usually doesn't use up all of the dried blood spots on the newborn screening card. Leftover blood spots are the un-punched part. In this movie, you will learn about what happens to this leftover blood.

What happens to the leftover blood spots? States keep the blood spots for different lengths of time. Some states keep the spots only long enough to do the newborn screening tests. Other states keep them for months or years. Some states keep the blood spots for decades.

What might leftover blood spots be used for? Most spots that are stored will not be used after newborn screening. Some spots might be used by state health departments to make sure the newborn screening tests are working properly.

Leftover blood spots can be used to check that labs get correct and consistent results. This quality control is by far the most common use for leftover blood spots.

Health departments also work to make the newborn screening program better. Leftover blood spots can be used to develop new tests for babies. Fifty years ago, newborn screening started with just one test. Today, babies are tested for over 30 disorders. Many of these tests were developed using leftover blood spots.

MALE SPEAKER: Now, these leftover blood spots have proven to be remarkably valuable for a variety of different types of research projects. Now for example, projects have looked at toxins in the environment that mothers may be exposed to while they're pregnant. Those toxins can pass into the baby's system and be detected in these leftover blood spots.

Now, the second type of project would be to look for infections that mothers might have while they're pregnant. Again, these infections may pass into the baby's system and be detected in the leftover blood spots.

A third type of project has looked at rare genetic conditions. And in these projects,

they may use tens of thousands or perhaps hundreds of thousands of blood spots to look for how common these conditions are in babies when they're born.

For research purposes, there aren't any extra heel sticks that are done for the babies. They use extra blood that is just leftover once the newborn screening testing is finished.

FEMALE SPEAKER: Because newborn screening is done on all babies in the United States, leftover blood spots represent newborns of all ethnic backgrounds, income levels, and geographic areas. Leftover blood spots are an important window into the health of the whole population.

What are the safeguards for families? If a baby's leftover blood spots are used in research, personal information will remain private. However, this means that the results of any research done with the baby's leftover blood spots cannot be returned to the parents.

Blood spots and research information are stored in secure areas that only authorized people can access. Insurance companies and employers cannot get this information.

Anyone who wants to use leftover blood spots for research must have permission from a review committee made up of doctors, nurses, scientists, and community members. The committee allows spots to be used only in studies that are ethical and protect babies and their families.

MALE SPEAKER: This type of research has proven be remarkably safe for mothers and families. Now, there have been no reports of loss of privacy or confidentiality from research using leftover blood spots.

FEMALE SPEAKER: Leftover blood spots would never be used for things like cloning or stem cell research.

What if a parent does not want their baby's leftover blood spots used in research? Parental consent may be required for the use of leftover blood spots in most research. If a

parent does not want their baby's leftover blood spots to be used in research, the baby will still receive all the benefits of newborn screening.

Key things parents need to know about the storage and use of leftover blood spots. Here's a review of the key things you should know about leftover blood spots.

Some states save leftover blood spots after newborn screening is completed. Leftover blood spots can be used to improve the public's health in many ways. The most common use is to maintain the quality of newborn screening tests. No additional blood is collected. Only leftover spots are used.

Safeguards are in place to protect the privacy of babies and families and to ensure that research is ethical. If used in research, the baby's name or other identifiable information is not attached to the leftover blood spots.

Because most research with leftover blood spots is done anonymously, parents will usually not get results back. Parental consent

may be required for the use of leftover blood spots in most research.

For more information about leftover blood spots, contact the newborn screening program at your state's health department.

(Video 2 playback ended)

MEMBER BOTKIN: Okay. Thank you. All right. So the length of these is a little long. We struggled quite a bit with that. The feedback we get from folks is that this is about the limit of their attention span in that particular time period. But we had difficulty trying to shorten it.

The other thing I'll just highlight for you that's relevant to our results is you can see that there's a very positive spin on both aspects of this enterprise, newborn screening, certainly, but also the dried blood spots.

We tried to be reassuring, et cetera. And I think you'll see some reassurance in our data as a result. But again, we sort of struggled with what the right balance should be

as you present the educational materials to folks.

So here's our recruitment diagram here. We approached 1,247 folks. Seventy-two percent of them agreed to participate. So that's a pretty good number. And folks were then randomly assigned to one of three groups.

The control group for standard care, those folks got whatever parents normally get as part of their obstetric and neonatal service about newborn screening and dried blood spots. Yes, Joan?

MEMBER SCOTT: Was the demographics of the individuals that you approached to look at this apparent, you know, in the parental age --

MEMBER BOTKIN: Right.

MEMBER SCOTT: -- it would be?

MEMBER BOTKIN: Yes. I'll show you that in the next slide. I'll give the whole breakdown here on who agreed to participate with us.

So folks just got whatever they

normally were going to get as part of their obstetric and neonatal care. We had folks who just looked at the newborn screening video. And again, this is at about 36, 38 weeks gestation.

And then other folks watched both of the movies. We subsequently then did follow-up, post-delivery of the baby. And I'm going to give you those results shortly, so about 77 percent, 75 percent retention rate at that stage. So again, pretty good for this type of research.

Here's our demographics, 31 years. And important point here, the gap in time between our intervention and our assessment of knowledge and attitudes was about seven weeks. So that's a fairly substantial period of time.

Pretty good mix in terms of race and ethnic background with 70 percent Black or African American, 28 percent or so Hispanic. Most of those folks chose to engage with us in English. Although we had the movies in Spanish and the surveys in Spanish as well for those folks who wanted that, had that language choice.

I don't have all the income breakdown here, but you can just see from these two sides of the income spectrum that we had pretty good representation for folks of modest incomes and higher incomes and then a pretty good breakdown in terms of education. We were not really significantly over-represented with professional or graduate degree folks. The majority of folks had a college education.

So here's our results. Knowledge about newborn screening, so standard care group, 69 percent correct and then increasing to 79 and 75 with the intervention.

And we'll put a highlight here in a second, what I think is an important outcome of the whole study which is the actual knowledge increase is not all that impressive. But what you'll see is a more dramatic difference in the changes in attitudes about these phenomena.

Nevertheless, statistically significant increase in knowledge seven weeks afterwards. And if you break that down by

education, you see a very similar effect. So folks who had high school or less are here in the brown, some college in the light green, and then professional or graduate degree. And so consistent effect regardless of education level, although the starting point differed with each of those groups.

Also true for ethnicity here, showing you Hispanic and non-Hispanic participants. Again, parallel results regardless of ethnicity. And this is knowledge about newborn screening.

Here's knowledge about dried blood spots. And the dried blood spots, of course, we only gave them information in the dried blood spot plus newborn screening here.

And so you would expect these two to be similar. And indeed they are. There's no statistically significant difference between these two groups but significant increase in knowledge about dried blood spots for the folks who saw the dried blood spot movie.

Similar sort of pattern here about

dried blood spots with respect to the education level of the participants. Professional or graduate folks saw a fairly significant increase, so a more dramatic increase in their knowledge. But each of the groups showed increase in knowledge across that range, similarly with ethnic background.

So here are some of the attitude questions. From your experience and what you understand about newborn screening, how supportive are you of this program?

And what you see, of course, is that all three groups are very highly supportive. Folks get the whole notion of newborn screening, and they're very supportive of these programs. So all of these groups are 96 to 99 percent either very supportive or moderately supportive.

You see some change here with many more individuals in the very supportive category who saw the newborn screening movie in particular.

I'm satisfied with the information I

have received about newborn screening. And folks could either completely agree with that completely disagree. And here you see, again, an increase in satisfaction with both of the movie groups here compared to standard care baseline.

So the degree of increase, we think, in the attitudes and support for the program really was out of proportion to the actual knowledge increase that folks had.

So I think that there may be a phenomenon here where folks appreciate being told about these things. It engenders a higher level of trust in the program and a higher level of satisfaction, even if their knowledge levels have not dramatically improved.

Satisfied with the information they have about the use of dried blood spots after newborn screening. And of course, both of these groups got nothing in the way of dried blood spot information. So they weren't particularly satisfied. And the dried blood spot movie group, a pretty high level of satisfaction between

either completely agree or mostly agree.

How concerned are you that your state saves leftover blood spots from babies after testing is done? So again, we see a progressive increase here in particular with this group being not concerned at all at 43 percent or not very concerned at 28 percent. But still 12 percent of folks with a high level of concern.

So this decreased somewhat with the education, but did not go away. So I think this is a feature to be expected. There's a modest, smaller number of folks who will remain concerned about this practice, sort of regardless of our educational interventions.

How supportive are you of using these blood spots for research? Really a high degree of support across the board. And again, that level of support increases with more information about this practice.

In your opinion, when would be the best time to educate parents about newborn screening? And you can see almost identical

responses across the three groups.

So our education didn't have any impact on responses here, with the largest group saying early in pregnancy, consistent, 37 percent for each group saying later in pregnancy, and then smaller percentages here saying after the baby is born. So again, reinforcing the fact that folks really want this information prenatally.

So some obvious conclusions here. The dynamics of the population screening for rare disorders makes adequate education a real challenge.

Parents want this information in the prenatal period, and we think that concise, high quality, multimedia tools can increase knowledge and enhance support for these programs. So I think that such --- so this is sort of a core conclusion.

I think state programs can be more aggressive about education without any blowback or negative consequences. I think it enhances

the reputation and trust in these programs.

Now the data I'm not showing you here is that we had nine parents who said that they declined newborn screening in our study. All of those people were in the standard care group.

And we got narrative answers from them about why they refused newborn screening. And almost everybody gave an answer that made it clear they didn't understand what newborn screening was, that they were confusing it with prenatal screening.

Now we had three people in the dried blood spot group and two in the standard care group who said they called the state to have the state not use the dried blood spots for research purposes. So again, no difference in terms of the dropout of either newborn screening or dried blood spots through the education.

Now, of course, we're only engaging here, and we're not engaging all tens of thousands of people in these states. And so a small percentage increase in refusal would be

significant. But we didn't detect any impact of that sort.

So the challenge is now how do we effectively incorporate multimedia tools into prenatal care and how to effectively promote choice about dried blood spots in the prenatal environment for postnatal retention and use, assuming that informed consent requirements are going to remain in place for the indefinite future.

Is it conceivable that we could foster choice during the prenatal period rather than the postnatal period? I think we can foster at least education in that regard.

So our efforts now, we've got a small implementation study that we're doing in Utah that would like to take this work forward to try to see how this can be done.

Our concept is that if we can decouple some of this education from the responsibilities of the clinicians themselves it would help. Because I think we're hearing from obstetricians

that they just don't have time. There's just too many other issues. This is not a high priority for them. And having the obstetrician set aside time is probably not a realistic expectation.

But if we can embed links to films in scheduling emails or have information available in the clinic where folks can go to websites and tend to this information, you know, those are beginning to be things that we're attempting to do that may make some impact on this domain.

So I thank you for your attention to this. And we've got, fortunately, a little bit of time left. I very much welcome any questions, certainly, or any comments or thoughts about this effort.

CHAIR BOCCHINI: Jeff, thank you for sharing that with us. That was a -- sharing your resources -- very nice presentation and good information. So, let's go around the table. And I think everybody raised their hand at the same time. So why don't we start with Kamila, and then we'll go around the table.

MEMBER MISTRY: I hope mine's an easy question. So I was just wondering about non-participants. So in your flow chart, when folks didn't participate, did you look at who those folks were and how that could have affected the overall result?

MEMBER BOTKIN: We did. And actually there was no statistically significant difference in those who declined participation from those who did participate. So we did not see any real discrepancies in that regard.

MEMBER MISTRY: Even with regard to folks that refused the newborn screening and --- was that one of the characteristics you looked at?

MEMBER BOTKIN: Oh, folks who refused newborn screening, those were nine people.

MEMBER MISTRY: No, I mean when you asked, when you asked people to participate ---

MEMBER BOTKIN: Right.

MEMBER MISTRY: -- that wasn't an inclusion or exclusion criteria. So where did

those people --- did you look at that as a characteristic of folks who participated or -- I hope I'm asking this correctly --- who participated or didn't participate? You know, if you would look at participants versus non-participants and make sure that there was no differences with that, one of the characteristics you looked at.

MEMBER BOTKIN: Was what one of the characteristics?

MEMBER MISTRY: Whether they refused newborn screening. Because the nine ended up in the final. But I'm saying was that ---

MEMBER BOTKIN: Right.

MEMBER MISTRY: -- ever looked at as ---

MEMBER BOTKIN: No. That was not. We did not look at refusal for the folks who had declined to participate with us. We didn't have that information.

And all of our --- we didn't want to try to draw information from the state programs

about peoples' decisions. So we only got their self-reports. So we didn't have that information on folks who didn't participate.

CHAIR BOCCHINI: Cathy?

MEMBER SPONG: Thank you for the presentation. And I just have a quick question. Like, if it's going to be implemented in a prenatal clinic, you know, and maybe I missed this, the video that talks about newborn screening in general, do you think there will be any confusion from a mother's part about prenatal testing or screening during the pregnancy versus waiting until, you know, newborn screening? I just was wondering if there was ---

MEMBER BOTKIN: Yes.

MEMBER SPONG: -- any concern about that. Granted, it might not make a difference.

MEMBER BOTKIN: Well, I think particularly since our intervention was at sort of 36, 38 weeks --

MEMBER SPONG: Yes, that one.

MEMBER BOTKIN: -- that folks --

MEMBER SPONG: I was thinking earlier.

MEMBER BOTKIN: Folks would minimize the confusion there. But it is pretty clear that when those folks, those nine people said that they had refused newborn screening, that they were talking about a very type of screening.

So I think there is risk that there will be confusion. The other confusion that we were most concerned about was confusing newborn screening and confusing the dried blood spot issue. And we didn't want folks to say well, you know, my best option for -- if I'm concerned about dried blood spot, my best option is to not do newborn screening.

We didn't see that happen. But we tried to give a very different look and feel to the movie so that it sort of clearly separated that these were different issues that they had to be aware of.

MEMBER KELM: So thanks, that was a really nice presentation and very nicely done videos. I have a couple of questions. One

question, you sort of touched on it. But it almost raised, to me, by having the two separate movies, that this is something you should be concerned about.

So I was interested in why not just include, as part of that initial movie, well, this is what happens to your blood spots afterwards. And I recognize that they get too long after a while, and so it may not be feasible to do that. But it almost raises it as another issue, where someone may not have thought of it as an issue. That's my first question.

MEMBER BOTKIN: Yes. And as we're going into a small implementation pilot, that's exactly what we're doing. We're combining those two movies in a way that makes it a more seamless experience. And you can eliminate some of the time just by the little bit overlap there is between the content of those. So I think that there's probably no good reason to have a separate ---

MEMBER KELM: I mean, I do think it's

good to have separate videos in the sense if someone has that question. You can just give them that information. But I wonder if it wouldn't also be useful to have one video that kind of covers it all. So, I mean, I think it's well done. And there's always more work to be done. So I just wanted to raise that.

I was curious a little bit about the idea of using blood spots for Zika. We have not heard that at all. And I'm wondering if you're aware of someone who is working on that.

You know, Zika virus itself can only be detected for a very, very short period of time. And if you're looking for the IgM, it cross reacts with Dengue currently. So it's, in an endemic area it's very difficult to use.

I don't know that the -- I'm interested to know would you really be able to and are you aware of people looking at blood spots to, as you said, get the timing of infection. And how would you do that?

MEMBER BOTKIN: Yes. So you clearly

know much more about it than I do. And --

MEMBER KELM: Oh, I was excited that you knew something.

MEMBER BOTKIN: No, I'm not aware of anybody who's doing that. But it seemed conceptually feasible. But it may well not be for exactly the sorts of reasons you -- I don't know whether, Joe, you've heard anything about Zika with blood spots or not.

MEMBER BOYLE: I have not.

MEMBER BOTKIN: Yes.

MEMBER CUTHBERT: Yes. So we looked in ---

MEMBER BOTKIN: Well, you heard it here first, folks.

MEMBER BOYLE: Yes. I was going to say we looked into it a little bit. And I know Carla is here as well. And I heard from a laboratory perspective it's very challenging to use the --- particularly the RNA. It gets very sticky. Is that right?

MEMBER CUTHBERT: We've not been

approached. So the guidance that I got from my director was that the infectious disease people at CDC have this under control.

And they know that we do blood spots. And if they have an interest in contacting us they would. But I think that, I don't think that they have approached it, they have an interest yet in doing it that way. But we'll be available if they --

MEMBER BOTKIN: Okay. Thank you for clarifying my optimism that that might be an issue.

MEMBER BAILEY: So, you know, first, great videos and everything, wonderful images of babies, and children, and great educational principles, and adult learning, and so forth. So really, kudos to you and your team.

I have two things. One is are these available to other people, either for research purposes or for clinical purposes now? Or are you still keeping them and working on them? And then secondly, you already asked the question I

was going to ask which is, okay, these are great, how do we get people to actually look at them.

MEMBER BOTKIN: Yes.

MEMBER BAILEY: And to me, that's the, in this day and time, 12 minutes of video is an eternity. And how do we get people, first, and the people who we most want to see it? That's the implementation challenge, I think. And obviously you're working on that.

MEMBER BOTKIN: Well, we're thinking about it. There are just some enormous challenges in that regard.

So these are basically finished now. The dried blood spot one we did revise to be consistent with the Reauthorization Act. So it actually is a little bit different than what families saw back in the study.

We are happy to make these available. We haven't found the right avenue to do that. They're not posted yet in a downloadable form. But we're sort of discussing the best way to approach this.

And I've even thought about the possibility of creating a commercial product out of these as a way to market it in a way that, I don't know, might be more attractive as a commercial product as opposed to just somebody posting it on the Web. But we're thinking about all of those possibilities.

MEMBER MCDONOUGH: A very impressive video, it was high quality. The only suggestion I have on the first video, when the results are often, if they're positive, get there sooner than the two weeks that's indicated in the video.

I think there's an opportunity for use in hospital prenatal classes, doctors' waiting rooms, maybe not in the doctors' clinic office, but a lot of doctors or clinic waiting rooms have ongoing educational stuff that just runs on a continuous loop. And you can get information in there where people often are waiting more than six minutes to get to see their physician. And so I think it could be done prenatally.

And I think there's going to be a good

market for it, particularly if the state public health labs get out to the hospitals and start promoting this. A lot of state public health labs annually visit hospitals. And this is something they could show them.

And then I think it should be repeated in the hospital. When you're there for a day and a half having a baby, a lot of moms, when I go in there and bring the baby in, or talk about the baby's exam, how the baby's doing, they're watching a video on something, breast feeding, or changing diapers, or whatever it's going to be. And I think this would fit well in there.

So I just want to compliment you on the very high quality. And I think there'll be a market for it and a way to get this out. And I think it's going to, it'll be really nice actually if you had this, if this would have been available for Congress when we went through the Reauthorization Act, and they could have a chance to look for that. Maybe we're not left with some of these obstacles we have.

MEMBER BOTKIN: Good. Well, thank you. And we need to try to better understand exactly how those video tools, other video tools are being used in both the prenatal and postnatal environment.

I think hospitals may have a health channel that may include stuff relevant to all patients as opposed to this particular subclass of patients. But we need to better understand the landscape to see where this might fit.

MEMBER BOYLE: Yes. So we know the privacy issues have a lot of regional variation based on our experience with storage of blood spots. And you have three sites. Is that correct?

MEMBER BOTKIN: I'm sorry?

MEMBER BOYLE: You had three sites?

MEMBER BOTKIN: Yes.

MEMBER BOYLE: New York, California, Utah.

MEMBER BOTKIN: San Francisco, New York, Salt Lake.

MEMBER BOYLE: And, I guess, thinking about Utah versus the other two sites, did you see any variation by sites?

MEMBER BOTKIN: No, we didn't, actually. Yes, there were no significant differences by site.

MEMBER BOYLE: And then one other question. And maybe I just didn't follow it. So your seven principles, one of them was if a blood spot is used in research, the baby's name is not attached to the blood spot, which is not necessarily true if it's used in anonymized research. So I just felt like that was perhaps -- maybe I was misunderstanding that piece.

MEMBER BOTKIN: Well, it's obviously a three level issue. You have spots that are linked back to identifiers. But typically, in those contexts, the investigator himself, herself does not have that identifying information.

And that's why, in most of those circumstances, of course, it's not human subjects research in that particular context even though

somebody else might be able to track back that identity.

I think many spots are used that are completely anonymized. And so part of the challenge for us was to sort of articulate that type of protection in a way that we thought was accurate and understandable.

So I think that statement's still true. Although once we do our study of the 1,900 publications, we'll have a better idea exactly what level of the identification was done. I mean, I'm only aware of one study in which identifiable blood spots were used. It was a CMB study in Utah actually. But I don't know if that's helpful.

CHAIR BOCCHINI: Joan?

MEMBER SCOTT: That was really great, Jeff, and very interesting. As I recall, about half of your participants had had a child before?

MEMBER BOTKIN: Yes.

MEMBER SCOTT: Did you notice any difference based on whether or not they were

repeat parents or this was their first pregnancy?

MEMBER BOTKIN: Good question. I don't think we looked at that. But we can easily pull those data. So that actually would be interesting.

MEMBER SCOTT: It might be also interesting to ask if they have any family history of issues. Because I would expect that would also skew responses.

MEMBER BOTKIN: Yes. And it might be -- well, yes. What we found in a separate study, looking at parents of kids with PKU and kids with leukemia, they have distinctly different attitudes about dried blood spot research than families in the general public. So that's a good point.

And I don't remember whether we asked whether families had a child affected with something. Doesn't necessarily have to be a newborn screening condition. But we would anticipate that might impact attitudes.

MR. WATSON: So I'm curious what's

going on with ACOG and AWONN? Last I saw, they were sort of doing education for themselves about newborn screening at ACOG. Do we know where they are? Because obviously getting their support for getting this into offices and things would be key to getting it out there.

MEMBER BOTKIN: I don't. We've had some discussion, or Nancy Rose has had some discussion with their education office. And they are interested in these materials. But we haven't taken any particular steps at this point. I'm not sure what ACOG otherwise is doing. We have a representative here, don't we?

CHAIR BOCCHINI: We do. Is Dr. Biggio on the phone?

(No audible response)

CHAIR BOCCHINI: No, not today. But we do.

MEMBER SPONG: I can tell you they have a committee opinion out on it saying what should be done.

MEMBER BOTKIN: Right. Yes.

MS. BONHOMME: Hi. This is Natasha Bonhomme with Genetic Alliance. We've been interested in that question as well.

So in June we are actually going to be doing focus groups with the nurse leadership of AWONN to see where those types of decisions actually take place and how do you actually implement change.

This focus group will be around timeliness, but I think one of the reasons why we don't know is, while we may be able to find a committee opinion, we oftentimes don't actually ask the nurses who are in the nurseries how does change actually happen here.

So once we do those focus groups, and that's in partnership with NewSTEPS 360, we'll be happy to share kind of from the nurses themselves, like, how do you actually implement something in the nursery, how do you get education at that level. We'd be able to share that.

MEMBER BOTKIN: I'm sorry. You mean

in the obstetric service domain?

MS. BONHOMME: They will be nurses from across, so whether they were prenatally or in the nursery. So hopefully that will give us at least some insight in terms of how do things actually happen on the ground there.

MEMBER BOTKIN: Great.

MS. GREENE: Carol Greene, SIMD. Also relevant to the issue, although it's getting a little old now, we were not able to publish a survey of neonatal nurses and nursery staff that shows extremely poor knowledge of newborn training. Maybe we'll try and resurrect that paper and get it published. And so that would be another avenue.

I would also like to thank you for the beautiful video. I do wonder what might be your plans before very large distribution of such a very beautiful video that answers almost all of the questions.

But I'm hoping there might be room for some revision of a next version. Because some of

the things that, some of the questions about confusion where things could perhaps be more clearly explained, but also the study that Genetic Alliance and University of Maryland published that shows what questions families specifically have about newborn screening when they have received a positive newborn screening, or also some of those people who were just part of a focus group who had not.

The video leaves unanswered some of those key questions, like what is this positive screen business, that means the lab made an error. I mean, it's just a simple explanation of what is a screen. And we set a bar, and we find people who actually don't have the disease. And that's why we need to recheck.

So there are some fundamental questions that we've discovered people have that were not addressed. And so I'm hoping there might be room for another version before this massive distribution.

NYMAC has a video. I think Genetic

Alliance has a video. And I hope there might be an opportunity maybe with the education committee to sort of pull together the best with the best and make one that would then be the one to ---

MEMBER BOTKIN: Good. Thank you. I know we're thinking about it. I know Don's group is thinking about creative tools in this domain. And the nice thing about sort of electronic tools is you can layer them, or you can put a very simple Page 1. And if folks want to collect for deeper levels of information then that's available.

So I think that's the type of resource that would be ideal. Because obviously what we found is trying to pack everything onto that trifold brochure isn't effective.

MS. TARINI: AAP. Thanks, Jeff. So two questions. One, and a comment to precede, to Catherine's point about separating out the videos, I actually think the separation provides an interesting point which we had discussed in the meetings at Utah about these findings.

In Slide 25, your knowledge base between standard of care and newborn screening is pretty similar. You get 42 to 46. And really, the knowledge about dried blood spots increases tremendously, right.

But the other piece that's interesting to me is the support of the program. You get a lot of support just by simply viewing the video. So it goes back to this point -- I guess it's not a question now, it's just a comment, sorry --- that knowledge doesn't always translate into support.

You know, and I'm saying we're persuasive, but that one can be supportive and still not answer all the knowledge questions correctly. So it's important, as you've shown here, to actually look at what our objectives are in terms of education. So, that's all.

MEMBER BOTKIN: Yes. Excellent point. And I think if we, I mean, we would have loved to have seen a higher level of knowledge come out. Because their questions were very simple, which

is why we had a baseline correct response rate that was so high.

A little bit concerned that there's a certain ceiling effect. If you make the questions so easy then, you know, you're not going to see any increase in knowledge, because everybody gets then right at the beginning.

So, I think increased knowledge, particularly over that span of time, is a particular challenge. But the fact that we saw substantial degrees of increased support for us was heartening.

So I don't, I think that that's, from my perspective, a good goal. Because obviously we think both of these activities are worthwhile, and should be supported.

CHAIR BOCCHINI: We'll go back to Natasha, and then we have three people on the phone who want to make comments or ask questions.

MS. BONHOMME: Natasha Bonhomme, Genetic Alliance. Thank you so much for presenting this, the videos, and also the data.

I have a couple of questions and a couple of comments.

One question, for the group that saw both videos what was, was there a time difference in between the videos? Or did they see them one after the other?

MEMBER BOTKIN: They saw them one after the other.

MS. BONHOMME: One after the other. Okay. And then, did you ask how people wanted to get this information, or where they would like to see these videos, as part of --

MEMBER BOTKIN: No. Actually we just, we asked them their assessment of what they saw. But we did not ask that question. That would have been interesting.

MS. BONHOMME: Because I think that's one thing that we found, is we know where we think people should be seeing things. But people are finding information, particularly around pregnancy and early childhood, in a range of different ways.

And so, being able to get a better sense of where they would like to see it I think could be interesting, and maybe some that, as you're doing your implementation, you may be able to dig into a little bit more of the how, the process. I think that could be some good information.

Let me see, I think I have one other. Oh, and then the two comments. The one piece around the confusion between prenatal screening and newborn screening. I think that's something that we consistently see. The clearinghouse constantly gets questions around prenatal screening in our contact form.

And we just have to reroute that. So, on the one hand I think it's good that people are engaged in their health. And it's great that they can ask the question. And maybe it's not so much trying to make such a harsh distinction, but just to be able to guide people to the information they need when they ask the question.

And then secondly, to the point about

having videos in hospitals. We actually have the, a video we did with Children's National around congenital heart disease. We work with the Newborn Channel. And I think just hospitals contract out with these different agencies, and then just run whatever's on their platform.

And so, currently that video is being shown in over 1,000 hospitals. So, once you guys think you're maybe ready, or think that could be a form of dissemination, we'd be happy to share that contact with you.

Currently they screen that video in English and Spanish three times a day. Just to give a sense of what that landscape is like.

MEMBER BOTKIN: Yes. Excellent. thank you. Quick response there. Just, I'll highlight here the lack of challenge with generalized ability.

We had our staff in the prenatal clinics, working directly with the patients. This was during a waiting time, so we weren't impinging on the care of the patients. But it

wasn't the regular staff doing this.

And in addition, they would tell us, you know, this was on an iPad. They don't have iPads. And if they were to have iPads, they'd have to worry about them getting stolen. And then they have to worry about making sure they were clean between patients. And so, you know, each little thing has its own set of barriers to overcome in that regard.

CHAIR BOCCHINI: So we have Fred on the phone. Fred.

MEMBER LOREY: Yes. I'm fine. I was just trying to let you know that Susan and Chris want to speak.

CHAIR BOCCHINI: Okay. All right. Susan, you were next on the list. Then Cate's on the list too.

MS. TANKSLEY: Thank you. Can you hear me?

CHAIR BOCCHINI: We can.

MS. TANKSLEY: Great. Just, thank you for all the work that you've done in this arena.

You know that this is a special interest of mine.

I wanted to respond to, there was a comment made earlier about whether the research is anonymous, versus some that might be identified. And that's a distinction that we feel needs to be made. And so, we try to work things appropriately.

Because specimens can be contributed for research in an identified manner, if the parents give specific consent for that. And so, we try to take care in the messages that we put out, so that parents are made aware of that, you know, kind of like, they won't be used in a way that can identify you unless you give specific consent.

And so, they have been used. And one good example are the studies that Dr. Park did. We contributed many specimens to that where the parents gave specific consent to send those to her.

The second thing, I wanted to go back to the comment that Beth made about knowing the

objective. Making sure you know the objective of, you know, what do you want to get out of the video? One of the things, you know, well, our law changed multiple times.

And so, our first law required disclosure that specimen would be, or could be used for quality assurance, quality control research. And then we moved into a consent requirement for the parents to give consent.

And when it came time where we had to collect consent, we wanted parents to make a decision. So we wanted to inform them, so that we could record whether they wanted it used or not. So they necessarily didn't have to give consent. They could also tell us, no, they didn't want them used specifically.

So, there are some who you will never change. And it's more important for the integrity of the program, and keeping the program safe, to be able to show them that their wishes are also going to be taken, you know, that we will take of their wishes as well. Thank you.

MEMBER BOTKIN: Good. Thank you. So I know we're over time here. But one quick comment about goals that I think I would emphasize.

One of the goals I think we have here is to help people be more informed patients. Certainly what found in the focus groups is that if you start the conversation by saying, you know, what do you know about newborn screening? What sort of questions do you have?

Folks don't have any questions, because they don't know anything about it. But you give them ten or 15 minutes' worth of background, and then you can fill up the next hour with questions and conversation.

And so, hopefully this is the sort of thing that if you can trigger some knowledge, then folks will approach the doctor to say, I have these questions or concerns.

CHAIR BOCCHINI: So, Chris, we're going to have you ask your question or comment. And then Cate. And then we'll need to close the

discussion to move to the next topic.

MR. KUS: Okay. This is Chris. Jeff, my question is, what's your thinking on education relative to hearing screening and critical congenital heart disease? Natasha mentioned that there's a video for that. So the question is, will we need three videos?

MEMBER BOTKIN: I don't have a good answer for that. I think that that would be overwhelming. But obviously those resources ought to be out there and available. So how to integrate all that together in an effective fashion I think is a terrific question, and a big challenge.

Because I think we didn't deal with that at all. And in part because we were so interested in the dried blood spot issue specifically. But it's just an excellent point.

MS. VOCKLEY: Cate Wash Vockley, from National Society of Genetic Counselors. Jeff, I was just wondering, it's such a complicated topic. We use these words every day. But did

you get any feedback from families about the language used? And might that have some impact on knowledge gained?

MEMBER BOTKIN: Language in terms of --

MS. VOCKLEY: The complexity of the words. I mean, even the word confidentiality is confusing.

MEMBER BOTKIN: We did not get anything specific. Folks clearly gave us feedback about the length of the movies. For the most part they were otherwise supportive. I don't think we, I don't recall any specific comments to say it was hard to understand.

MS. VOCKLEY: Okay. Okay. Thank you.

MEMBER BOTKIN: Okay. Thank you.

MEMBER MATERN: Okay. Just one quick comment. Thank you again for all the work. It's really good. There's probably in Texas, but also in Minnesota, one or two districts where you might want to try those videos out, and see what their feedback is.

And the other is, looking at 1,900 publications where leftover blood spots are used is impressive. If someone who doesn't know this, they might think, well, that means there's a lot of problems with blood spot testing, that you have to have so many publications. Or this should be a perfect test by now.

So, as you go through it, I suggest you kind of divvy out what actually let to improvements in newborn screening or, versus -- Because it seems like parents want to know that it actually did something good.

MEMBER BOTKIN: Okay.

MEMBER MATERN: And it's not just paper.

MEMBER BOTKIN: Yes. And I think we're planning on looking at, was this application related to newborn screening? Or was it related to some other health problem. Good. Thank you.

CHAIR BOCCHINI: Thank you very much, Jeff. And thank you everybody for the comments

and questions. Next we're going to have reports from two workgroups, before we break for lunch.

So, the first is the Cost Analysis Workgroup Update. This will be presented by Alex Kemper, who chairs our Condition Review Workgroup. He is at Duke University in the Department of Pediatrics, and the Clinical Research Institute.

MR. KEMPER: Thank you. While Alaina's getting things set up, Jeff, it was nice to hear about you having to review 1,900 papers, and not us for a change.

And I guess the other thing I was thinking about as I was sitting back there is, I wish we could have that sort of melancholy piano music go as we talk about costs. But sadly, we don't have that.

So, in the next 30 minutes or so I'd like to update everyone with where we are. And K.K.'s sitting in the back, and I may call her up. Because there's some numbers that just came in this past week, and I want to make sure that I

explain things correctly.

I can't use my little keyboard. But I'll muddle along. So, this is just a listing of -- Oh, good. Here comes Alaina to rescue me again. But, members of our workgroup, some, which are -- Oh, I have to use this? Okay. Some of which are here. And I really appreciate everybody's input.

Just to catch you up. And again, I noticed ironically we have a charge on the cost thing. But our charge was to consider methods to assess the cost of newborn screening expansion as required by the authorizing legislation.

And our deliverable is to report with recommendations to the advisory committee about how to incorporate cost assessment into the decision making process. And I'd like to begin again by reminding you where we've come from.

So, our original plan, which we are sticking to, is to look at the budget impacts on states. And in terms of sources of data we're reaching out to states or other programs that are

involved in the process, as well as vendors who make a lot of the newborn screening test equipment.

We have several cost data targets that we're interested in. So primarily we're interested in those costs that are born by the state to expand newborn screening. So, issues of screening, laboratory costs, and short term follow-up.

If you recall before, we talked about doing things over a two year horizon. But to look at things annualized. Look specifically at the costs per infant screened, and to normalize this to the cost per screening 100,000 newborns.

Our secondary goal is to also look at treatment, and issues of long term follow-up care. Certainly we appreciate that, you know, again, screening is, you know, encompasses the whole process. But we're obviously restricted in the availability.

So, now I'm going to move into the beginnings of where we actually are, and hope to

get your input. All right.

So, let me begin by describing the theme which came up over and over again, which is that the costs of the newborn screening vary significantly across states. And a lot of people that we spoke to were skeptical about our ability to drill down on this.

I have kind of a funny mathematical happenstance I'm going to show you in a little bit that might find the face of this. But appreciate the variability. We have variabilities of state size, birth rates, existing laboratory facilities, how newborn screening costs are structured within the program, issues of funding, laboratory facilities, how they collaborate with others, their use of contractors. And how everything fits within the broader public health department.

The other thing is that there are all sorts of very complicated cost arrangements within, and for some states across states regarding who does what related to newborn

screening.

There are very complicated issues around how the test itself is gotten. So, if you buy the equipment and the reagents, or do you have some sort of leasing or rental agreement with the vendor who, you know, provides everything at a certain cost.

And there was, and I think we began to hit on this at the last meeting, some reluctance about sharing this, these numbers across states as well. Because it's sort of a competitive bidding sort of process. And so, and I can tell you other stories that make it even more complicated.

So, suffice it to say, at the last meeting everyone said, oh, this was like really complicated. And this is going to be a mess. And I said, oh, no, it's not going to be a mess.

But in fact, it is a little bit more complicated. And perhaps more complicated than I had appreciated at the time. But I think, you know, I think that it's important that we bring

up these issues. Because eventually we are going to be expected to do this within the narrow timeframe.

And what I don't want to do is be in the position of just coming back with, you know, presenting noise, you know. That again, we really want to have something that's going to be valuable to the decision making process, given the concerns that we have.

And again, members of the condition review, or the cost workgroup, as well as the states that have responded to our surveys, have been really helpful. So the fact that this is complicated, I don't want it to be a reflection on people's willingness to come through. It's just difficult.

So, our, the aims of what we're doing now are to assess the feasibility and the effectiveness of the cost assessment methods. If you recall before we decided to go after two related conditions, MPS I and Pompe Disease.

Because, you know, you can either do

them singly, or in the case that we're going to be talking about in a little bit, they can be multiplexed together. And you can either do it using tandem mass spec, or digital microfluidics.

So appreciating that digital microfluidics is still undergoing, and I can't comment on where it is right now. But this FDA approval process. And so, for example, some states can't even adopt, is my understanding, the digital microfluidics until this FDA process is done.

I'm not well versed in the nuance of these FDA issues. So if anybody else has something they want to add, I'd appreciate that.

Again, we're trying to like simplify things. You know, there's a million different ways of doing, you know, implementing these tasks. And so we're trying to at least, you know, give a range, at least not each little nuance that could be done.

But as best as possible, as it says there, we're going to gather estimates to get

ranges. But of course, we're going to have share with you the assumptions that we make as we go along. That's sort of where the train is moving.

So, again, as we move through this pre-test process, you know, our key questions are on how to gather the state cost estimates with the least burden on them, and perhaps secondarily us.

And how to standardize highly variable state costs, which I'm going to show you in a little bit, into a point estimate and range that reflects the reality of expanding newborn screening, given that, you know, I just have no standard approach.

But there's probably variations on approaches that can be used. I mentioned before this issue of there is some confidential or protected vendor pricing data. The estimates may be uniquely specific to the particular states that we gather the information from.

And then, one of the things that's interesting is that the cost components in

categories may vary. So we've developed questionnaires to ask for specific, you know, elements.

And we get the numbers back in. And then we had to tease out like, well, did you really mean this? Or is it this and that? So, it's complicated again.

But I hope that as we go through this process at least the methods of gathering data will become more standardized. And we'll be able to better communicate with the programs that are responding, what exactly it is that we want.

So, again, there are two states that I'm going to be highlighting right now that have provided information, Missouri and Illinois. But we've reached out to the other states. And we've gotten, I will say, lots of good information from other states about how they do this internally with different conditions.

So, Sylvia might want to comment on Hawaii. And certainly we've had discussions with John Thompson, who's also a member of the

condition, or the cost assessment workgroup, from the great state of Washington.

So, these are the costs that we were interested in, as originally proposed. So, laboratory costs, equipment, supplies, installation, space, and utility staffing, and the updating of the laboratory information systems, as well as staff development and services, including, you know, training and education, and then issues related to arranging short term follow-up.

But, you know, not going to be surprised if we have version 1.1 as we began to drill things in. So, the left most column has the laboratory cost categories on the right, a description of these things.

So, for equipment we realized that there is either this direct purchase, or as many states do, have these, sort of the reagent rental agreements.

Consumables, which may be subsumed within the reagent rental agreement, or other

laboratory expenses, you know, which is sort of the catch all. But could for some states include the laboratory information management system.

There's labor. And we tried to figure out exactly, you know, the category of person that might need to be involved, their FTE position, and salary and fringes. And I'm going to show you examples of that in a little bit.

And then issues of confirmatory testing. And then finally, overhead or indirect costs. So these are kind of the big buckets. Questions so far? Am I -- All right.

So this is an example of the kind of spreadsheet that we've been using. And I'm going to show you cost estimates from states that use multiplex testing. And then, to try to bring it down to what it might be for one of the tests on there.

We just said, well, if they're screening for four things, we'll divide by four. If they're screening for six things, we'll divide by six. We appreciate that that's not a very

realistic assumption.

Because there's, you know, if you were going to do one thing there's like a big cost. And then each thing is an additional one on. But, what we haven't been able to get yet, but we're working on, is from the vendors. What if you had just done one thing, instead of four or six things?

The one number that I have in there is the fringe benefit from the state employees. And we got this number for anybody from some like Bureau of Labor statistics thing. So, but as you hear in the private world, the state folk do get a little bit higher fringe benefits than you might used to be seeing. But they lose out more on the salary side of things.

Any political comments can be brought up after about how you feel about whether or not you're getting -- It's a labor of love, I'm sure.

So, I just listed here, and you're going to see I think in the next slide where some sort of irony came into things. But we have two

states, State A and State B. State A has, screens about 100,000 annually. And State B is larger, 180,000.

One state uses digital microfluidics. The other uses the varying, so tandem mass spec. One uses multiplexes for conditions. The other does six. Both use reagent rental agreements. And I have the numbers up there. But in addition, State B pays extra for consumables.

Again, we just got most of these numbers last week. And we had to dig into this more. But you can just, I won't read through the whole things. But you can see question marks where we're just trying to sort things out.

The FTEs are only for State A, whereas costs for other employees are wrapped up into other numbers provided by State B. But you can see, you know, in an ideal world once you add up all these things you can get the total annual cost to the state.

And then the bottom line is, well, you know, State A did four things, and State B did six

things. So, just to kind of get a sense, we'll divide by four and six. I appreciate that that doesn't, you know, doesn't entirely make sense. but I just wanted to get a sense of how things might play out.

So, this carries through before. But dividing out to figure out the cost of screening one infant for one condition, based on the numbers we got. And so, as you can imagine, K.K. and I, we were like, our like jaws to the ground once we got all these numbers, and kind of figured out which category they went in.

And, you know, did the FTE thing, and added everything up, and divided things out by the number babies. So it ends up being $2.03 for State A, and $2.08 for State B.

So, how they ended up within five cents of each other, I think is more of a, you know, sort of irony in the universe. And there are different things that are included for different things.

And what I don't want people to do is

leave this room and say, oh, you know, for adding one of these particular conditions on it's like only two bucks per baby. Because there's still a lot of moving parts that we need to flesh out where things are.

So, what I would like you, or hopefully what you're going to do is take a look at this, and get a sense of the process that we're using. Again, we got most of these numbers, you know, just within a week. And we need to do follow-up interviews.

Because it was clear that the way we're describing buckets may not entirely make sense to the state people. But, this is the kind of picture that I hope that we end up with. And I'm certain that once, you know, this is really, it's like comparing an apple to a piano, is the way I feel like. It's just there are different things included.

But once we do, and we're able to more specifically define the two things that we're comparing, this is the kind of thing that you

would end up getting. So, what we need to do now is finish the pre-test that we're in right now, in terms of following up with the states.

We do need to work more with the individual vendors to figure out like, well what does it really mean to adopt one versus the multiplex. Although, in reality, most states when they go and decide to screen for one things, they may go for the multiplex anyway.

And that would make sense at least for maybe two of them. And then going beyond there, if they so choose. And then we need to synthesize this information, and make it more digestible. And then, once we're done with this, we can revise our approach to doing this, once conditions come to us.

There are these sort of secondary costs that aren't included so far, including treatment to long term follow-up care. And speaking for me personally, perhaps channeling the rest of the workgroup, I mean, we think that these are important costs for you all to

consider. But it's difficult to get to them.

So, our plan, you know, has been to present the final report at the next Advisory Committee meeting, how we've resolved these issues. And then, of course, incorporate our process into the overall nine month, you know, review process that we've discussed before.

But, you know, I'll just leave you with a bunch of sort of bigger questions. So, I probably should have edited this slide a little bit after Dr. Bocchini presented, you know, the different kinds of pilot studies, and what things ought to be gotten.

Or it would be nice to incorporate some cost assessment into there. We need to sort of figure out what the minimum cost assessment estimate impact, the minimum cost estimate inputs that we need to get, so that we can make something meaningful, a meaningful presentation at the end of this.

We have timing issues that I won't get into. I think I've alluded to them before. One

of the questions that is not really ours to answer, but simply to ask, to make sure that when we put this together it's meaningful, which is, you know, how will the cost estimates be used?

And how can we present this so that it's helpful both for the states, when something's been recommended for the, recommended uniform screening panel. But also for the advisory committees. They're making recommendations.

So, I just put a bunch of questions out there. And I'm going to just kind of leave it there. Because I'm sure you have questions for me. Thank you.

CHAIR BOCCHINI: Thank you, Alex. That's a good progress report. Questions, comments from the committee? Dieter?

MEMBER MATERN: Yes. Alexis, great work. And I'm looking forward to the end result. Could you go back to the table that --

MR. KEMPER: This one?

MEMBER MATERN: Yes. So, where do you

have overhead, space, that kind of stuff in there? Because --

MR. KEMPER: Yes. So we, and this is where I'm going to get K.K. to come up. Because she has all the numbers, and the surveys, and stuff like that. I mean, these were things that we've gotten. But the issue of getting, I mean, we never got to the issue of --

Well, there's overhead in the indirect costs for once it's in there. But, did you mean the cost of like, let's say they need to expand their current lab?

MEMBER MATERN: Well, I mean, you need space.

MR. KEMPER: Right.

MEMBER MATERN: And --

MR. KEMPER: Point K.K. out too. She's going to help me.

MEMBER MATERN: It seems to me very, the number seems to be very low to me. Because for MSMS, for example, from what I understand from Perk & Elmer, and what they said last year

in APHL/CDC meeting in Atlanta, is that the reagents per enzyme will be $1 dollar per enzyme per test. So, how can you do everything when you only, when it's only $2 dollars and eight?

MR. KEMPER: Well, and that's two per, you know, per condition. So that's where we just total --

MEMBER MATERN: Right. But it's already $1 dollar to measure acid in one infant. So then you have $1 dollar and eight where you have all the rest, the space, the electricity, the equipment, the person who's doing the test, the follow-up person, all should be in there. I don't know how that's possible.

MR. KEMPER: Yes. And I, well, you want to comment, K.K.?

MS. LAM: Yes. I mean, they are in there. We'll be enter, you know, those broad categories that you mentioned are in there. We still have to follow-up, you know.

For instance, I guess it's, you know, the orange spaces, all right, we're still

following up with the states to go back and say, especially when we have them side by side like this, and can see.

And we'll cross check and make sure that all the categories are covered. So, one state did list rent, space rental and utilities, for instance. And that's in there on that overhead indirect cost line.

MR. KEMPER: But I wonder too, so let's say you're doing six, okay. Right. So, you know, there's a lot of that extra money, you know, when we divided it out, may be the overhead. You know what I mean? So, we're ascribing only $1 dollar --

MS. LAM: Yes.

MR. KEMPER: -- per test for the overhead. But given that you're, you know, you just need the space --

MS. LAM: Yes.

MR. KEMPER: -- to do all six tests. It could be really that the overhead is, you know, like another $4 dollars per infant screen.

And that, you know, that we should really ascribe all that.

MS. LAM: Yes.

MR. KEMPER: Do you know what I mean? To the one test.

MEMBER MATERN: Yes.

MR. KEMPER: Because --

MS. LAM: That the --

MR. KEMPER: There's a big cost.

MS. LAM: Yes.

MR. KEMPER: There's a big cost for getting the first one. And then a marginal cost for each additional one.

MS. LAM: Right.

MR. KEMPER: So they'd be like, you know, a dollar an enzyme plus, you know, whatever marginal thing. It's only, so we had to ascribe most of the costs to the --

MEMBER MATERN: Yes.

MR. KEMPER: -- first one.

MEMBER MATERN: I wonder if you basically tried to submit a pilot study to the

NIH for a grant, would you come out with $2.08?

MR. KEMPER: For those people who are involved in the expansion, do you have a comment?

MEMBER MATERN: So, when we did our --

MS. LAM: So, some --

(Simultaneous speaking)

MEMBER MATERN: -- study for 100,000 babies.

MR. KEMPER: Yes. But the thing is, a lot of --

MEMBER MATERN: It was 2.4 million.

MR. KEMPER: -- other stuff. There's a lot of other stuff that's in the NIH one too.

MS. LAM: Yes.

MR. KEMPER: It's like the follow-up, and all.

MS. LAM: I mean, we certainly, you know, the, getting the pricing. These are from multiplexes, right. Because we asked about Pompe and MPS I.

And so these are, and these particular states are doing multiplexes, and in reagent

rental agreements. And so, we're, we'll be following up with Perk & Elmer --

MR. KEMPER: But I --

MS. LAM: -- folks afterwards.

MR. KEMPER: I think you're right. I mean, I think it's underestimating a lot --

MS. LAM: Yes. It's --

MR. KEMPER: -- of this stuff. But it's only, it's, and that's why it makes me, gives me a little angina. But, I mean, I can only tell you what we get.

MEMBER MATERN: I mean, we do this testing now for one state, for three conditions. And I'm sure they would like us to charge that little. And I would love to give it to them for that price. But we probably can't. Because we already do it basically at no margin. And it's more than this.

MR. KEMPER: Yes. I bet that's the case.

MEMBER MATERN: But we do have very nice facilities.

MR. KEMPER: But you need to pay for the heat.

MS. LAM: I mean, very roughly, you know, we haven't put them up here yet. Because they're for, you know, technically different conditions. But if you look at kind of the similar set, looking at Pompe, MPS I, X-ALD, and just some initial state estimates that we, that aren't represented on here.

It seems like, you know, at rough glance, that folks are coming up with between about a buck 50 to, you know, eight or nine bucks per, like per infant per test. So, you know, I don't know what those mean, per se.

I kind of say, I clearly say those with a grain of salt. But, you know, again, it just, I think it gets back to what, how meaningful are these? Or, you know, you just have to keep them with a grain of salt. And keep all the assumptions in there.

You know, we haven't gone through and listed all of that. I think we'd be interested

in hearing how you would cost it out if you're, you know, what your numbers might be from your perspective, you know, and from your work. I mean, not right now, if you, but --

MR. KEMPER: Yes. We'll have to add another three hours to the meeting.

MS. LAM: Yes, yes, yes.

MEMBER MATERN: Me again.

MR. KEMPER: Dr. Matern.

MEMBER MATERN: So, you're only considering the setup and running the tests. But you do not consider follow-up, false/positive, implications of false/positive secondary tests?

MR. KEMPER: Yes. I mean, I, right. So there's those add on additional tests. All I can, I agree. And so, these are all things that we've talked about. The only -- Well, but, I mean, there's a lot of work that needs to be done for that.

Remember, this is going to be one component of all the stuff that you get too. So, we'll be able, you know, through like the work

that we do with Lisa, at least give you estimates of the number of false/positives, and the rate of return, and stuff like that.

So, I mean, I agree with you. And I think that the best way to do this is to just to think of it as one piece of the puzzle. But to think about it in the context of all the other pieces of the report. There's a matter of -- Oh, okay.

MS. TULLIS: So, have you looked at any smaller states? Do you think that it will be more in a smaller state? It, I'm from Delaware. So, I know our numbers never look this good.

MR. KEMPER: I think that's probably true. We're kind of restricted to the states that are doing something, so we can find out from them. So, unless, like --

MS. TULLIS: Just in general, looking down at a smaller state population, smaller birthrate?

MR. KEMPER: No, I think you're likely right.

MS. URV: As Dieter said, you might want to talk to some of the NIH contractors that we have that are currently screening for Pompe, MPS I, and X-ALD. They're setting up. They have to detail their costs and such, for us.

MR. KEMPER: Oh. Is that part of the --

MS. URV: That's part of the contract. They have to --

MR. KEMPER: Oh, I understand.

MS. URV: They have to detail it. So if you contact me, I can put you in contact with those individuals, one of whom is sitting right there. And they can probably give you a more detailed outline of what we expect, and a more realistic view of how much it costs.

MR. KEMPER: Okay. That would be great.

MS. URV: Michelle Kujana, who's also --

MS. SARKAR: And that was Tiina Urv from NICHD. Yes. North Carolina --

MR. KEMPER: For the states?

MS. SARKAR: Right. Yes. And Massachusetts.

MR. KEMPER: All right. I think we've snowed them.

CHAIR BOCCHINI: Okay.

MR. KEMPER: Okay. With cost data.

MS. LAM: And it sounds like --

MR. KEMPER: All right. Thank you.

CHAIR BOCCHINI: Thank you very much.

MS. LAM: So that's good to know.

CHAIR BOCCHINI: All right. Next we have a report from the Follow-up and Treatment Subcommittee, Steve McDonough.

MEMBER MCDONOUGH: Good morning. Hi. Good morning. I'm a retired pediatrician from North Dakota. We had our meeting yesterday in the HRSA Office Building. And maybe one of these days, the Educational Committee will have the opportunity to go through the screening there, which is tighter than the airports.

So, we had a good meeting, I think.

We had 19 people present, and eight by phone. We had a consensus on working on two priorities, our clinical quality measures, and medical foods and medical formulas.

We were fortunate that Dr. Zuckerman gave a very nice presentation. He had prepared slides, and previously sent out written material. And he's going to be our leader in a sub-workgroup of our workgroup, on clinical quality measures.

And there will be, he and those who will be working with him will be having phone calls between now and the August meeting, as will the medical foods subgroup.

These are some of the slides which I took from his presentation. He has some ideas about working with NewSTEPS. I won't go through all of these, given our time constraints. And there was representation from NewSTEPS at our workgroup.

Also have some ideas with NBSTRN, potentially working with, to promote clinical

quality measures, and American College of Genetics. And those are there. And will be shared with NBSTRN about potential collaboration, and ways that we can work on to improve clinical quality measures.

And I asked him, Dr. Zuckerman, prior to the workgroup meeting a week ago, can you pick three areas that you would like us to focus in on, and hone on.

And these are case study of successful use of clinical quality measures, either from cystic fibrosis or sickle cell disease, or possibly MCAD. You see how this would work. Ways to tap in current electronic medical records, and clinical quality measures.

A report to the full committee, highlighting the background need and opportunities for use of clinical quality measures, and long term follow-up for newborn screening. And the how to guide to developing quality measures for newborn screening.

Now, these are some initial ideas that

he has. And he'll be leading the effort with another member, hopefully, six, eight, ten other workgroup members over the next few months. And when we come back in August we'll have hopefully a little bit more detailed information.

And that's, I really appreciate his willingness to take on this responsibility. And I'm very happy that the full committee has passed our workgroup with medical foods.

We had an excellent presentation, I thought, yesterday morning, which was absolutely wonderful, and set the stage, I think, for -- And I just want to say I'm so impressed with people who want to give this one more try.

There are, I'm new to this workgroup. There have been people working for decades to help families and children who have conditions that need formulas. And we're not there yet. And we've not had many successes. And rather than being discouraged there, we're going to try it one more time.

I've asked, the goal for this sub-

workgroup over this next year, that we would possibly put together a letter that would be presented to this committee, to go to the Secretary.

And then, also we're going to work on a white paper that would be a source of information to decision makers about how important this issue is.

Dr. Sue Berry, from the University of Minnesota, who participated by phone call, has agreed to head up the medical food sub-workgroup. And she has labored long and hard in this area in the past, and will continue to do that.

And we had ten members of the sub-workgroup indicate a willingness to work with Dr. Berry. So I think they'll be having phone calls, meetings between now and the August meeting. And I'm really pleased that we have a couple of important issues that we're willing to take on.

I would just put a personal note in here. I, this is speaking for myself. I think it's very important that we measure where our

states are at in long term follow-up and treatment.

If you, if it can be measured, and it's not being measured, I don't think people think it's important. And you don't know what the current mess is. And there's a big mess out there with long term follow-up and treatment. And you have no way of monitoring progress.

So, we're not working on that right now. But I personally think that's very important for us to do. And that's it. So, thank you very much. And be happy to answer any questions you have. And appreciate all the help I'm getting from the workgroup members.

CHAIR BOCCHINI: Thank you, Steve. Questions, comments? All right. We're going in the right direction. Thank you very much. So, before we break for lunch, I just want to do one thing.

And that is that I think as the Secretary's Advisory Committee transitioned with the re-authorization to the Advisory Committee,

many of you were --

(Off microphone comment)

CHAIR BOCCHINI: Okay. Thanks. Many of you were worried that this group of people here would be permanent, because many of you have served for a very long period of time, much longer than the original intent of your term.

And so, I think that unfortunately we're going to have to make some transitions now, because of the fact that we now have the Advisory Committee. And now we're working to try and respect your time, and your contributions, as well as bring on new members.

And as you know, two of our long term members have needed to come off the committee, because they have taken jobs that put them in conflict with the working of the committee. And that's Andrea Williams and Charlie Homer.

And, but certainly they have served this committee quite effectively over their tenure. And we want to make sure that people understand that we appreciate the work that

they've done, and certainly the extra time that they have spent on the committee.

So, Andrea, you're here in a different role. But I wanted you to just come up and receive a little certificate from HRSA, and from us, to just recognize your service to us over the years, to the committee and --

(Off microphone comment)

(Applause)

CHAIR BOCCHINI: Now, Alexis is not on the phone today. But this is her last meeting. And so, again, she certainly, with her background in hematology oncology, has certainly contributed significantly over the years to this committee.

And again, I want to recognize her. We'll send her her certificate. But thank her for all that she's done over the years for this committee.

And lastly, this is Jeff Botkin's last meeting. And Jeff and I are kind of, we came to this committee together. And we've certainly enjoyed working with you.

Your background and your contributions have led to multiple contributions for this committee, as evidenced by even your work that you presented today, and your work on the committee that developed the recommendations for our pilot studies.

So, clearly you have had a significant impact on this committee. That will continue for many years, based on putting us on the right track for many things. So, Jeff, if you'd come up, I want to give you a similar certificate. And again, thank you for all of your years of work on the committee.

(Applause)

CHAIR BOCCHINI: So, with that, we hope that the process by which new members become available to us is working well. So, we will have four replacements, we hope, for August. And then, as I mentioned yesterday, we are looking for additional people to replace next year's transitioning members of our committee.

So with that, we'll break for lunch.

We're a little bit late. But I think we can still come back. I guess we're due back at 12:45 p.m. So we have plenty of time. So, we'll break for lunch, and see you all back here promptly at 12:45 p.m. Thank you.

(Whereupon, the above-entitled matter went off the record at 11:50 a.m. and resumed at 12:51 p.m.)

A-F-T-E-R-N-O-O-N S-E-S-S-I-O-N

(12:51 p.m.)

CHAIR BOCCHINI: All right, let's go ahead and start this session. I need another roll call. So --

MEMBER BAILEY: Here.

CHAIR BOCCHINI: So first -- here? Okay. Thank you, Don. Jeff Botkin?

MEMBER BOTKIN: Here.

CHAIR BOCCHINI: Coleen Boyle?

MEMBER BOYLE: Here.

CHAIR BOCCHINI: Catherine Spong?

MEMBER SPONG: Here.

CHAIR BOCCHINI: Kellie Kelm?

MEMBER KELM: Here.

CHAIR BOCCHINI: Fred Lorey by phone? Dieter Matern?

MEMBER MATERN: Here.

CHAIR BOCCHINI: Steve McDonough had an early flight. Kamila Mistry?

MEMBER MISTRY: Here.

CHAIR BOCCHINI: And Joan Scott?

MEMBER SCOTT: Here.

CHAIR BOCCHINI: And then Cathy Wicklund?

MEMBER WICKLUND: Here.

CHAIR BOCCHINI: And Debi Sarkar?

MS. SARKAR: Here.

CHAIR BOCCHINI: And then for organizational representatives, Bob Ostrander?

MR. OSTRANDER: Present.

CHAIR BOCCHINI: Beth Tarini?

MS. TARINI: Here.

CHAIR BOCCHINI: Mike Watson? Joseph Biggio by phone? Kate Tullis?

MS. TULLIS: Here.

CHAIR BOCCHINI: Susan Tanksley by phone?

MS. TANKSLEY: I'm here. Can you hear me?

CHAIR BOCCHINI: We can hear you, thank you. Chris Kus by phone?

MR. KUS: Here.

CHAIR BOCCHINI: Adam Kanis by phone.

MR. KANIS: Here.

CHAIR BOCCHINI: Natasha Bonhomme?

MS. BONHOMME: Here.

CHAIR BOCCHINI: Ed McCabe by phone?

Participant: He will be joining you in about five minutes. This is his assistant. I will be listening in for him.

CHAIR BOCCHINI: Thank you. Cate Walsh Vockley?

MS. VOCKLEY: Here.

CHAIR BOCCHINI: And Carol Greene?

MS. GREENE: Here.

CHAIR BOCCHINI: All right, thank you. So we're now going to proceed with additional workgroup reports. First is the timeliness workgroup update, Kellie Kelm and Cathy Wicklund.

MEMBER KELM: So I can start quick. We didn't have a meeting yesterday, but we have had I think at least one or two calls since the February meeting. And so we can just update you on what we've done on those last couple calls.

And this is just our current

membership trying to represent people involved in all facets of newborn screening. And this is just reminder of the charge from the Committee to this new workgroup. Well, I guess it's been almost a year.

So our recent calls actually focused on the first charge, optimize successful strategies to address newborn screening specimen collection and transport and collect and disseminate timeliness specific practices from state newborn screening programs.

So first to gather success stories from states and hospitals, we had presentations on our phone call from Missouri and Utah on improvements that they've made in timeliness in newborn screening.

And with regards to our interest in reaching out to the Joint Commission, we had a brief call with Erin Dupree who is the Chief Medical Officer and Vice President for Joint Commission Center for Transforming Healthcare.

And I think I was really briefly going

to talk about this last point before we go into depth on the presentations from Missouri and Utah. So our brief discussion with Erin Dupree was actually just telling her about us and what we're doing, and that she was going to go back and have internal discussions with some of the people in her group.

And Kathy and I actually need to circle back to her and see if there is any interest or anything they can help us with. So that call was more of a, I guess, get to know you kind of call.

So if we hear anything more on that point, we'll get there. But I'm not so sure she was too knowledgeable about timeliness in newborn screening when we had the discussion.

MEMBER WICKLUND: But she had some very specific ideas about individuals within the organization that she wanted to reach out to and have further discussion with to see if there was a way some of our messages could be delivered through some of the channels that they already

have existing. So I just sent an email yesterday to try to follow up to see if she had a chance to have any of those conversations. So we'll see.

MEMBER KELM: All right. So are you doing Utah?

MEMBER WICKLUND: Yes, I'm doing Utah. So first I want to say just forgive me. This is not my presentation, and Andy needs to forgive me about presenting some data from Utah.

We thought you guys might be interested in kind of hearing what just high level overview of what we got back from some of the states we talked to. So I think it's pretty exciting actually.

I think that, you know, the timeliness, the work that the pre-timeliness 1.0 version and all of the reports has really had an effect with a lot of the grant funding that has come out, addressing timeliness issues, and then the states have really had great success stories.

So I think what we're trying to do is highlight some of those successes and also think

about, though, how to further disseminate that to other states, and that's what we're trying to think about now.

But just in general, this is just a brief overview of what Andy presented from the Utah experience. So if anybody is part of the Utah state screening program and wants to add anything in or I'm misrepresenting something, please feel free to do so.

So basically they looked at it, the four different processes in the actual newborn screening process. And what they were doing is trying to look at turn around time in each one of those categories, whether sample collection and logistics, receiving, testing, reporting, follow up, and coordination.

So that's how they broke it down and then started tackling each one of those different processes. So one of the biggest things was the transport time.

So what they did was actually made or developed a partnership with FedEx that actually

provided courier service for hospitals with a greater than three day turnaround time.

And that obviously did have a cost. That cost about $19,000. So we also talked a lot on our phone calls about the cost involved in implementing some of these things, and then where did that money come from.

So some of it was absorbed. Some I think got additional funding. I can't quite remember, but that was obviously a question a lot of states had was how did you pay for this.

MEMBER KELM: So Utah, I believe that's considered a no cost added. They moved money from other sources, and I think Missouri actually got money from their legislature, governor in order to actually be able to cover some additional activities.

MEMBER WICKLUND: Yes, Joan?

MEMBER SCOTT: Is this an annual cost?

MEMBER WICKLUND: I believe it was. Isn't it? I think it's an annual cost because it wasn't just to get the partnership developed. I

think it's the cost of having a FedEx courier. But again, I could be misspoken. Again, we're trying to present somebody else's data.

But I think that that was a huge impact, being able to have this. And they really were able to reduce the transit turnaround time that they were able to see.

So, and they also found that this transport time, there was also about the status of the hospital I believe played a role in the turnaround time as well, like, the corporate status which was kind of an interesting finding.

So again, some of this just being shared between states, I think other states helped them to tackle their own issues that are similar.

The other thing with underperforming hospitals, they use carrot and sticks. The carrot, as we heard over and over again, was going out and establishing personal relationships.

I would say that was definitely

something we heard from most of the states we've heard from so far is going out, establishing those personal relationships, focus on the role in transparency, get feedback, do site visits, training, you know, process consulting with the underperforming hospitals.

And then in Utah, the stick was they made a rule change that basically mandated sample collection between 24 and 48 hours of life. So they actually did the combination of making a rule change plus going out and establishing the personal relationships.

And then what you can see here is that they did better from 2013 to 2015 which is in the dark, the black, that they were able to reduce the transit time, you know, over these past few years. So, successful.

And the other was just the operations and opening up seven days rather than a more limited time period. And everybody dealt with this a little bit differently.

There was concern about their long

time employees being unhappy maybe with having to work on weekends. So people approached it in different ways. I think one site maybe did more like it was mandatory everybody had to do weekend hours, and then the other state actually left it open for volunteers. And people actually stepped forward to be able to do it because it maybe worked out better for their schedule.

So they opened up additional days which helped with, you know, specimen, result reporting, on call follow up. And so that helped as well.

And then they also had a faster turn around time through the seven day operation. So you can see that for all the different conditions, it shows that they had a better turn around time when they were open more often than less.

And then the third bottleneck was, I think, also just some of the resources they used. Actually temp workers for some of the more mundane or less specialized work that need to be

done. So they had temp workers for data entry on high-demand days only.

They also substituted manual data entry with expanded scanning. So there were a lot of things they also did to just try to, like, reallocate what was happening to different ways of doing it that helped the efficiency of the personnel that they had.

MEMBER KELM: So Patrick Hawkins spoke from Missouri about what they've been doing. And this was when they broke down all of their sort of steps in newborn screening. These are the main issues that they found in terms of impacting turn around times.

So no weekend or holiday courier pickup, the impact of the state labs when they were open including holidays and some other things in terms of funding and traceability, et cetera.

So they said they did a number of things at first, which was a no cost which was, for example, and it was interesting, they said

they found some of these things and they were simple fixes that were, you know, pretty amazing.

But working with hospitals that were not on the state courier system to just self-transport their samples to the nearest county health department where they could hook up with, for example, the available courier service.

And so, and actually, it looks like the public health lab actually helped, like, each, you know, some of those groups to specifically identify where they could do that.

Worked one on one with hospitals that had issues, and then they talked a lot about customized timeliness reports in some institutions, and then doing a lot of education, using phone conversations, they were doing a top ten reminders.

There was educational material going out with cards from the lab and things like that. So improvements that required funding with changes in the, actually adding holiday courier pickup and then other things.

So testing on the weekends, and adding more courier sites to some of the places that probably didn't have it. And you can see that they sort of broke it out per year for that.

So for Saturday and the holidays, this is, as she said, this is where they saw 100 percent voluntary staffing process in that they had, you can sort of read some of these details about where they actually did hire an FCE specifically for the expanded days.

And then they also were hiring new employees that specifically were agreeing to working, for example, a Tuesday through Saturday, and then maybe down the line they can move to Monday, Friday. And then obviously, you know, that would be better for them. But as they were newer, they would do Tuesday through Saturday.

And then they actually had four other adjunct employees that actually worked that actually worked in other parts of the public health lab, not in newborn screening, but they were pulling them in, and it was completely

voluntary for them to come in and work other Saturdays and holidays.

And they said that they were basically putting up the schedule ahead of time and asking for volunteers and that so far they had really not had any issues with people stepping up and volunteering to work some of those extra days.

And then this is the data that Missouri gave us showing the improvement in sample transit time improvements. You can see, you know, things getting to them between zero and three days after collection, went from 61 percent all the way up to 87 percent with some of the most recent changes.

And you can see they have broken out in the bottom where some of the changes that they have made, for example, holiday courier pick up, Sunday courier pick up, and then the extra Saturday holiday testing. So this is actually data combined for all those changes that they have made.

And they talked a little bit about the

portal that they have added to help sites be able to obviously get the information faster than for example relying on mail to send things. And we've heard that from another programs that are interested in portals, you know, to get information to their providers.

And I'm not going to read this, but obviously they saw many benefits for moving to a portal type of communication process. So that's it for the update from our group for the last couple of months. So any questions, comments?

CHAIR BOCCHINI: No questions. Thank you very much. This is, it's great that the states are sharing this with the group and seeing the progress that's being made. So thank you.

MEMBER KELM: Thank you.

CHAIR BOCCHINI: Next, we have the report from the Education and Training Workgroup. So Cathy is going to stay up there.

MEMBER WICKLUND: All right, it's me again, not Don. I'm not there. All right, you guys. So Beth and I are going to give you an

update on the education and training workgroup. Actually, we forgot to change the title, sorry.

So we were able to meet yesterday. We cut our meeting a little bit short just because we had to get out of the room. But we did, I think manage to make a little bit some progress.

Basically, we always start out with relevant updates from our Members because so many of our Members represent different organizations in which are doing a lot of educational activities.

And I think always our challenge in education that we are not redoing or reinventing the wheel, and are cognizant of what everybody else is doing. So we did that, we reviewed our Subcommittee projects. We'll talk more about that. We had an update on the nomination education project and we also discussed additional education needs and project ideas.

So first of all, Natasha gave us an update on the nomination education project. So basically remember, this was to provide

educational guidance to groups who might be interested in preparing a nomination package.

And Natasha's working with the, collaborating with Alex and his team. And I believe they're almost done and most likely actually would be completed by August, I think, not December. But where's Natasha. Right? August, I think is where we were thinking. Maybe you might be able to present.

(Off microphone comments)

MEMBER WICKLUND: Look at by August. Okay, yes. So we'll look forward to that. And then our role is going to be able to give Natasha and the rest of the team some feedback from the education and training workgroup.

The two projects, we'll talk about them individually. The first one was to create a tool that provides primary care providers with guidance on how to communicate positive newborn screening results. So it's really more about the communication process itself and not necessarily the medical information around a positive screen.

As you guys know, ACMG has the act sheets, and so the idea was that we could add supplementary material, either linked to the act sheets or other, not just the act sheets but other venues. So it actually is talking about the communication process itself and would be more general, and could be applied to any screen positive.

So we wanted to make sure that we weren't again, re-inventing the wheel. So I know that Carol who's not here, oh there you are, had mentioned a couple times and Natasha as well about the work they did together that resulted in this article on focus groups that they did with families and asking them how they wanted to be told, what they wish they would have been told.

So Natasha has a one page kind of bulleted tips on communicating newborn screen results which actually lives on early -- no, yes. Baby's first test, thank you. Baby's first test at the time.

And we really want to try to do is

think about how can we actually either look at the content we have right now, potentially do we need to update it, change it in any way, shape or form. And we also, we didn't have time to do this, but we just kind of wanted to circulate these questions in the group to be able to think about what information do we want on these sheets.

But then the next thing is to really talk about dissemination and thinking about different organizations that we can perhaps partner with and get them to actually link to this and get more, you know, play from other individuals because, you know, we're not sure right now how many people are using them. Would you say that's a fair statement, Natasha? Yes.

So we're thinking about different organizations that we can partner with that would hopefully link to this and provide more information for the PCP's. So that's where we're at right now.

So yes, next steps will be to look at

the actual content of the information and then also start working with other organizations to see how they could partner with us. All right.

MS. TARINI: The next project was the Educational Outreach Project which is a broader project that seeks to map basically educational resources that are out there for newborn screening and then disseminate them to target audiences, have them embed them within their resources, the outcome being linkages achieved as a metric of dissemination or I would say, like, a middle ground metric.

So the strategy being that mapping will allow us to identify gaps in available educational resources. And so what the format is is that we would start with a very defined goal of audiences that we're wishing to assist and create, in locations that we would be looking for these pieces of information, basically trusted organizations.

So in other words, you wouldn't start just Googling newborn screening, prenatal. You

would compile a list of trusted sources and then from there, you would move forward and say okay, on these trusted sources for this audience, I'll give you an example. I took it off of the slide.

But I'll give you an example. So for parents in the prenatal period on the following sources, locations who created these resources? What is the mode? Are they video, are they interactive, are they print and what are the goals of the material?

And then basically what you get is sort of a descriptive web of what's available. And what it allows you to do is describe the landscape and see the gaps and then also start to see where the gaps exist.

You can start to help, you can create new content if you want. But I think the first piece is to help people extend into others and fill in those gaps.

For instance, if March of Dimes had something very useful that the AAP could use, I'll take my own organization, then the AAP could

link to that. And if they had a gap in that area, then the AAP could link to the March of Dimes.

So the next steps are identifying the target audiences that we would like to evaluate and the goals of that type of education. Like, for instance, do we want people to be better prepared, to be better prepared about newborn screening, dried blood spots would be one example.

Do we want parents to be better prepared about the newborn screening process prenatally, do we want parents to be better prepared about positive screening results. All of these are possible audience/goals.

And so the next step is that we as a Committee will start to brainstorm the audience, the goals of education. And then the process of searching and mapping will happen alongside work that the clearinghouse is doing in building their resource repository, the goal of which is to collate multiple educational resources. So we'll

leverage the existing work being done by the clearinghouse. Any questions?

CHAIR BOCCHINI: Okay, thank you very much, both of you. And now Kelly comes back up. Laboratory procedures and standards workgroup update.

MEMBER KELM: Perfect, thank you. I hope Susan's on the phone, so she can pipe in too. So we had a meeting yesterday afternoon, a somewhat shortened lab standards and procedures workgroup.

And actually, it was really exciting to have some of our new projects that we're working on. So this is the current roster, and we had a fairly good number. I actually need to edit it. I realized that some people have probably retired and probably need to be edited. But anyway, we had a great number of people that were present as well as on the phone joining us.

And this is just our updated workgroup charge that was only somewhat clarified a little bit during our February meeting. And so we wound

up having presentations on both projects that the committee had chosen for us at the February meeting.

So this is our first project that we were charged with was exploring the roll of next generation sequencing in newborn screening, and the second project was looking at the sort of how is timeliness doing, what is the implications for earlier specimen collection, and what could be some unforseen consequences in cost of timeliness.

So we had four presentations. We still wound up getting all of them in. We had a fifth one that unfortunately didn't make it. But we had two about sort of next gen sequencing in newborn screening.

And that was first we had a presentation from Michelle on the APHL molecular subcommittee. And then May talked a bit about what her lab is doing with next gen sequencing in her state program.

And then in terms of timeliness, Lisa

talked about some data that came out of California on how what impacts early specimen collection has on the results from the program. And then Marcie had some similar data on unintended consequences on cost of timeliness.

And so I'll briefly discuss these four. So we got an overview of the APHL molecular subcommittee from Michelle and the history sort of went through what, you know, started back in 2009 and how it's grown since then and number of the programs that they currently offer right now that include the molecular quality improvement program, the NBS molecular workshops which is an intensive, one-week training that they have had for a number of years.

It's been very successful in very hands-on training into a number of molecular techniques that state public health labs will use. A molecular assessment program. And so this is actually visiting labs and doing voluntary assessments of their molecular program.

And a newborn screening molecular resources website that they have, that they host. And then a program which is the paradigm for NBS molecular pilots which is a number of states that are, I guess, almost your centers for excellence for molecular assays in newborn screening that also works with CDC and they inform each other and as well as working, I believe, with HRSA.

And the one thing that was mentioned was that they are planning for a next gen sequencing meeting for the newborn screening community that is a project between this APHL molecular subcommittee and the CDC that they're hoping to have in the first quarter of 2017. So watch out for that.

And so May, this was a presentation, she provided to us that she did, also recently given elsewhere, talking about what Wisconsin's doing with next gen sequencing. And so I've grabbed just a couple of her slides and hopefully I can convey most of what she was discussing.

So, and she talked a little bit about,

I think, you know, where they're focusing right now is on CF. And so obviously we have a little bit of nice history here with when we started with IRT and then adding DNA, expanding the panel, et cetera.

And so what she's talking about is actually bringing in information from CFTR2 which is a database that I believe, Gary Cunning and others at Hopkins have been accruing on other variants outside of ACMG-23 sort of with the clinical validity piece as well as in vitro and all the other data, for example, to have confidence in new CF causing variants.

And so the interesting thing is they're actually up to 242. If you look all the way over in the right hand column down over CF causing. So, you know, I believe May has actually expanded her panel. So she's actually looking at 242 variants and even beyond.

She is still also trying to accrue as part of her pilot information on some other variants and getting some sweat test data on

others where we sort of, they're considered having varying clinical consequence or right now where they're trying to get information.

So this is the aims of her perspective study that I believe is still ongoing until I believe fall. You know, I think she mentioned it was this fall where they are modifying the established lumina method to expand the CFTR panel up to 252 CF causing mutations and trying to demonstrate that the IRT NGS CF screen protocol can reduce false positive results in their real world newborn screening environment. So that was an update from May on their use of next gen sequencing.

And so now if we turn to the other piece which is the timeliness piece, we had known that California had been gathering their information, a lot of their sample collection was done earlier than 24 hours.

And they were putting together that data and luckily in the intervening few months, the last few months they published it. And so we

had presentation from them on the data that they have analyzed.

So they actually looked at their California population level data to actually look at whether or not early specimens that are collected from 12 to 23 hours are also satisfactory when you look at screening.

And they looked at specifically false negative and false positive rates for four disease categories, and you can see them listed here. And so they compared the early collection group to what they considered the standard collection group which is the 24 to 48 hours.

And so I actually have the citation down on the bottom, so if you want to look up the paper you can do that yourself. At this time, the data they had showed no significant difference in terms of the false negative rate between the two different collection timing groups.

And in terms of false positive rate, they saw a difference, they saw a higher false

positive rate for CH and IRT, but a lower false positive rate for MSMS metabolic disorders and CAH.

And we had Marcie Sontag talked about some data that she's been working on, similarly looking at how screenings impacted as we improve timeliness and may even see this earlier sample collection.

And so she's been working with a group including New York and Minnesota, Wisconsin and Iowa to get data and see what implications of earlier collection has on screening.

So these are some of the concerns in terms of moving collection to earlier. You obviously have less time to consult with parents. You know, you have concern about the NICU and very low birth weight babies.

You know, the question is analytically does this mean that we have more out of range results because maybe we have to worry about that in these earlier specimens and the analyte is higher or lower at that point versus 24 to 48

hours. And then of course, you know, will that impact false negatives and false positives.

So she actually had a lot of data from each, you know, from each state. And unfortunately I don't have the time to present it all. So I picked one page as a snapshot to show you. And so as you said, she reported percent of positives by age and town of collection, looked at borderline cases separately and removed the very low birth weight babies.

So here's data we got, she got from Minnesota looking at IRT. And you can see that they really separated out age at time of collection, and they looked at 2014 and 2015.

And I think the take-home message, at least for this snapshot, was for example the PPV is better when it's 24 hours and beyond. But I think that at this time, the amount of data, especially there just isn't a lot of numbers down before 24 hours yet. So I think the goal is get more data and do some more work in this space.

So that is the update on their work

there. So those are, that's sort of a snapshot of the four presentations that we got yesterday that we wanted to share.

CHAIR BOCCHINI: Thank you. Questions. Dieter and then Colleen.

MEMBER MATERN: Yes, as I mentioned yesterday at the meeting, Dr. Rinaldo is sitting right now with colleagues from California, New York, Georgia, Norway, and Iceland, in a room. And he doesn't let anyone out for at least 12 hours a day for a whole week to discuss data, covariates for all of the newborn screening conditions which include birth weight, gestational age and age at collection.

So the next steps are happening right now. And I really encourage at least the subcommittee to invite someone from the group to give an update at the next meeting.

MEMBER KELM: Good idea.

MEMBER BOYLE: So I know that there was a study was supported by the committee that took many years that Stuart Shapira and Harry

Hannon had worked on which looked at some of the conditions that the California group looked at in terms of early versus late collections.

MEMBER KELM: I believe that was actually, that was looking at first -- one single screen versus two screen states.

MEMBER BOYLE: You're right, you're right. Two screens, right. Yes, yes, yes.

MEMBER KELM: And I think the problem was that there wasn't really a clear conclusion there about whether single screeners or two screens is actually more effective.

MEMBER BOYLE: Yes, it was different for different conditions. So I was just wondering, so thank you for reminding me about that. But I was wondering with the California, are there any takeaways from the results in terms of one having high, the other having low false positives?

MEMBER KELM: Well, and I actually believe that, if I recall, that the conclusion was that the differences that they saw weren't

large and they weren't as concerned clinically. And I don't think Lisa's here today. Oh, she is there. She's right in front. Do you want to -- you can even sit at my seat.

MS. WISHBAUM: Lisa Wishbaum from California. Yes, I would agree. We felt that the conclusions really weren't, there weren't big differences between the 12 to 23 which is what we called the earlier collection group and the standard collection, 24 to 48.

There were, because we had such large numbers there were some statistically significant findings, but the differences were in fact small differences in the false positive, in the screen -- I'm sorry, the screen positive rates.

As far as the screen negatives which are basically the missed cases, we didn't see any differences in any of the disease categories that we looked at.

With the screen positives, as was just presented, there were higher rates of false positives for congenital hypothyroidism and for

CF, but after the IRT test. And we really felt, well with the CF, those cases don't even get called out to the families at that point.

So there's really no impact, negative impact on families because those cases just go on for DNA panel testing and then sequencing. So only after all that do we actually make a call out to the family and the primary care provider.

So we just felt comfortable clinically that that's not a big issue. And for the congenital hypothyroidism, the follow up does not entail the family going to a specialty follow-up clinic, like going to a metabolic clinic.

And it's the primary care provider is just asked to redraw the blood and they do the serum TSH and t4. So we felt like clinically, if you had to kind of pick the, you know, out of all those diseases, which is the most significant group that you would be concerned about having high false positive rates, we felt, given that it was CH and CF, we just felt that that wasn't a big impact.

If it were MSMS disorders, that would be quite a different story. So that was our conclusion. But the paper has been published in Genetics and Medicine. And everyone's welcome to read it. And if you have questions, you can send us emails.

CHAIR BOCCHINI: Thank you. Other questions? Beth?

MS. TARINI: Beth Tarini, AAP. As a researcher, I always hesitate to rely on anecdotal data. And with all due respect to the assessment, I agree an MCAD positive is different from a congenital hypothyroid. But as someone who's child actually had a false positive for congenital hypothyroidism ironically, I can tell you that, and then had to go through three subsequent draws because the thyroid didn't come down as quickly as it could have, it does cause, I mean I didn't have a nervous breakdown, but it does cause a bit of angst.

So because the thyroid doesn't also normalize right away, and it was always trailing

by a point. And we could say it's a point, but the doctors always made me redraw it.

So my child had three draws. Luckily, he didn't have to have venous. He only had to have foot. But we had three draws at each point. So it does, you have to bring them back, it does create these other issues.

CHAIR BOCCHINI: Other questions, comments? Carol.

MS. GREENE: So maybe here just a plug for the two screen system because I think we all know, as Maryland does it, I think we all know the pros and cons of DNA, positive IRT DNA.

You have some advantages, you can find cases early, but we may, at some point, need more blood. There are some things that are better on the second screen, and the Maryland system is if the first, if the IRT -- they have nearly as many second screens as first screens, and if you have a high IRT on a first screen and you don't get a second screen, they go looking for the baby.

But the protocol is If IRT is high on

screen when the baby is a day old, if it's 250, 300 it gets called out. If it's above the cut-off but it's not a hugely high number, nobody knows about it until the second screen comes in because it's not an emergency.

And only if the second screen confirms the high IRT is it called out as a positive. It's a two screen system, it works beautifully for CF.

CHAIR BOCCHINI: Deter.

MEMBER MATERN: Before we change the screening orders to a second routine screen across the country and significantly increase the healthcare cost, do this.

I would still suggest that we first look at the data, looking at covariates and how that can help.

CHAIR BOCCHINI: Thank you, Kellie. Well, that concludes the agenda for our meeting. I just want to now ask if there's any suggestions of additional topics to be covered at our next meeting.

I think just going forward, we already are planning for a presentation from the insight grantees which are funded by the NIH, and Don Bailey's going to moderate that session, and the presentations.

And that is certainly going to help us kind of get into the potential disruptive changes that might occur with the whole genome sequencing and what impact it might have on newborn screening.

So it will continue to kind of evolve some of the discussions that we have. We're going to continue long-term follow up discussion. We plan to hear from states and that have implemented testing for various LSDs and see where they are and what kind of issues that they have had with the data that they've collected.

And then look for long term follow up issues related to hearing screening and critical congenital heart disease. So we already have some good topics already set.

We're also going to have updates from

new steps on timeliness activities. And then Beth Tarini is going to discuss her Robert Wood Johnson funded project findings. So I think we have got a number of things lined up already to make August another very productive meeting.

Are there other topics or things that came out of today's or yesterday's session that come to mind to add as potential topics for discussion? Natasha?

MS. BONHOMME: Natasha Bonhomme, Genetic Alliance. I don't know necessarily how this would fit in, but I think one thing that did come up yesterday was around policies and policy around newborn screening.

And there have been a number of different, how should I say, pushes, whether that's from a legislative standpoint, on Capitol Hill with some new bills that could potentially affect newborn screening, also at the state level, but also, just advocacy, in general.

And I think that's something that affects the work that we do, but we don't often

talk about it within this committee. And so that may be something that if not for August, but something to think about down the line.

You know, just the way that efforts are being pushed, it's just evolving, as everything does. You know, if you actually go on to change.org, there are a couple of petitions on there related to newborn screening conditions and just different things that I think could be at least of interest for this Committee to think about or to know what's going on in newborn screening outside of some of the standard topics that we typically touch on.

CHAIR BOCCHINI: Great, thank you. And then, of course, we're going to add Dieter's suggestion for looking at the data that's becoming available on covariance that might influence accuracy for newborn screening, initial screens.

Any other items? If not, I want to thank you all for your participation and involvement in making this committee's work so

successful.

I want to thank HRSA for organizing the meeting and Debbie Sarkar for her work in developing the program here. And I also want to thank Elena Harris who has done yeoman's work trying to make sure that everything worked well yesterday and today, electronically and otherwise. So thank you much.

So with that, we'll conclude today's meeting and look forward to seeing you all in August. Thank you.

(Whereupon, the above-entitled matter went off the record at 1:36 p.m.)

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C E R T I F I C A T E

This is to certify that the foregoing transcript

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Before: HHS Health Resources & Service Administration

Date: 05-10-16

Place: Rockville, Maryland

was duly recorded and accurately transcribed under my direction; further, that said transcript is a true and accurate record of the proceedings.

Neal R Gross

Court Reporter