CENTERS FOR DISEASE CONTROL AND PREVENTION

LEAD EXPOSURE AND PREVENTION ADVISORY COMMITTEE

(LEPAC)

MEETING HELD AT THE CDC ROYBAL CAMPUS AND VIA ZOOM VIDEO CONFERENCING

OCTOBER 16, 2023, 9 A.M.

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Transcript Legend

(ph) - Exact spelling unknown; spelled as sounded.

-- Break in speech continuity.

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P R O C E E D I N G S

MS. KHAN: My name is Samer Khan. I'm with Ross Strategic, and I'm joined by my colleague Tori Bahe. And we're on for any support with Zoom.

Alexis, can I pass it over to Matt?

MS. ALLEN: Yes. Yes. Oh, to Paul, I'm sorry. To Paul.

MS. KHAN: Oh, okay. All right.

WELCOME

DR. ALLWOOD: All right. Thank you, Samer.

Good morning, everybody. My name is Paul Allwood and I am the designated federal official of LEPAC.

It is my great pleasure to welcome everybody that's attending the meeting in person. We've got a room that's -- it's almost full here. It's really good to see that. This is the first time since the LEPAC was established a few years ago that we have had the opportunity to meet in person, and I think that's very -- that's a special milestone. And, you know, I -- you know, I give thanks to the very many people who helped to make that possible and for continuing to, you know, support and assist in ways that will ensure

that we have a successful meeting.

For those of you that are attending online, we are going to have you muted throughout the meeting as we have a full schedule and we will, you know, do our very best to stick to the agenda and the times as best as we possibly can.

We're going to be recording the meeting and also a transcript will be prepared and made available sometime after the meeting. It's going to be posted on our website. With that, I'm going to -- in a second I'll introduce our chair, but let me just say apologies for a slightly later start than we anticipated.

I think I'm hearing some feedback. You guys hearing me okay? Oh, yeah, this is live TV as they say. So, you know, we got off to a little bit of a later start than we had planned but, you know, we're certainly going to do our best to kind of keep on track the rest of the way through.

And now I'm going to pass the microphone over to the chair of the LEPAC. Matt Ammon has been the chair since the LEPAC was established.

And, Matt, I'll pass it on to you.

(Recording in progress announced.)

UNIDENTIFIED SPEAKER: It's on.

REVIEW CHARGE/PURPOSE

MR. AMMON: Oh, you do? Oh, sorry about that. I guess I should put on my glasses.

Well, thank you very much, Paul, and thank you, everyone, for being here. It is -- first of all, it's a pleasure to be here in person. I put on my glasses to see everybody. There we go. Nice to see everybody in person.

And it is very exciting that we are here in person for the first meeting we've had as this group. And I very much appreciate everybody being here. Very much appreciate all of CDC's assistance with the agenda. It's a great two-day agenda.

And I very much look forward to a lot of things that we're going to be discussing over the next two days: a lot of current activities, a lot of information related to what all of us have been doing, some very pertinent information on our current activities and things going on in our sphere.

But with that, let me just remind people of our charge and purpose with just a reminder of our description of duties within our authorizing

statute. The LEPAC at a minimum will, one, review the federal programs and services available to individuals and communities exposed to lead; second thing is review current research on lead exposure to identify additional research needs; third duty is review and identify best practices, or the need for best practices regarding lead screening and the prevention of lead poisoning; and the fourth one is to identify effective services, including services relating to healthcare, education, and nutrition for individuals and communities affected by lead exposure and lead poisoning. All very important aspects of our work that we've done over the last couple of years. And we've made a tremendous amount of progress and a lot of knowledge-sharing in that, so -- but just a reminder from kind of where we started.

Again, I thank everybody for being here. And with that, I'll turn it over to Perri.

INTRODUCTIONS

DR. RUCKART: Good morning, everyone. I'm Perri Ruckart. I am with CDC and I serve as a deputy DFO for the LEPAC.

And I'm going to call on all of the members.

When I call on you, if you would please briefly introduce yourself. And I'll start with those in the room.

Nathan Graber, let's start with you.

DR. GRABER: Good morning, I'm Nathan Graber. I'm a pediatrician and a clinical associate professor of pediatrics at Albany Medical College in New York.

DR. RUCKART: Kristina.

DR. HATLELID: Thank you, Perri. I'm Kristina Hatlelid. I'm a -- was trained as a toxicologist and I'm now the director of the Division of Toxicology and Risk Assessment at the Consumer Product Safety Commission.

DR. RUCKART: Erika? I'm going in alphabetical order in case you're wondering.

DR. MARQUEZ: Dr. Erika Marquez, UNLV School of Public Health and I oversee the (indiscernible).

DR. RUCKART: Grace Robiou?

MS. ROBIOU: Good morning. Grace Robiou. I'm the director of the Office of Children's Health Protection at the Environmental Protection Agency.

DR. RUCKART: We do have a few other LEPAC

members who will be joining us shortly in person. And so while we're waiting for them, I will go to those who are doing it virtually.

Tammy Barnhill-Proctor?

MS. BARNHILL-PROCTOR: Good morning, everyone. My name is Tammy Barnhill-Proctor, I'm from the U.S. Department of Education in the Office of Elementary and Secondary Education. Welcome.

DR. RUCKART: Rebecca Fry, are you on?

DR. FRY: Morning. Yes, I am. Rebecca Fry, UNC Chapel Hill, Department of Environmental Sciences and Engineering. So pleased to be here.

DR. RUCKART: Mary Beth Hance?

MS. HANCE: Good morning. I'm Mary Beth Hance. I'm the deputy director of the Division of Quality and Health Outcomes at the Centers for Medicare and Medicaid services.

DR. RUCKART: Great. Tina Hanes?

MS. HANES: Good morning, everyone. I'm Tina Hanes. I work for the U.S. Department of Agriculture Food and Nutrition Service, specifically in the food safety and nutrition division.

DR. RUCKART: Aaron Lopata, are you on?

(No response.)

DR. RUCKART: Okay. I will go to our liaison members. Patrick Parsons?

DR. PARSONS: Good morning, everyone. My name is Patrick Parsons. I am the director of the Division of Environmental Health Sciences at the Wadsworth Center in New York State Department of Health and professor of environmental chemistry at the State University of New York.

DR. RUCKART: Okay. I will go to our virtual liaison members. Abraham Kulungara?

MR. KULUNGARA: Good morning, everyone. Abe Kulungara, senior director for Environmental Health at the Association of State and Territorial Health Officials.

DR. RUCKART: Ruth Ann Norton?

MS. NORTON: Hey, good morning, everybody. Ruth Ann Norton, calling in from Baltimore. I am the president and CEO of the Green & Healthy Homes Initiative. So sorry not to be able to be with you today but thank you for allowing me to join virtually.

DR. RUCKART: Anytime. Thank you.

Amanda Reddy?

MS. REDDY: Good morning, everyone. Amanda

Reddy, executive director of the National Center for Healthy Housing.

DR. RUCKART: Stephanie Yendell?

(No response.)

DR. RUCKART: Lauren Zajac?

DR. ZAJAC: Hi, good morning. I'm Lauren and I'm a pediatrician and associate professor at Mount Sinai in New York City. And I'm currently serving as the liaison to LEPAC from the American Academy of Pediatrics.

DR. RUCKART: Thank you, everyone. Karla Johnson, one of our LEPAC members, is unable to join us today. And we will introduce the other members when we get an appropriate moment when they enter the room. So thank you all. Really glad to have you joining us in person and virtually. And I will turn it back over to Paul.

DR. ALLWOOD: Thanks, Perri.

Good to see that we've got so many people, you know, attending the meetings. And the committee members. And, as Perri said, we are waiting to welcome some additional members who are going to be joining in person.

The last time the LEPAC met was December 8, 2022, and we had almost 200 people attending that

one. So it's really awesome. The focus back then was on lead in schools and childcare facilities. And we have prepared some additional details about the presentations and discussions that took place at that meeting and also prepared a transcript that can be found on the CDC's LEPAC website. So encourage everybody to, you know, take a moment to go online and check all those materials.

Today's meeting we will be discussing several items, you know, we will be providing an update on blood lead testing instrumentation. We're going to be hearing from our EPA and surveillance team, an update on the Data Modernization Initiative that's taking place across CDC.

We're also going to be hearing about the Lead-Free Communities Initiative. We're also going to be getting an update on the various state policy actions related to the update of the blood lead reference values that took place in 2021.

We're also going to be hearing about the aligning HUD inspection protocols for assisted housing. And we're going to be also getting some

updates from the new LEPAC workgroup which is known as the Preventing Lead Exposure in Adults workgroup or the PLEA.

And EPA will give us some information about the lead dust hazard standards updates. We're going to be discussing lead service line replacements, hearing information about the grants and other opportunities that are available for work with communities.

And also we'll be getting some very important information about increasing rates of testing, blood lead testing in children that are enrolled in Medicaid. And several of our LEPAC members will be giving us and sharing information with us throughout the -- today and tomorrow.

Then we have a public comment. We are prepared to listen to Dr. Diana Zuckerman who's indicated an interest in providing some public comments.

And we ask everybody to please listen, take notes, ask questions, and be prepared to share your thoughts about, you know, various agenda topics as they -- as they come up.

So a few additional updates about activities that are taking place within CDC's blood lead

prevention project, lead poisoning prevention and surveillance branch: We are partnering with EPA and HUD for the 2023 National Lead Poisoning Prevention Week activities which will begin October 22nd and go through October the 28th this year. The theme for NLPPW '23 is "Together we can prevent lead exposure". And the key messages are get the facts, get your child tested, and get your home tested. We invite all of you to join us on Thursday, October 26th from 2 to 3 p.m. eastern for our webinar titled "Children and Lead Exposure, Current Issues".

We have subject matter experts from the CDC that will discuss CDC's lead poisoning prevention program efforts, discuss recent news stories regarding lead exposure, and also discuss some information related to recent lead-related recalls. For more information about National Lead Poisoning Prevention Week and to register to attend the webinar, please visit CDC's website.

CDC UPDATES

DR. ALLWOOD: CDC is partnering with NASA and FDA to accelerate the development of next-generation point-of-care blood lead testing technology. We've worked with -- we are working

with a vendor, Luminary Labs, which was selected through an RFTP. And Luminary Labs is going to be working with us on designing a challenge contest that will be publicly announced soon. I'll tell a little bit more about the challenge, you know, in a few minutes.

But another big development that I'd like to share with everyone is that CDC is funding eleven new community-based organizations under a new notice of funding opportunity called Supporting Communities to Reduce Lead Poisoning. This is a three-year community-based notice of funding opportunity which has a period of performance from September 30th of 2023 to September 29th of 2026. Little bit more on the challenge and what can be expected in the next -- near future.

Everybody knows that there's no safe level of lead exposure and that lead poisoning remains a significant public health issue across the United States.

Everyone also knows that lead poisoning disproportionately impacts children in disadvantaged communities. Because clinical symptoms of lead exposure can be subtle and on -- and may not be detectable by a clinical exam, the

best way to determine if a person is exposed is to collect and test a blood sample. And through experience we have determined that collecting that sampling and testing at point of care, there's just some distinct advantages. There is only -- currently there's only one FDA cleared point-of-care test for lead.

However, new methods and emerging technologies, we believe, could provide alternative diagnostic tools. New tools would open up opportunities to address this crisis. And we believe that we could -- such new tools could be very highly effective and reliable and would also be cost-effective.

There is an urgent need for such new technology for blood lead testing at point of care. And in partnership with NASA and the FDA, we are proposing a -- we're working on developing a contest that would invite solutions from individuals and organizations and other entities across the entire globe.

The challenge will seek to develop a simple to use and affordable system or systems that can detect very low concentrations in whole blood at the point of care. This technology will be used

by healthcare providers who will -- or it would be usable by healthcare providers that are not trained in laboratories and hence CLIA waiver would be an important component of the solution.

We are anticipating a launch of this challenge contest in mid-November and we ask everyone to stay tuned as we finalize. All of the details of the contest will be published relatively soon.

All right. And I think with that, I turn it back to Matt to introduce our first speaker.

DR. RUCKART: Yeah, I'm going to jump in real quick. I forgot to give you all some very important information. Where are the restrooms and where is the cafeteria? So if you go out this back door here and just turn the corner to the left, you will see the restrooms on your right.

And this is building 24 and the cafeteria is in 21. So you head back toward the way you came. And I also saw that there are vending machines along the hallway. But we have some snacks in the back as well. So just wanted to make sure everyone was aware of that information.

And also when people get a moment, just to

make sure you sign in because we need to keep a record of who's attending our meeting.

MR. AMMON: Just a point of order for the CDC updates --

DR. RUCKART: Right.

MR. AMMON: -- to make sure that we didn't skip any of the updates (indiscernible) --

DR. RUCKART: We -- we didn't skip. I think we went a little bit ahead of schedule.

MR. AMMON: Okay.

DR. RUCKART: So --

MR. AMMON: I just wanted to make sure --

DR. RUCKART: -- Paul gave his already. So we can go to Audrey --

MR. AMMON: Okay.

DR. RUCKART: -- because -- I mean, we're a little bit ahead of schedule but we'll just run with it.

MR. AMMON: Perfect.

BLOOD LEAD SURVEILLANCE UPDATE/DATA MODERNIZATION INITIATIVE

MS. PENNINGTON: Good morning. My name is Audrey Pennington. I'm an epidemiologist here in the lead branch. And today I'll be presenting with Qaiyim Harris, my colleague, who is a

project manager.

We'll be giving you an update on our blood lead surveillance work and the data modernization initiative. Next slide.

Okay. Starting with blood lead surveillance, as we know, CDC runs the childhood blood lead surveillance system, which we call CBLS. Next slide.

This is a child-specific database of blood lead testing data. And it includes data from all CDC-funded childhood lead poisoning prevention programs. These are located in 48 states, the District of Columbia, and Puerto Rico.

CBLS integrates clinical information and laboratory reporting, and it also has information from environmental investigations of sources of lead exposure among affected children. Next slide.

Our team is currently processing and analyzing the recent years of submitted CBLS data. This is a really large undertaking that's being led by Stella Chuke and Qaiyim Harris. So in May 2023, CDC provided 2017 through 2021 data tables to states for their approval of the numbers to be published online.

And we're now in the process of resolving any discrepancies between the numbers that we have and the number that states have to make sure that they're comfortable with our numbers before we publish them. We're also processing the 2022 and the early 2023 data.

Various challenges have delayed the final publication of these data. So first, there are complexities of the data sets and the data formatting in the submission processes. There have been some delays in states adapting to and adopting the new data elements and systems that we're using just based on the unique organizational and policy infrastructures that different states are working within.

And then also there's differences between state surveillance systems and the way that they count and produce data. So, for example, at CDC we have one set definition we use for what counts as a confirmed blood lead test above the blood reference value. And that same definition isn't used across all states. That just means that there's some additional processing on our end before we publish data to make sure that there's consistency in the data that we're putting out

there.

So we're making a lot of progress on this and we're looking forward to sharing these data soon. Next slide.

Our team lead, Dr. Joseph Courtney, explored the impact of the COVID-19 pandemic and the LeadCare II recall on blood lead testing among children. This graph shows -- I apologize, the formatting is a little off on the x-axis, but hopefully you can still read it.

This graph shows blood lead tests per quarter in 25 states and for this analysis used the states that consistently provided data across this time period which goes from the beginning of 2018 through the third quarter of 2022.

On the y-axis is blood lead tests reported to CDC. So you can see that there is a dip in blood lead tests after the COVID-19 pandemic started and then another dip after the LeadCare II recall. We do see some recovery in numbers in 2022 but they did not return to the levels prepandemic. Next slide.

Our team is assessing new data sources for blood lead surveillance to both complement and validate CBLS data. So a lot of this work is

being led by Cheryl Cornwell who's an epidemiologist on our team.

So, first, we now have access to a large clinical lab database that provides national near-real-time testing data from adults and children. And with these data, we're -- our goal is to be able to identify trends more quickly than we can with CBLS because CBLS data are submitted quarterly.

Next, we recently obtained data from Centers for Medicare and Medicaid Services on blood lead testing among children enrolled in Medicaid. And with these, we're looking to identify gaps in screening among children.

And then, lastly is the lead exposure risk index which we call the LERI. This is a new tool to map community level risk for lead exposure among children. This tool is planned to be pilot-tested this year and will be released after that.

We're really excited about these new data sources and the way that they will be able to augment our current surveillance work. Next slide.

I will now turn it over to Q to discuss the

data modernization initiative.

MR. HARRIS: Audrey.

Good morning and thanks. As previous -- next slide.

As previously mentioned, we've leveraged CBLS or childhood blood lead surveillance system to record and aggregate the data that we collect from state and local health departments. The system provides the functionality to aggregate and validate this data and apply a nationally consistent standard. The data can be leveraged to support policy decisions, what is primarily track -- it primarily tracks progress towards the elimination of childhood blood lead poisoning.

There are several issues that have made data management with CBLS particularly labor-intensive. The data model and the system was designed prior to the implementation of many cloud (indiscernible) technologies. So we struggle with the inability to track the resubmission of previously rejected records, manual data reviews prior to import processing, manual generation of static Excel reports that require the manual linkage of census data and other updates prior to our publications. And we

also have state and local partners with varying capabilities with regard to IT and data management.

And the overall system design has left us with a silo, a data silo, from which our program is able to operate for some time. Next slide.

To address and resolve some of these issues, the program is leveraging CDC enterprise data analytics and visualization resources or EDAP to facilitate standardized data collection and reporting within our agency cloud infrastructure using agency standardized services and agency standardized tools. Where applicable and necessary, CBLS will leverage and integrate with other CDC cloud platforms at scale.

These updates will position CBLS and our branch to take a leadership role in planning and developing the tools and data sets that will support our partner programs in CDC's shared analytic zone.

The shared analytic zone will provide state, tribal, territorial, and local partners access to data and analytical tool sets that foster collaboration and lead to improved public health inside and out. Next slide.

So finally to address the previously stated challenges, we plan to make several key changes. Specifically we'll leverage unified cloud storage. This will address our data silo issue, provide scalable storage and computing resources, will increase the level of automation in our data and reporting pipelines. This will provide for an adequate amount of human intervention as necessary but increase our overall system and staff efficiency when utilizing more efficient and flexible reporting tools. With Power BI our team has already created better data quality reports and reduced the amount of manual intervention necessary to create our reports for publications.

We're also preparing the pipelines and platforms necessary to securely and efficiently integrate with our partner resources once they're deployed within our shared analytic zone.

The modernization of CBLS addresses the issues from the past and the legacy system while providing a fully integrated, more robust, and more powerful system. And we'd be happy to answer any questions. Thank you. Next slide.

MR. AMMON: Any questions from this? A very

popular data set as you can imagine.

MR. HARRIS: Yes.

MS. PENNINGTON: Yes.

MR. AMMON: Because people always ask, When can we see it; when is it coming out?

When is it coming out?

MR. HARRIS: So right now we -- we've released the data and its been processed and aggregated to our partners. And we're deferring to them in some of their issues and some of their reticence because, as Audrey mentioned, not all of our counts align. And some of it is due to the definitions, some are due to processing issues that we've seen.

So as we align those through either reprocessing or resubmissions, we'll be preparing the package for publication. I would say we probably have about 40-or-so percent ready to go. We want to see that number rise to at least 60 to 70 percent of our programs before we push the entire package. We don't want to have half omitted. So that's really why we're doing it that way.

MR. AMMON: No, that's -- I think that's very smart because you end up getting more

questions that you need.

But I appreciate that. You know, this is obviously a very critical part of all of our work. You know, that data set is -- and especially for HUD, you know -- key to much of our strategic planning and our activities. So we really appreciate this work being done, the way you do it too; right? I mean, I think that's important that you -- that it takes a lot of time to get it together. We respect that. But it is a very critical part of every (inaudible). So I appreciate that.

Yes.

MS. ROBIOU: For those on the phone, this is Grace Robiou from the Environmental Protection Agency.

We've been having some discussions internally at the EPA because there's a big emphasis right now on community level engagements on a host number of environmental health issues including bed. And I'm hearing reports of not a lot of people showing up for the testing in particular. And I just wanted to bring -- I don't know if this is the right place or moment in the agenda, but I wanted to see what is being

done about this at the CDC?

I mean, this is, of course, very super important what you presented here, but in terms of, like, the social element of getting people to get tested, what exactly is happening? If somebody could summarize that for me, that would be helpful.

MR. HARRIS: So probably wouldn't be the best of our team representatives to answer this, but I know in terms of outreach, our programs are working to recover from the pandemic and some of the issues that we saw with the LeadCare recalls.

So with that there's always outreach activities to increase testing. And I don't know that there has been sort of a concerted effort to address specific -- the specific drop off because I think we're just starting to understand that ourselves.

And I don't know, Audrey, you want to add some context to that? Or Paul?

DR. ALLWOOD: Yeah. Thanks for the question, Grace. And just while I'm speaking, so there's a session tomorrow where we will -- we'll be speaking a little bit about some of the work that we're doing to try to address this testing

challenge. You know, a part of that is -- so what I shared about, you know, the -- trying to get some new instrumentation that will also increase accessibility, lower the bar, speaking like -- having (indiscernible) with the (indiscernible). So there should be more on that, Grace.

MR. AMMON: Patrick.

DR. PARSONS: Hey, I'm Patrick Parsons. I forgot to mention I'm the liaison for the Association of Public Health Laboratories. So I have a question about your CBLS system. Does it record the method by which blood lead was measured?

MR. HARRIS: Yeah. So we do vocabulary around method. It was recently added. So one of the things Audrey mentioned was some of our programs have struggled to adopt some of our new data points and that's one of them. So we do -- are now asking for information about the analyzing laboratory in a specific method.

DR. PARSONS: And I assume that you also capture information about the type of blood specimen, if it was capillary or -- or venous?

MR. HARRIS: Yes, sir.

DR. PARSONS: And so are you able to give us a snapshot of how the methods break down between, you know, the major comprehensive methods and -- versus the CLIA-waived LeadCare?

MR. HARRIS: As I mentioned, this is more of a new data point. So we've been collecting this since 2019. So we really haven't done a lot of analysis in terms of grouping or really validated how much of it is being collected correctly across the data sets. So we're just starting to get a sense of the data quality and hope to have that type of analysis soon.

DR. PARSONS: Thank you.

MS. KHAN: And this is Samer on Zoom. We have a question from a member in the chat, from Stephanie Yendell.

Stephanie, I don't know if you want to come off mute.

DR. YENDELL: Sure. Yeah. I'm just wondering. We've really struggled to get replies because in the state that I work for our numbers are not aligning with the data that CDC has been sending us. And we've sent that feedback and not heard anything back. Is there a timeline in which we can expect to see those data get

resolved?

MR. HARRIS: Yeah. So we're working through that pipeline of discrepancies and we're going to provide a diversified message. In some cases the discrepancies are very unique to a program. In some they are more systematic and apply to a group. So we're categorizing each of the types of discrepancies so that we can report them uniformly. I'm not familiar with the specific issue in Minnesota, but in many cases I would expect programs to hear from us in the upcoming weeks with some specifics.

We're hoping to produce or release this publication in advance of the end of the year, assuming that we get, obviously, the buy-in from the programs. So we're working to follow this as soon as possible.

MR. AMMON: Question from Nathan Graber.

DR. GRABER: Hi, it's -- for those online, this is Nathan Graber. So I want to first of all commend you. This is a monumental task. I have some specific questions about the data and how the data is analyzed. You mentioned very briefly that you use CMS data. And I'm -- I'm wondering if you could elaborate on that a bit. Is that

just member data? Is it claims data? Is that matched with children in the -- in the, like, testing database? Like, how is -- how are those -- how is that used to enhance the CBLS data?

MS. PENNINGTON: Yeah, so we just received that data. So we have not been able to analyze it yet. So -- and we will not be linking it to CBLS data. We'll -- we're using that as a separate data set that we'll be analyzing to try look at screening rates and things like that. And we're not planning to look at the CBLS data. And if you can -- I'd be happy to follow up with you with more specifics about the types of the data in there.

DR. RUCKART: Hi, this is Perri. I just want to say I see some comments coming in to the chat from our LEPAC members. And since some of us are in person, we're not seeing all of the comments necessarily. If you would just please verbalize your comments because also that would make them captured on the transcript. Thank you.

DR. GRABER: Yes, thank you. Yeah, I'd like to know a little bit more about those data and the challenges that you have with CBLS. CBLS, in

matching it with state data, I'm wondering, you know. Also you're probably having the same -- going to have the same issues with those CMS data as well. So be interesting to talk more about that.

MS. PENNINGTON: Yes, definitely. And I can put you in touch with Cheryl Cornwell who's leading that analysis. And I'm sure she'd be happy to talk you about the specifics.

DR. GRABER: Oh, terrific, yeah. Really back also -- I saw you also mentioned use of a lead exposure risk index. And maybe you could talk a little bit more about that, how that's used, and if that's associated with any population estimate data about how many kids in those -- in those communities that have high -- that come out high on the index or at higher risk on the index.

MS. PENNINGTON: Yeah. So that index is being pilot-tested right now, and I know it is being compared to NHANES data. And the -- the exposure index is available for the whole U.S. and we're looking forward to being able to share those results when we have them.

DR. RUCKART: I'll just say a little bit

more about the LERI, the index that we're talking about. It's based on environmental and socio-demographic risk factors and then it's com -- to identify areas that are at higher risk based on these variables. And then to see how good of a job it does, it's being validated against the NHANES data. So it doesn't include blood lead data. It's to compare against that and just to identify potential hotspots where state health departments and others might want to look so they can take action.

MR. HARRIS: And I am aware of many of our program -- partner programs doing linkages against Medicaid data to validate their screening rate. So the CMS data being Medicaid specific, CBLS is trying to capture a much broader sense of the population. So I think it's integrated in a sense that programs are submitting data for Medicaid systems. But that data set is not going to be linked specifically with CBLS.

DR. RUCKART: And Stephanie is one of the LEPAC liaisons. She has her hand raised.

DR. YENDELL: Yeah. This was in reference to the Patrick Parsons question about testing type. I just wanted to point out that, yes, CDC

has been asking for laboratory method. But laboratories use LOINC and SNOMED codes to report laboratory methods to the state. And the LOINC and SNOMED codes don't align with the specific type of test being performed. And so therefore it's very difficult for states to collect that information in a systematic manner as far as whether it was on a point-of-care test or an ICP mass spec or a different method because the LOINC and SNOMED codes are not specific to those methodologies.

MR. AMMON: All right. Any other questions in the room? Online? I try -- I can't see any -- everybody. No? Very good.

Thank you all very much.

DR. ALLWOOD: So, Matt, if I could just make a quick comment. You know, so I'm really pleased to see the -- the kind of interest --

Thank you, Nathan, for raising that question.

You know, everyone understands that the Medicaid population of children enrolled in Medicaid services are a high-risk group for a lead exposure. And it's any multitude of why they're doing that blood lead testing for this

population is that, you know, not what anyone would like it to be, you know. So looking at -- at a new data set that, you know, will provide us some -- some better understanding of how blood lead testing is taking place among this very special population and, you know, analyzing those data to try to identify, you know, actionable things that we might be able to pursue. It's, you know, kind of -- an important priority for a program. So we're really pleased that, you know, we not only have Mary Beth and she's with CMS, that, you know, she's now a part of LEPAC, but, you know -- but we're working at looking at different -- newer data set that will -- sets that will help us to get a better understanding of what are the opportunities for us to -- rates of testing and ultimately, you know, preventing more -- more lead exposure. Medicaid kids.

MR. AMMON: Thank you for that input. Scanning one more time before we go to our next presentation online. All right.

Next we would hear about the Lead Free Communities Initiative.

LEAD-FREE COMMUNITIES INITIATIVE

MS. BROOKS-GRIFFIN: Hi. Good morning,

everyone. My name is Quanza Brooks-Griffin. I'm a public health advisor in the lead branch. I was sharing with my colleagues earlier this morning that I fell down the stairs rushing to get here because I'm not used to driving in. I did not hurt myself but I also forgot my readers. So it may be a little bit difficult for me to see my notes. So please bear with me.

So, yes, I am here to present on the Lead-Free Communities Initiative. And sometimes when people hear lead-free communities, they look at me funny, like, well, what do you mean? That's an oxymoron. It's not possible to have a lead-free community. And we are aware of that. But with this initiative, our focus is on eliminating exposure to lead, specifically to children who are at higher risk for adverse health effects. Next slide.

So what is LFC? It is a national initiative that offers a unique comprehensive, multisectoral approach for encouraging and supporting communities to develop and implement a customized plan to become lead-free.

We have three tools that we provide to the -- provide to the support to make meaningful

progress on the rolls to eventually become lead free. And again when I say lead free, we're talking about exposure to lead sources in the community, strategies to build comprehensive, multisectoral, locally driven movement as well as advancement toward environmental justice and health equity. Next side.

So LFC has a focus on primary prevention. So we want to prevent lead exposure before it occurs. And we strive to limit it in major sources of lead in the community; provide targeted intervention efforts where children live, play, and learn. And we want to leverage current ongoing efforts in a given community with new initiatives to create a comprehensive approach. So next side.

So there are four building block to the LFC initiative. And in the next few slides, I will go into more detail about each one of these. So we have the LFC tool kit. That was just recently cleared this year in March. We have the National Leadership Academy for the Public's Health, also known as NLAPH. We have two pilot sites -- Washington D.C. and Louisville, Kentucky -- and then also the creation of a national network.

Next slide.

So a little bit more details on the LFC tool kit. It was cleared March of this year. So currently it is a Word document of about 70 pages. Great resource as we do have some communities that are currently utilizing it. It addresses primary sources of lead exposure to children. So that includes lead in water, lead in paint, lead in soil, and other sources. We have contracted with an organization to format the tool kit. So it is my goal to have it ready and on our website by December. That's an ambitious goal. It may be early January. So hopefully soon each of you will have a copy of the tool kit in your e-mail boxes. Next slide.

The National Leadership Academy for the Public's Health, also known as NLAPH, is a program provided by one of our partners, the Public Health Institute. It's a one-year applied leadership development program that's offered to organizations. We have partnered with PHI to offer the NLAPH program to certain jurisdictions to focus specifically on lead poisoning prevention. These organizations are hand selected. So we work with our program services

team and we say, well, Do you have a jurisdiction that could benefit from leadership coaching that has a project but just needs some guidance and some tools to get over that challenge or to help in implementing that project in their community?

So part of the NLAPH program is formation of a collaborative multisectoral team. So that's four to six individuals, including the health department which typically would lead the group into their intervention. And that also provides some group coaching and training. I tell many people that this is my favorite piece of the NLAPH program. Each jurisdiction has access to a leadership coach in which they can meet with them on a monthly basis as well as every other month they meet with all -- the entire team -- so other jurisdictions -- to collaborate, share successes and challenges.

And so with group coaching, yes, they're helping them to create their action plan. However, if there's other challenges -- so they say, well, Quanza -- or a leadership coach, We're having some challenges with working together. You know, we have some ideas but we're a new team and we're not sure on how to kind of come

together. Well, your leadership coach can help you with that. They can provide personality assessments, such as disks and other things.

I know in Puerto Rico they were working on building a coalition and they had this huge coalition meeting and they just wanted some help and some prep on what should our agenda be, what should our speaker notes be? So their leadership coach is able to schedule an in-person site visit to provide them guidance and hands-on assistance with that.

So the lead-free communities teams, we've had three cohorts over the years. The first cohort started in 2020 and that included Washington D.C. and Louisville, Kentucky. The next cohort was a cohort of one, that's Madison County from Missouri. And then currently we have a four-team cohort which includes Baltimore, Philadelphia, Puerto Rico, and Marion County out of Indianapolis. And next slide.

So -- keep going, I'm sorry. I think you have -- yeah, right here. Thank you. So I mentioned pilot sites. So we're currently pilot testing the tool kit. As I mentioned, it has been cleared. Some of you in this audience may

have reviewed the tool kit, and if you did, thank you very much. But we wanted to actually see how useful is it in the actual community.

So we hand selected Washington D.C. and Kentucky -- Louisville, Kentucky because they were a part of the LFC initiative initially. So they were the first cohort. And they're using it -- the tool kit to work on some interventions within their community. They're wrapping up their plans. I think this is the last month of their interventions. They're wrapping doing their final reports. We're also working with an evaluator who will work with them directly to really get feedback and input on how -- the usefulness of the tool kit, if there's things that we should update. We also to collect some case study data to include it into a kit as well as on our website. And next slide.

And then the final building block of LFC would be the LFC national networks. Our ultimate goal is to create this national network where organizations of communities can collaborate and have discussions and share their successes and challenges, so a one-stop shop where they can go and say, Hey, you know, I've trying to reach out

to HUD, I can't reach anyone, it's very difficult to manage this, or I want to add this part into my table, or I'm not sure how to find these additional resources to implement this program. We're hoping we'll have a place where they can go and have that one-stop shop to share with each other and provide each other with technical assistance as well as reach out to some federal partners; have access to tools, webinars, and other things. And ultimately we want to build that momentum toward a national effort for lead elimination. Next slide.

So what's next for us? I didn't mention this but this initiative came to our branch in March. So it's a new initiative to our branch, not necessarily to CDC, and it had already had many accomplishments such as creating a tool kit, such as having these cohorts.

So we want to continue the momentum, continue the wonderful that was started, but we also want to enhance as we're moving forward. So we're going to, as I mentioned, format, promote the tool kit, get it in the hands of communities that need it.

Wanted more strategy and vision -- vision

planning. So we want to make sure that LFC is aligned with other initiatives within our branch, working with a contractor to develop a work plan, evaluation plan.

So what are our goals? In a year -- we would want to see LFC in five years as well as we want to evaluate. So next time we meet at the LEPAC meeting, I can share or hear some accomplishments, hear some data of the LFC initiative.

And then lastly want to continue and share LFC with communities. Hopefully you all will receive more information as we move forward as the tool kit is formatted and published on our website. I hope to have continuous dialogue and updates for each and every one of you. And next slide.

Are there any questions?

MR. AMMON: I'm going to start with two if that's okay.

MS. BROOKS-GRIFFIN: Yeah.

MR. AMMON: I think the tool kit would be helpful in partnership with our brand-new program. We have a Lead Hazard Control Capacity Buildings grant. These are, you know, smaller

grants to communities who, you know, aren't able to take on -- a couple things, either aren't able to take on the full-blown, you know, nine, ten million dollar grant program that we have.

MS. BROOKS-GRIFFIN: Is that a TCTAC? No? TCTAC funding?

MR. AMMON: TCTAC?

MS. BROOKS-GRIFFIN: No, never mind. It's another similar one. Okay. Go ahead.

MR. AMMON: I need a cool name like that though.

But the other thing is jurisdictions -- smaller jurisdictions that really don't have a lot of the infrastructure pieces at all, right? Really necessary to fully -- not only fully take on a larger program but just how things work, right? Like the planning pieces and the partnership-building, all those pieces that are necessary. So I do see a good alignment with the tool kit and working with our brand-new capacity building grantees around the country.

The other thing is more of a reality on-the-ground type issue -- and I know we have grantees online. I know Ruth Ann is one too -- is, you know, how does the tool kit address

contractor capacity because, you know, in many cases the targeting and the testing and things of that nature kind of hit a wall -- Right? -- when you're at the point of, well, I need someone to do this work now, right? And the contractor capacity around the country has been pretty limiting in terms of us being able to scale up in terms of the number of units that we know need to be done.

So that was just one question in terms of how does the tool kit address working toward building your contractor base in terms of the intervention work that needs to be done.

MS. BROOKS-GRIFFIN: That's a great question, Matt. And I will say one of the communities that is currently utilizing the tool kit stated the same thing: Hey, this is missing the contractor piece.

So we've heard that from communities and I think ultimately once we finish or finalize our evaluation, that's something that we'll be able to add. So I mentioned we are formatting the tool kit in a PDF, but it's not a static PDF. So it's something that hopefully we'll be able to easily update and provide that information. So,

yes, we are aware of that -- I'll say that gap in the tool kit and we're working to include that.

MR. AMMON: Thank you. I see Ruth Ann has a question.

MS. NORTON: Hey, I couldn't see who was talking, but it sounded like Matt Ammon. Am I right about that?

MS. BROOKS-GRIFFIN: Yes.

MS. NORTON: The -- and good morning, Matt and everyone.

So as we are concluding the work on the D.C. tool kit, this is a big part of that look of how we're going to do contractor scaling, not just in D.C., but across the board. And part of what we are recommending is this live kind of living document -- Right? -- that is continually running on an asset and gap analysis basis so that we can think about this. But I do think there ought to be some sort of meeting in each of these cities around who's getting Justice40 money, who's getting other kinds of scaling money for workforce and connect -- and I'm happy to work with you to get the NLAPH grantees connected to who's doing workforce development on greenhouse gas emission work that is looking at whole-house

approach.

And in most of the -- for example, greenhouse gas applications that went in, there's a healthy housing element. There's a whole-house approach element for the low income -- lowest income housing. But I do want to just underscore contractor capacity is the ballgame here because the rest of it doesn't -- we never get to where we need to go unless we do that. So if you wanted to set up a cross kind of awardee workgroup on that, I'd be happy to volunteer to work with others on it because I think it's so amazingly critical. And I just wanted to say that.

MR. AMMON: Thanks, Ruth Ann.

MS. BROOKS-GRIFFIN: Awesome, thank you.

MR. AMMON: And just adding -- adding to that, you know, our money within our grant programs can be used for that very thing. So it is supposed to be used in terms of building contractor base, helping out with training and licensure and all those other things that we know are important elements.

MS. NORTON: Yeah. And I -- I actually think, Matt, that across the board there ought to

be -- I'd like us to get sort of a university of learning going back on lead because -- I've got to hop to a meeting, I'll be back, but we've also seen and we can talk -- take this in a different place, but one of the things we've seen in Baltimore is this spate of high lead's come up because it -- post-COVID people are getting tested, but there's been a delay.

There's a lot of infrastructure capacity at city and state government that's needed too, not just contractor capacity. So we've got to have capacity in the ecosystem, but we -- you know, I'm happy to talk more about how do we kind of utilize this network across the country to really get lead back top of mind on the realities of not backsliding where there's massive success and how we use the moment of other funding.

So anyhow, really appreciate the NLAPH program and all the good that you're doing.

MS. BROOKS-GRIFFIN: Thank you.

MR. AMMON: And good points. Not -- I'm not trying to commandeer the conversation but just one or maybe -- I'm sure it won't be the last additional thing. But, you know, in our grant programs -- you know, obviously we run hundreds

of grantees or have hundreds of grantees around the country -- we've seen a lot of turnover too, a lot of turnover from COVID.

You know, obviously there was a shifting of priorities in terms of lead work during that time. And even -- even legacy grantees that we've had forever, since the beginning of our program 30 years ago, we've seen huge shifts in turnover where something like what you're talking about, this tool kit, really helpful because to reorient a whole set of new folks who may have been doing very different things, you know, throughout their tenure and not really understanding what needs to happen and all the different pieces that you need to have in place to have a functional, successful lead hazard control program that includes, obviously, evaluation and remediation.

MS. BROOKS-GRIFFIN: Uh-huh. And sustainability as well.

MR. AMMON: Yeah. Yeah, yeah, exactly. Exactly. Sustainability beyond grants, if you will. But that whole continuum is -- we were not expecting that, that we would see such turnover in programs. And we've had a lot of retirements

that -- for folks that we've known forever.

So, you know, I almost feel like in many ways we're at square one and these are things that Congress asked the whole time, you know, in terms of where are you in the program and what we need to do and, you know, scaling up this type of work combined with the work that we're doing at, you know, HHI and others. We really, really need to get back to that because we've made such progress and I feel like we can't lose that -- that continuum and that progress that we've made over all these years, you know, for something that we have readily available now, both in terms of funding, both in terms of knowledge base and all of us kind of share in that, that we're in a very unique opportunity now to bring a lot of communities -- continue a lot of the work of communities and then raise up and elevate brand-new communities. There's a need all around the country. We know that.

MS. BROOKS-GRIFFIN: Right.

MR. AMMON: But it's just matching all of the things that we all have collectively into those areas to make it -- to make it work.

So I know that was very long. Sorry about

that.

MS. NORTON: Can I say one last thing before I hop off to my other call. The -- Matt, I think in this you've just hit on a really big issue -- Right? -- the underlying infrastructure in government as well as nonprofits where there's been a lot of swirl. But in government people who just made lots of life changes after having to be so focused on COVID -- Right? -- they either went to other programs, retired. We lost massive capacity there.

I do think we ought to have some focus on that reteaching, rebuilding whether it's in a national meeting or a series of learning webinars. And spot-on that we should use the opportunity in these toolkits as one way to do that. But I do think there has to be some online training, support here to get there and the opportunities that are coming up.

So look forward to talking more about it, but that's what we are seeing, program after program after program just -- Detroit's rethinking today, it's a whole way of looking at lead simply around the capacity to be able to enforce across a city -- Right? -- given where we

are in different aspects.

So there's lots of this happening and the points are extremely -- extremely well made by Matt.

MS. BROOKS-GRIFFIN: And that's great. And I'll add that that's part of the purpose of building the LFC network. So having that place where people can go and get some of that baseline of builder capacity if needed. We're not here yet. We're still doing planning, but this is me, Hey, Paul, can we have a face-to-face meeting this summer? I don't know but we are working on strategizing to figure out how to address some of those concerns and questions that you've raised.

Paul.

MR. AMMON: Well, let me switch to Grace since she was -- had her hand up first, from EPA. Sorry.

MS. ROBIOU: No problem.

Hi, Ruth Ann. I'm happy that you intervened with that comment. I was -- I had my hand raised precisely to encourage us to map what different agencies are doing in this space. EPA has been given a ton of money under both the Bilateral Infrastructure Law and the Inflation Reduction

Act.

In particular the funding for environmental justice communities, we're putting out a notice of funding availability later this fall for $3 billion going to communities that -- to address a host of issues including what we're talking about here. And I would want to make sure that the tool kit is reaching in your national network attempts, you know, different places.

I also want to make sure that there's awareness on a few other things. First, that within EPA we have a FACA, as you know, called the Children's Health Protection Advisory Committee. We just charged the CHPAC, as we call it, two weeks ago with a charge which means a lot -- you know, lot of questions that they come back with recommendations for us on -- on lead and community engagement. So this is exactly what we're talking about here. And there's some questions in there about participatory science, about the degree to which participatory science can play a role in better integration of this at the community level. So I would encourage us to stay in touch on that.

We typically get recommendations back within eight months. So count from a month ago eight months forward, that's when we'll hear back and we're happy to come brief you on that.

Secondly, I want to make sure people are -- people here are aware of this, but I want to put it on the transcript. The President's Task Force and the lead subcommittee is another way to make sure that we connect with other agencies. We have over 17 agencies represented under the President's Task Force that can be leveraged for this purpose.

Last point, then I'll be quiet. I want to make sure that when -- we're not there yet, but EPA is analyzing all the data from telecommunication companies on this issue that has been raised recently in the media regarding the potential for cabling -- telecommunication cabling to be a source of exposure of lead. We're still analyzing that data. But if there is a point at which we at EPA would just -- you know, we would conclude that there's an important risk there, then we might want to discuss inclusion of that pathway in your tool kit.

MS. BROOKS-GRIFFIN: Uh-huh. Thank you.

MR. AMMON: Thanks, Grace.

DR. ALLWOOD: Yeah, thanks, Matt. So I just wanted to just express my appreciation for the good comments, you know, you Matt, others, regarding the LFC. And just to, you know, just kind of share that, you know, the discussion just reinforced for me that, you know, lead poisoning is a -- is, you know, one of the proverbial (indiscernible) problems, right? There are many dimensions to it. There are many seeming causes.

It's not static. It changes and it morphs and it's influenced by, you know, events in the wider world, right? And so, you know, this strategy, really, which is rooted in, you know, kind of three parts, really: First, you know, there's a tool kit which, you know, of course, people will be able to use and access and have some kind of, you know, guidance on how to establish and take actions that will get to lead-free status.

There's also the National Leadership Academy because, you know, we know, I think, you know, it's very widely accepted that, you know, communities have to be a part, have to engage to conduct policy systems and environmental change.

And so that's a part of that -- the whole, you know, mix here. That's really -- really (indiscernible).

So, you know, we're hoping that through the work of the National Leadership Academy, the availability of a tool kit that's user-friendly and accessible to all and also building that national network you can go on, you know, learn about best practices, share your successes or any specific concerns that we will build and strengthen this movement which really ought to be (indiscernible), you know, at a very core level, you know, in the communities. Communities are taking ownership, being invested moving towards that next step.

MR. AMMON: Thank you very much, Paul. Any other follow-up before we move on?

MS. BROOKS-GRIFFIN: Matt, can I say one --

MR. AMMON: Yes, yep.

MS. BROOKS-GRIFFIN: I just wanted to make one quick comment that Paul reminded me of. So the tool kit, we do have some strategies and guidance on how to build your action plan, build out your budget, but it's not intended to be prescriptive. So we're going to get you started.

We're going to connect you with resources, the resources that you all mentioned here in the room. But it won't necessarily have every single topic, every single step a community will need to take. But it's more of a guidance on here's what you can do, here are some worksheets on how to complete your -- your action plan, how to complete your budget, what partners to have at the table. But more to come on that.

DR. CHAMBERS: (indiscernible) --

DR. RUCKART: Excuse me, Wallace. Before you jump in -- I'm sorry -- I wanted to take the opportunity to let you and Anshu introduce yourselves.

So maybe go to Anshu and then Wallace, you and then your question. Thank you.

DR. CHAMBERS: Wallace Chambers, Cleveland Department of Public Health.

DR. MOHLLAJEE: Hi. Anshu Mohllajee, I'm from the California Department of Public Health.

DR. CHAMBERS: So when you talked about contractor capacity, I just was wondering for clarification are you using WDA contractors or RRP contractors?

MS. BROOKS-GRIFFIN: So that's not -- that's

a gap in our tool kit. So that's something that once we get feedback from the communities that's currently utilizing the tool kit, we'll determine what information we want to conclude as well as connect to other sources of -- other federal sources that might be able to explain those details more.

So maybe it's going to be both. We're just not sure just yet. Once we finish the evaluation, we'll reassess and then include some information.

DR. CHAMBERS: Okay. And another question if I could. Are you focusing on rural communities or inner-city communities?

MS. BROOKS-GRIFFIN: So it's across the -- across the gamut. So communities in general which would include rural. And we're hoping that tribes as well as territories would be able to use this resource.

DR. ALLWOOD: Right so, you know, great -- great questions, Wallace. So, you know, we -- we want to be careful not to sort of overpromise in terms of, like, you know, giving, like, prescriptive kind of remedies for some things which are system -- like, you know, the idea of

lack of specific capacity within a certain part of the country. And that's one of the reasons why the whole approach is kind of rooted in the idea of in par with the communities, to work together, build those networks and those collaborations locally, identifying the resource needs and resource opportunities.

And so what, you know, part of the education through the NLAPH program is to kind of teach communities how to do that part also, you know, and then the tool kit also will need people to identify what resources are needed, what potential resources are needed.

You know, so that's all strategy that we're hoping that all of the, you know, sustained effort with the lead-free communities, communities will be empowered to start identifying and taking, you know, deliberate steps to address their specific needs.

MR. AMMON: Anybody else? I will say there's a big difference between RRP and certification.

DR. ALLWOOD: Right.

MR. AMMON: Right. Big, big difference.

Any other follow-ups?

DR. CHAMBERS: I just wonder based on Paul's comments, is there going to be a workforce development component to this?

MS. BROOKS-GRIFFIN: There is some information on workforce development, yes.

MS. ROBIOU: I have one last question. Is there, like, coordination between you and the previous presenters to map the interventions vis-a-vis the data?

UNIDENTIFIED SPEAKER: Hi, Aaron.

MS. BROOKS-GRIFFIN: Not currently. And so as I mentioned, we are -- this is a brand-new initiative to our branch, so we are working and planning on how we're going to align LFC with other initiatives within our branch.

MS. ROBIOU: Okay.

MS. BROOKS-GRIFFIN: So, yes, hopefully we will, but right now we're in the planning phases for that.

MR. AMMON: Good. Thank you very much.

MS. BROOKS-GRIFFIN: Thank you.

MR. AMMON: Next we will hear an update on state policy action related to the blood lead reference value.

Just loading up the presentation, getting

things ready, having technical issues.

DR. RUCKART: Well, why don't -- yeah.

MR. AMMON: Why don't we -- in the meantime, we'll switch the agenda items now that we have the director of NCHH here, Dr. Aaron Bernstein, to give us some comments and remarks, if you don't mind.

DR. BERNSTEIN: (inaudible)

MR. AMMON: Absolutely.

REMARKS FROM NCEH/ATSDR DIRECTOR

DR. BERNSTEIN: Thanks so much, Matt.

Good morning, everybody. Great to be with you. Feel sad for you all sitting behind me. I guess you can see me on the screen.

So I'm Ari Bernstein. I started here at NCH in late May. I came here having had a long career as a pediatrician which I still do in working on children's environmental health. I know a fair amount as a provider in the realm of blood issues in children. And I want to thank you all for taking the abundant spare time you have in your various schedules to be here with us.

I say that because I know how important your expertise is to getting us to the finish line in

the last mile of ending lead poisoning in children in this county which is, as I don't need to tell you, no small task.

One of the first people who told me about lead issues in children in the United States was Michael Shannon. Michael is a person that many of you may know. He was among the first of full professors at Harvard Medical School who's a Black American. He was, I believe, the first lead of the region one PEHSU in New England and an extraordinary mentor to any number of people whom I have gotten to know.

But he was very clear with me that lead, while seen as a sort of, you know, generic toxin in the world is in -- as he said, it's really no different than TB. The existence of TB in a society in today's world was a sign of a lack of resources, the sign of health inequity, a sign of lack of attention to those who are most in need. And lead is the same challenge. Of course, he then cited other research among colleagues whom I got to know that showed that lead, unlike tuberculosis, is not only a current source of dramatic health inequity but also intergenerational health inequity and

disparities.

So you don't need to convince me how important this group is. You don't need to convince me how hard it is to do what we need to do. I will say you all know far more than I ever will about what we need to do and that's why this group is so important. I do think this is a last mile problem. And let me give a little more about what I mean by that.

When I was born, pretty much every kid in this country had a lead level over five. Today the estimates are that's probably about 2 percent. And the problem is that 2 percent is not a random sample of our country's children as you all know. And with the limited resources we have, with the challenges of dealing with all of the broader social determinants that result in that 2 percent of kids still being exposed, we have obstacles that while large I do not think are insurmountable.

So I want us all to, you know, make sure that -- I want you all to know that whatever idea you have, whatever resource you think we need to bring to bear, whatever outlandish radical rethinking way to get to those 2 percent of

children and whatever the percentage is you get the point, I'm all ears. I'm willing to go to bat because I see this -- you know, if any of us in this room can make even a dent in this last mile, I don't know about the rest of you but I will certainly die a happier man.

So with that I don't know if I get to take questions. Paul? Matt? I'd be happy to.

DR. GRABER: Nice to meet you. I'm Nathan Graber. Just want you to elaborate a little bit on what you were discussing or that you mentioned earlier in the Mike Shannon analogy about how it's a -- you know, intergenerational health equity issue and if you're -- you know, how maybe CDC is reframing the way we talk about lead exposure in that context.

DR. BERNSTEIN: I don't know -- Paul, correct me -- I don't know that that's reframing. I think we do talk about it already in that way. But nonetheless. So this started with research as best I know that Howard Hu conducted in the 90s. I don't know if you know Howard.

But he -- he's showing that lead could be really stored in bone, particularly in women who were pregnant and that during pregnancy that lead

gets mobilized. So that woman was exposed in her childhood. That lead then ^ the developing fetus to lead, creating an intergenerational exposure even if that child never gets exposed outside of you. So that is one way.

And then, of course, the other thing, of course, is that children who are exposed to lead grow up to adults who have impulse inhibition problems, intensely higher rates of impulsive behaviors of all kinds which can be a major source of ACEs for children if they have children. It's another way that lead can be an intergenerational health equity problem.

And there are others, but those are two of the primary pathways.

DR. GRABER: Thanks. Yeah. I mean, I want to hear more about it because health equity is such a priority for so many different health initiatives now. And lead, we've always thought of it in the lead world as a proxy for much bigger issues as well. So -- and a proxy for the need to do so much more for communities that are impacted by lead.

So the more you talk about it that way, the more I think the message gets across that -- just

how important this issue is and keeps it on the priority list. So thank you.

DR. BERNSTEIN: Yeah.

DR. ALLWOOD: So if I could just chime in one point because, you know, I think it's just a, you know, perfect set up for, you know, something on a -- you know, I'd really like to say -- I mean, I wish I didn't have to say it so much, but it's that lead is both the result of social economic disadvantages, it also is the cause of it. So, I mean, it's just that pernicious and it's very, you know, good for us to recognize that this impacts certain pop -- like Ari said it is intergenerational.

MR. AMMON: Thank you very much.

DR. BERNSTEIN: Glad that was so clear. You'll have to forgive me but I have, it turns out, a relatively short leash and so think I can hang out -- I think I can hang out for a while.

MR. AMMON: We appreciate you being here and your leadership.

And to all of us radical freethinking people -- I'm pretty sure that was my nickname in college, but I'm glad it's a good charge because big ideas are an important thing in continuing

that.

So we very much appreciate your words. So thank you and with that we'll transition back to where we started, from Alexis on state policy action related to the blood lead reference value.

STATE POLICY ACTION RELATED TO THE BLRV

MS. ALLEN: Thank you, Matt.

So hi. I'm Alexis Allen. I work here at CDC in the National Center of Environmental Health in the lead department. So I will just be giving some high -- highlights about the updated BLRV which is our blood lead reference value.

So the purpose of this research was to evaluate the state's progress on implementing the CDC's updated BLRV. Some of the methods used to conduct this research included gathering from all 50 states -- that also included Washington D.C. and Puerto Rico -- visiting their websites regarding the implementation of the CDC's update of the BLRV.

The information was gathered and we categorized them into three different categories which is the status, the mechanism, and the date of implementation.

The status was labeled as updated or unknown

and no change.

Mechanisms of implementation was categorized as automatic when CDC's recommendation was made by law, meaning that the state made changes to their laws and by guidance where the state recognized the recommendation and it follows it if resources are available.

The eight -- I'm sorry, the date of implementation, once a recommendation was updated by CDC in October of 2021, which states used the recommendation when it went into effect.

It also involves comparing known risk factors for lead. These risk factors was collected and they were categorized by race, homes built before 1980, foreign-born, children under six with Medicaid, and persons under 25 with less than a high school diploma.

So, again, I mentioned that we did include 52 which included Washington D.C. and Puerto Rico. So out of the 52 states, 37 of those states were in updated status, 4 were unknown, and 11 had no change. Again, the unknown states that did not have any -- they didn't have any information on their websites, I'm sorry, about the updated BLRV and may be in the process of

updating it. And no change includes the states, again, as we acknowledge, that CDC has updated the BLRV but no change was given to their state laws.

The methods of the state implementation, we divide into those three categories of automatic, law, and guidance. Out of those 37, I'm just going to break it down into different categories. So two of the states automatically updated their law according to the CDC. Eleven changed into the law -- into their laws, into their state laws, and then 24 are using the updated BLRV as a guidance for data collection and providing additional services.

So I'm just going to talk about the number of states who updated the BLRV recommendation since October of 2021 when CDC made the announcement. So information on the month and the year of implementation status were available for 32 of the 37 states. The highest number of states that were -- six were between the months of January and July of 2022.

We also looked at several known risk factors for lead exposure and we compared the median percentages by implementation status. States

where the implementation status were unknown had one -- about 1.5 times the median percentage of black population than the states who updated. Distribution of those known risk factors of lead poisoning did not appear to influence states' decisions on implementing the new updated BLRV.

And some limitations that we had I kind of already mentioned before, that although some states implemented the updated BLRV, the information on the month and the year of implementation was unknown for some states. The available data did not allow for the assessment of the implementation status for four of those states.

And this analysis only considers progress through March of 2023. So being that it's now been two years, probably should've had more states have implemented the CDC's updated BLRV.

So overall, out of the 50 states that include Washington, D.C. and Puerto Rico, again, 37 of those 50 -- 52 states have implemented the updated BLRV recommendation, which is about two-third of the states that have implemented the updated BLRV when it was announced in October of 2021 through March of 2023 when this analysis was

conducted.

And additionally a majority of those states applied to revise their BLRV between January and July of 2022. By reviewing states' websites, we found that a majority of the states implemented the recommendation by using it as a guide for case management. And the states who implemented the revised BLRV were not more likely to have higher median percentages of risk factors to lead poisoning as stats -- I'm sorry, as states that did not implement the updated BLRV.

Which states -- I'm sorry, with states not fully implementing the BLRV recommendation, we hope that more states will implement. Again this has now been a difference of six months when I did the analysis. They will implement and use this as a reference value to provide services in case management and environmental investigations for children with lead exposure.

Any questions?

MR. AMMON: All right, thank you.

Any questions from the group? Wallace?

DR. CHAMBERS: How you doing? So did you get any feedback on the impact that the changes in the 3.5 had on the capacity of health

departments to do their work far as investigations?

MS. ALLEN: I will just say that was not a part of our investigation and the research conducted, but that's something we can definitely look into when we do an updated analysis.

DR. RUCKART: So, yeah, thank you for that question.

First of all, I want to say this wasn't research. Just to be clear, this was just an analysis of information that we could easily find on the websites because of OMB requirements.

So we did not get any information about that formally, Wallace. But informally and anecdotally we have heard some of the programs talking about the impact and how it is taking more resources. So I don't know if any of the state partners would like to share more information about more boots on the ground.

Erika? Thank you.

DR. MARQUEZ: Actually had a similar question because I think in the state of Nevada at least we have -- it's complicated because not all of our health districts actually have the capacity to respond currently anyways, but we

have some ARPA funding to help fix some of that.

But even when we lower -- when the blood level reference value was lowered to 3.5, even though it was adopted statewide because we had written our laws to be able to do that so that we -- because we only have a legislative session every two years -- every other year. So we wanted to make sure if there was any changes it was written into the laws so that we didn't have to go back to the board and try to rally for an update.

But on the ground level, some of our health districts, even though acknowledged the 3.5 reference value, they don't activate case management services or environmental inspections until 10 micrograms per deciliter. And that's in some of our jurisdictions. In other jurisdictions, they just don't have the capacity to do it.

DR. MOHLLAJEE: Hi, this is Anshu. And in California it took us about two years to get to the point where we had adequate funding to give to our local health jurisdictions to provide basic case management to the 3.5 level. And it was needed because there's been really a doubling

of what we call basic cases, which means 4 or 4.5 to 9.4. But now including the 3.5s to 4.4s, it's a doubling. And so the jurisdictions are really feeling the toll of having to do so much more case management work for those cases.

So it's definitely having an effect and it does take a while for us to, you know, make sure that the funding goes along with the BLRV value. So even though we wanted to adopt it as quickly as possible, there's definitely a time line in order for it to really happen.

DR. RUCKART: But I do want to add that we send out a survey yearly to our recipients and it's called the ALPA, the Annual Lead Profile Assessment. So the one that was sent out for 2023 earlier in the summer, it collected information asking at what level states and programs perform various public health actions related to childhood blood lead poisoning.

And so we will begin to analyze that very soon and we'll have more information and there's also questions in there about what is the state mandate and what are the practices, realizing that there can be sometimes these differences for the reasons that you're speaking of.

And also we have submitted a publication on a little bit more detail about the BLRV update that Alexis spoke about in our ALPA from 2022, which did not include the category of BLLs less than 3.5 just because of the timing and the length of time to get the ALPA changed, given when the BLRV was updated. So that would be sort of like a baseline ALPA data. And going forward you'll be able to see changes in what states are able to do and programs are able to do once they've lowered the BLRV.

So more to come. This is just a little bit of a sneak peek, I guess.

DR. MARQUEZ: And it would be also really great to show those results of the analysis that you're planning to do with that yearly survey to all the grantees. So that would be great as well, to just hear what other states are doing so we can learn from that. So just wanted to add that.

UNIDENTIFIED SPEAKER: Whatever you want, no rush.

DR. ALLWOOD: So I just wanted to just, you know, first acknowledge that, you know, we've made a lot of progress in a relative short amount

of time since we updated the blood lead reference value.

I think if we look back to the last time we did that, you know, we probably saw a little bit of a flat adoption curve. So, you know, I'd say, you know, most everybody at, you know, all of the states, you know, we heard it, you know, very soon after we announced the updated blood lead reference value, that this would really mean more work, you know, more expenses, more cases. You know, we got that right. That's one of the reasons why, you know, this year we're, you know, providing additional resources, you know, as much as our budget authority will allow. We're saying we're supporting the states more because we understand, recognize that this has led to more work, more (indiscernible).

Honestly it's that, you know, we do -- that's not the final solution because, you know, lead is a, you know -- addressing lead -- childhood lead poisoning is a very expensive proposition. Part of the reason why we're moving to (indiscernible) like the LFC, we're saying we've got to get more -- more partners, you know, to the table. We've got to start building and

strengthening that community capacity and, you know, developing, you know, the tools and resources to help be able to do that.

But, you know, I'm very interested in hearing from this body, you know, if there are ideas. And like, you know, Dr. Bernstein said earlier, this is one of those areas where there is a -- you know, a bit of a challenge as (indiscernible), you know, the cost to states, you know, has increased and, you know, we have to somehow find places for them to be able to get the work done.

I also would like to just say -- and this is a -- you know, perhaps something that really struck me right after we -- you know, CDC announced the upgrade of the blood lead reference value. Despite the, you know, obvious additional, you know, effort that would be required by states, not one single state said you -- you know, you shouldn't have done it. Everyone, you know, immediately accepted that was the right thing to do and, as you heard from Alexis, many states have moved forward with some phases that are allowing adopting the (indiscernible). Very, very important, as she

mentioned.

MR. AMMON: Thank you very much, Paul. Any other -- yes.

DR. PARSONS: Yes, this is Patrick Parsons. I'd like to offer a couple comments from a lab perspective. All clinical test reports for blood lead must include a reference range. And so when the blood lead reference value was changed, all of the laboratories were faced with the question, Well, what would you do on our test reports? The reference range -- and in the case of lead is the upper limit of the reference interval -- is based upon solid data.

And so because this was based upon the NHANES 97.5th percentile, it was, you know, relatively straightforward to say the test report should change. What we ran into is our state lead poisoning programs were, well, that's going to put us in a position where we have to now redefine.

And because New York, for example, the definition of elevated is in regulation, that's not so easy to change. I don't know about other states, but in New York it takes a long time to change regulations.

From a lab perspective, there are some issues that the labs face as a result of that change, one of which is, you know, what do you do about contamination. And New York is unique in as much that we have prescribed standards for laboratories that measure lead in blood, trying to level the playing field so that, you know, all labs try to, you know, adhere to a common set of standards. And so the level of contamination was set at a half microgram per deciliter back in the early '90s when the level was changed from 25 down to 10. Clearly that has to change.

And so, you know, what should that new level be? It has to be feasible and doable. And so there are some things that need to be done at the lab level in order to improve the reliability of measurements at 3.5. What you do from a public health perspective when you have a confirmed case of 3.5 and above is another matter.

And I guess we have lots of experts here to help guide us, but, you know, I think that most laboratories have adopted this as the upper limit of the reference interval for reporting clinical blood lead test results.

MR. AMMON: Thank you, Patrick.

Any other questions before we move on to our next presentation? Great.

DR. RUCKART: I'm sorry. I'm remiss. I didn't introduce Alexis Allen and Nick Hatch before when we were going through with the introductions.

Alexis is our committee management specialist and Nick is our deputy committee management specialist in case you were wondering who they are.

VOTE ON ANNUAL REPORT

MR. AMMON: Thank you. And as Tara Radosevich is getting set up, there is one point of order that we need to make, that we needed to make earlier, which is voting on our annual report. We sent out the annual report. It was e-mailed August 24th to everybody with an expectation that we would be voting on it here.

And so with that, I am going to call a point of order for us to vote on the annual report. And all those -- I'll make it easy. All those in favor in the room here of approving the annual report, please raise your hand. LEPAC members, thank you.

And I need online -- I need Tammy and Tina

to signify their vote as well. Tammy? Thank you. I guess that's a hand. Perfect. So as a point of order, it's been unanimously approved for the record, the annual report.

Thank you all very much for that.

HUD: ALIGNMENT OF INSPECTION PROTOCOL FOR ASSISTED HOUSING FOR THE LAST 20 YEARS

MR. AMMON: And next we will turn to a topic that is near and dear to my world: HUD. I guess people don't recognize what a big deal this is. And we have my friend and colleague, Tara Radosevich, to talk about this. We've been colleagues for many years and also Johns Hopkins alum.

But HUD, for many years, had, you know -- I'm not sure if I should even tell people this -- two different standards in the way we looked at our housing stock, right? We have a lot of housing stock: product-based rental assistance; tenant-based rental assistance; public housing; quality -- health and quality standards. You've probably heard of HQS before.

And then uniform physical condition standards, right? UPCS. And those are different. Those are very different. And HUD

did a great thing over the last couple years and rolled it out this year which is aligned those inspection protocols into one consistent inspection protocol.

And that's what Tara is going to talk about. It's called NSPIRE, which I love. And it stands for the National Standards for the Physical Inspection of Real Estate. And I'm very proud on behalf of HUD to talk about this. And with that, I'll turn it over to Tara.

MS. RADOSEVICH: Thanks so much, Matt. I am honored to be here. I really appreciate the invitation. Thank you, Matt. Thank you to the broader group.

What Matt said is true. It really was -- it is big that we finally updated our standards. I'm actually a little embarrassed to admit that. About 20 years ago, we were -- next slide, we were the -- you know, we were on the cutting edge of establishing national standards for housing and what we want to look at on a regular basis through regular physical inspections. But we've had two standards and actually we had even variations of those standards in some of our other rental assistance programs. Back.

So what's big about it is codes evolved over time, our public health understanding evolved over time. Would you go back one slide. That evolved over time. HUD didn't -- we made -- we had some tweaks around the edges. We also couldn't tell you if a family living in a unit assisted with a tenant-based voucher in the Housing Choice Voucher Program was any safer than a resident living in, say, public housing where there was the most HUD investment. And some cases made to the public housing units were actually in worse shape and we had more public health issues there. Another huge gap in our voucher program, our standards didn't even mention mold. We had a vague standard for indoor air quality and at the local level, the local housing authority with their local staff inspector could interpret that in many ways.

So a big goal of updating our physical condition standards was to align them across all of our rental assistance programs. That gets us into over five million units. It also touched on some of our homeless programs, our emergency solution grants, continuum of care. HOPWA housing is with persons with AIDS. Those, in

very different ways, kind of had their own set of operating parameters and some of that is because of the nature of the housing stock.

But under NSPIRE we're aligning them all under one regulatory standard. Next slide.

So we had to do this through rulemaking. HUD's physical condition standards were in part 5 of the Code of Federal Regulations. We had to go through significant comment for a proposed rule on comments with comments proposed standards, the individual standards that apply that we would follow. And then also how we score certain properties. In our public housing and multifamily rental housing portfolio, we actually issue a score on a scale of zero to a hundred.

Some of the big changes interestingly -- this is why it's been such a big sea change, a lot of our housing condition standards were about the property, the asset, the building, and its appearance in the community unfortunately. And so we had a lot of things that were more cosmetic.

I think there was always a concern that, you know, HUD was going to drag the neighborhood down if people know that that's HUD housing and that

it looks worse. We had standards for overgrown vegetation, cracks in sidewalks. The entire site was assessed by our inspectors. But the more time and energy that went into those cosmetic things, the less time and energy was spent in the units where we know the residents were exposed to significant hazards. So we lined it all.

And we also added more around if it's a certain level of a health and safety condition. We made the expectations clear for what we expect for a correction. A lot of those went to a 24-hour correction. That's not ideal and I'll explain a little bit more about what we've done to work around that because we don't want quick fixes. We don't want you just to, you know, slap masking tape over it because that's not a permanent correction. So we've done some work within our rulemaking to address what we expect in certain time frames and what evidence we expect to show that you truly corrected the hazard.

We added in more self-inspection. So HUD can't be everywhere all the time. We added more expectations for public housing authorities and our project-based owners to do annual

self-inspections of every single unit. We specified that because we haven't said that before. We brought in -- so we had a law called HOTMA, the Housing Opportunities Through Modernization Act. That had some different tweaks in there.

I'll be honest that Congress was fed up with HUD, fed up with HUD for hitting the news, mold, pests, terrible conditions without there being clear responses by our landlords and our housing authorities and then HUD to do enforcement of our housing conditions. I'll be honest with you, we hit the news every day. In January we hit it for failed heating. Over the summer we hit it for mold. Every single day there is some story about a HUD-assisted unit with deplorable conditions unfortunately.

We added a little bit more about -- so we added more on our appeals, but we enhanced some enforcement mechanisms. In the public housing world, these are our public housing authorities. They are set up under state statute. Think of them like your local school board. They have a board of commissioners. They're a public authority. They're kind of quasi-governmental.

We treated those -- we currently treat those housing authorities a little bit differently than we treat, say, a private landlord with HUD subsidy or a HUD-backed loan on a property. And some of our housing authorities have enjoyed a bit of flexibility in terms of enforcement of their housing conditions. There were -- there have been cases where HUD maybe didn't intervene until there was other financial and management issues with that housing authority. And we blend it all together and score and we decided we were troubled. Well, what happened with that is we had high performing housing authorities but maybe they had one development that was very old, not being well-managed, not being kept up but there's -- it averaged out across the property. And so that development across all of the properties, so that development score was sort of lost in the noise of the other performance metrics that were decent.

And so there -- we had a really tragic case actually in Philadelphia. Philadelphia is a pretty good housing authority. They're part of our Moving-to-Work program. They had a very tragic fire a few years ago, and in that

particular building, they had overcrowding. They had -- smoked detectors were there but they had been taken down, batteries popped out, put in drawers. And the child in the unit was playing with a lighter, lit the Christmas tree on fire, and we had multiple fatalities.

Turns out that that development that that unit was part of was one of their worse scoring -- we call them AMPs, asset management projects. It was one of their worst scoring developments. But all of the other properties were in pretty good condition. And so we hadn't been taking action against the housing authority for that particularly bad development. And NSPIRE is going to change that.

And then our scoring changed. So with less emphasis on curb appeal and cosmetic fixes and -- sometimes they call them the industry standards for corrections and repairs, with less emphasis on that and more emphasis on health and safety, we changed the way we score. And I'll get into that in a minute. Next slide.

All right. So the other thing we decided in this final rule, we set a deadline for ourselves. We're not going to wait another 20 years to

update our housing inspection criteria. We're going to take a look at them every three years and we're going to open it up again to public comment.

So you might've missed the window to comment on our standards now. That's okay. Check back with us in two, two and a half years. We're going to put all of our standards back out for public comment. We'll do that for the Federal Register and we'll consider those in revising our standards.

We also built some more things into our regulations. On the voucher side, we actually had some good habitability things: adequate space to store and prepare food, flushable toilets. We beefed up those regulations so that if you are a unit coming into a HUD-assisted program, you have to meet all of these criteria by regulation. And it really emphasized that we're not going to change those regs very often. Those are the -- the solid -- every unit must meet. We added in safe drinking water which is a big win -- and I have some slides on that -- GFCI outlets, permanent heating source -- and permanent heating source means your unit can't just have a

fireplace or a space heater. We need an HVAC system or a more permanent heating source for that family -- and lighting and -- permanent lighting in the kitchen and bathrooms and adequate outlets.

We see fires from not enough outlets, residents stretching extension cords across the unit. That's a safety hazard as well.

We did take out -- so this is -- this is kind of a mixed bag. We took out certain neighborhood requirements for our voucher program. They were actually in reg and it was some strange things like risk of mudslides, graffiti, noise, air pollution. We took those out because it was challenging for our housing authorities and families to actually find units that met all of the criteria. So we pulled them out, but it still -- so we allow a little bit more flexibility because we have to always balance.

So in the public housing world, we have a set stock. That housing is there and we can tell you what you need for that housing. The voucher program is a little trickier because your family gets a voucher and they've got to look around the

neighbor -- or look around their town in the area where they can use the voucher and find a unit that meets the basic health and safety when it gets inspected.

We still have challenges with residents being able to find landlords that will take their voucher in a unit that meets our criteria and then be able to move into it if -- like, once the landlord goes through the inspections. So we had to balance housing availability with HUD standards.

And I should note that in the tenant-based voucher program, those landlord don't get any money from HUD to improve their units. They've got to do all of the work and fund it themselves. We added a new nomenclature for how we refer to health and safety deficiencies. We've ranked them into life threatening, severe, moderate, and low. We have definitions for those category levels. We added correction requirements.

If it's a life-threatening or severe condition, we require a response by the owner of the housing authority within 24 hours. In 24 hours they have to block the hazard and then they have to give us their plan for a more permanent

correction if they can't complete that in 24 hours.

We added self-inspections, as I mentioned, and we beefed up our enforcement for both multifamily and public housing units. Next slide.

All right, so standards. When -- to implement NSPIRE -- so we have the final rule, posted final. We also put out a notice in the Federal Register of how we plan to revise our standards. So these will be -- we've got a standard for doors, a standard for your kitchen, standard for electricity, for your HVAC system. They're all individual standards. We put those out for comment in 2022. We finalized them in the summer of '23. They are all connected to that Federal Register but we also have them on the HUD REAC site. And REAC is the Real Estate Assessment Center.

In there we also pulled out what things are life threatening and we defined and took comment on how we define those category levels. Next slide.

I'm just going to touch on these because I've said a few of them and it goes way beyond

lead. We really had to do some work on our smoke detectors, carbon monoxide alarms, and room temperatures, guardrails, handrails, just general health and safety things.

I haven't mentioned lead yet because we already had a lot of lead-based paint requirements for our housing, but we did add with NSPIRE an additional check. So that check is all of our housing under the Lead Safe Housing Rule and under -- these are statutory requirements on HUD, we have requirements for inspection and abatement for public housing and then risk assessment and hazard control in project-based -- it kind of depends on the level of HUD assistance or really the level of money you're getting from HUD. We have the highest level of expectations for public housing down to the voucher level which is just a visual assessment from deteriorated paint.

So all of that law is still in place. NSPIRE didn't change it, but what we did add to NSPIRE was an additional visual assessment. And this might shock you, but HUD inspectors were not looking at paint for lead-based paint risk when they did their physical inspection. They would

cite you for peeling paint if it went beyond a certain amount of space. But they weren't looking -- they didn't have the definition of deteriorated paint. They weren't looking at friction impact surfaces. And with NSPIRE we now have a requirement standard for our inspectors to look at deteriorated paint.

The other reason I'm saying this in a very dramatic way is we were called out by Congress for many, many years. And so it's -- it finally is great to get that added in. But again it's just an add-on to the existing Lead Safe Housing Rule requirements.

And so then we'll do -- with each inspection, they're taking the healthy homes -- Lead Healthy Homes Visual Assessment course. All of our inspectors will take that. And they will cite deteriorated paint in the units if it's over the de minimis level. Next slide.

These are our hazard levels: life-threatening, severe, moderate, and low. Lead-based paint, if there is enough deteriorated paint in the areas where -- like in the units and the areas in the building where children can frequent, we put that at the severe level.

Remember I mentioned life-threatening and severe is a 24-hour correction. We know you can't correct lead-based paint safely in 24 hours. And so with that, we expect to hear back from the owner or the housing authority on what their plan is, have they identified a certified risk assessor if that's the testing they need to do or a certified RRP?

So we put a little bit of guidance out on that in the notice. That's another one that we're still taking feedback on if we can improve what we are expecting from our properties in 24 hours. But the regs still outline. We have timelines in our Lead Safe Housing Rule that already dictate if the unit has a child under age six, they have to correct the hazard in 90 days. And then if it's an adult family, they can take a year.

So these are our definitions. These were finalized in the NSPIRE standards notice. When we put these back out in three years, we would receive more comments on them. And these are the major core health and safety areas that we -- that we touch on. It was big to get lead paint in there because for many years HUD's physical

inspection inspectors thought, Oh, lead paint, that's the Healthy Homes Office's job. But now it is part of our overall assessment.

And so water safety. What's big about water safety here is that we had two different definitions for drinking water in HUD's regs. In the public housing program, public housing and project-based rental system assistance or UPCS, we just had a requirement that the water be potable. We've never defined potable. We joked that it was like your campsite water, and that's fine, maybe that's the standard. But in the voucher program, we actually had a standard for free from all contamination. And we had to define what that meant.

We all know that your water can have some trace levels of contamination. And when we had a crisis, water crisis in Flint, it really laid open the differences in our requirements in what we -- what were we, HUD, supposed to tell our landlords.

If you were following the voucher program standard, free from all contamination, it would've meant that all of those units in Flint where families had vouchers couldn't be funded by

HUD and all of those families that the landlord couldn't do something about it could have to move. And we didn't want to see mass displacement from Flint. And so with the NSPIRE rule, we clarified in our regulations if you were in a HUD-assisted unit, you must have access to safe water. If these events come up in the future, we will still have to work with our housing authorities to say what that means. We will follow EPA guidance. Will a filter be enough? Or a filter pitcher? Or do they have to get bottled water?

And so we'll have to issue individual guidance for those communities as these events come up. But we at least have a better regulatory framework for reminding owners and housing authorities what our requirements are.

We're also going to add another check. When our inspectors are in the field, we're going to ask them if they can see the lead service line coming in. There's a protocol that EPA has out for a visual assessment, maybe like a copper penny test. We're going to have our inspectors take a look at the service line coming in if they can see it. We're going to collect that

information. If it looks like a potential lead service line, it's just information gathering.

We're also going to gather from our housing authorities whether there are very many water alerts and who their public water authority is. We didn't have this information. So when water events arise in the news, we try to figure out what housing authorities or units are served by that water authority. We don't know. There's no map that lines up our housing authorities and all of the water service providers.

And so we'll continue to gather these questions. We just implemented this July 1 for public housing and October 1 for our multifamily assistance programs. So this information is just coming in. We'll probably have more to share in about year of what we're seeing. Next slide.

So as I mentioned, with lead-based paint we are adding in a visual assessment standard. We'll do this for housing built before '78. If they have evidence that it should be exempt, they can potentially upload that evidence.

But we're also -- this is another big thing we're adding. We're going to collect all of their lead-based paint reports. So one of the

other challenges, especially in public housing is that HUD doesn't have -- if you asked us today, Does that development have lead-based paint? we may or may not be able to tell you. And that's because so much of our testing was done in the -- or our inspections were done in the '90s and the early 2000s. All of those records are still at the housing authority. And while HUD can always check them -- we have 3,000 housing authorities, 900,000 public housing units -- we don't have all of that information for all of the units available at HUD. It's still in paper-based form at our housing authorities.

So with NSPIRE we will collect for every property built before '78 -- we are going to collect the lead -- lead inspection report, the summary, and upload that to our system. We're still going to have to do a lot of work to process those reports, pull out whether they had lead-based paint. We're not going to have all of those records of the abatement they completed and whether they met clearance. But we're slowly starting to build up our information internally or at headquarters for what we know about these properties. It's going to take a very long time,

but we're gearing up for it. Next slide.

As I mentioned, our NSPIRE standards, they are on a webpage. I'll admit I just Google it every time I need it: REAC NSPIRE standards. So we have individual standards for the items in there, what we expect, what we're going to inspect when we're in the field. Next slide.

As I mentioned, scoring. This is where -- so for public housing and multifamily properties, we have changed the scoring to focus on where we see the life-threatening and severe conditions. If you go to the next slide, I think we have a good -- yeah.

So it depends on what the severity of the hazard is and its location. So because we are emphasizing health and safety and we are looking at where residents spend the most time in their building -- that would be their units and in certain common areas -- that's where our inspection will focus. That helps, we'll go back. There we go. And that's where we'll see the severity levels.

So if you take life-threatening and severe deficiencies and you see life-threatening deficiencies in a unit or in a lot of units, that

property is likely to fail. And that's where we do our defects waiting. This all too was put out for public comment. It was finalized in the Federal Register.

There are some items -- so you would think that our units have a lot of these basic health and safety things, like GFCI outlets and permanent lighting in the kitchen and bathroom. We're not sure yet. We think there are a lot of gaps. We think there's going to be gaps in, say, rural communities, especially in our voucher program. We're already hearing about -- we're hearing about, you know, some units where a family has a voucher, this may be a trailer and they've got a fuel-burning heat source that may be unvented. We're still hearing about these things and we're trying to address them as we hear about them. But I think there's -- there may be some change in the housing that families can actually rent. We hope this isn't a huge impact, but we absolutely don't want families renting dangerous units with unvented fuel-burning space heaters.

And so -- but some of these elements because they're new in the public housing and multifamily

world, we won't be scoring them the first year. But those housing authorities, they still have to correct those deficiencies and they still have to meet the timelines for correction to get that done. They just won't be scored. So we're giving them some transition time. Next slide.

Here's some examples of defects. The darkest red over there on the right, that would be a life-threatening condition that you would -- you're going to see the largest point deductions there. I want to note on mold -- so if you can go back a little bit -- on mold, we previously were citing anything that looked like mold in the public housing and multifamily world. We weren't citing anything in the voucher world. It was not even a fail. And fortunately we have fixed that. But we have ranked different severity levels. There are now some mold levels -- mold you see is a low if it's in the unit. That presence level visually observed, that would probably be, like, mold on your bathroom caulk. But if there's mold throughout the unit and its over a certain amount, we would cite that as a severe condition. And a very severe condition in some cases in the voucher program, the family can't move in until

it's corrected or they find another unit. Next slide. Next slide. This one you guys don't need the numbers.

All right, so administrative notice. This is where -- we're still taking comments on this too. This was not in the Federal Register. It was in a -- it's -- we call them a -- a PIH notice, Public Indian Housing notice. That is where we added some requirements around if lead is cited, here's what we expect. For correction we want you to find a licensed contractor. We wrote this also for mold and pest infestation because, again, these are things that you can't fix in 24 hours. We especially didn't want housing authorities and owners just supplying tons of pesticide to kill a pest problem and think that they could just be done with that.

So we wrote more guidance on integrative pest management in that notice. Again, please send us comments if you find these -- you see that and you want to comment. Next slide.

So we did a demonstration to test a lot of our standards. I usually mention that upfront but I'll add it here. We looked at what things are we seeing? So if you take the NSPIRE

standards and you test them with volunteer properties, what are the things that we are citing most often? Go back. And this is what we're seeing.

We still -- you know, HUD still focuses very much on your smoke detectors and electrical hazards but we are finding other things, like we did find mold under our standards. Entry doors, fire doors, we weren't fully inspecting fire doors. And now that we have changed our criteria, we're finding more fire door deficiencies. Next slide. We're going to get to questions.

So what's coming next? We're going to continue to collect that information, including their lead reports. We're bringing on more staff to assist. There's actually now -- so REAC had no lead-based paint, no persons with lead-based paint expertise. They always relied on Healthy Homes. We now have two. That's me and another lady. So, again, big change we're very excited about.

We're still bringing in our field staff. So HUD has field offices. They're the ones that oversee these corrections and deficiencies and

the information coming in. We still have a lot of internal training to do. We've got to do some more on our enforcement.

Enforcement is the biggest thing that our residents ask about. We'll share the found hazards. Yes, this property got a 30 but why is nothing changing? What's HUD's enforcement? Can I move? We've got to do some more around that.

And then we've got to do a little bit more work on our inspectors, how they are trained, what we expect for their qualifications and how they are certified. We were doing it just through public notice previously. And based on the advisory council, we should put that into rulemaking. So we'll be working on that this year.

And then we're going to continue to collect information and then update our standards in the next round in three years. Next slide. I think that's the questions slide.

This is a little on residents. I'm not going to go into this, but we do recognize that they have not -- they should be an important part of our program. We were simply sending out surveys and they were these little bubble sheets.

And if someone can imagine their grandmother filling out one of those bubble sheets. They were not an effective tool to gather information. So we're changing the way we gather resident feedback. We going to our resident councils and we're going to -- a lot of resident groups asked, If I want to have my unit inspected by REAC, can I get that done? And the answer is yes. We're going to add up to five units that residents nominate to our inspection.

The next slide is for questions. There we go. Happy to take questions.

MR. AMMON: That's good. We're right at time too. At 11:15 for a break.

MS. RADOSEVICH: (indiscernible)

MR. AMMON: But I think we'll have time for if we have a question. I do want to quickly say one thing just on behalf of HUD. Inspectors are our contractors plus employees. I do think it's important as the nation's housing agency that we're focused on health. It's part of our strategic plan. I do think that focusing on the defect -- the effect of the defect is something very new that we had never done before because otherwise it was, Does it work? not the effect of

the defect.

And finally it's a level of care. So you don't find these things in similar nonassisted low income housing. Just like for lead -- Right? -- our standard of care. And that's why we find less EBLs in our public housing than we do in similar nonassisted low-income housing.

With that, is there a question? Patrick.

DR. PARSONS: No.

UNIDENTIFIED SPEAKER: I just want to say thank you. That was a tremendous amount of work and we're very grateful.

MS. RADOSEVICH: Thank you. Thank (indiscernible). They had great comments in (indiscernible).

MR. AMMON: Paul.

DR. ALLWOOD: Yeah, thanks. This was really very informative. And it's really good to see that HUD is working so hard to protect people in assisted housing.

So I'm curious about inspections. Do families -- how are they kind of informed about the findings and what --

MS. RADOSEVICH: Oh, that's a great question. So we have that in regulation that

once we issued a report to the property, they have to make it available to residents. I think there's been a gap in that happening. And when we go and we talk to residents, we -- that's their first question, Why can't I see what the inspection result said? And our answer is, well, you're supposed to.

So we do need to -- while we already have it in reg, we need to get it -- we need to get the word out that these reports must be made available to the residents.

We also want to enhance -- and I think we'll slip this into our rulemaking on inspector administration. We want to enhance the notification they get in advance. Sometimes they have been told a couple days before. Sometimes it's a week before. We'd like to make sure that they get at least -- I think we're looking at at least two weeks' notice before we come out and that they're aware of when the inspectors will be at their units.

And these are -- as much as we want to know how healthy their housing is, it's disruptive to them to have people going in and out of their units all the time. They have their housing

authority going in and out, then REAC coming. And we don't go to every unit but we go to enough that it's -- it feels disruptive to the community because they often want to stay home and be there and watch the inspector in their unit.

MR. AMMON: Thank you very much. Before we go to break, I want to turn it over to Perri.

DR. CHAMBERS: I had a quick question. Oh --

MR. AMMON: Sorry. No, that --

DR. CHAMBERS: I just wanted to piggyback on Paul's question. So when you have a landlord who's a repeat violator, is there any action taken against them as well?

MS. RADOSEVICH: So landlords in our voucher program, if -- if there are violations that they're not correcting, HUD terminates half. What that means is HUD will stop paying rent on that unit which means that unfortunately the family has to move.

So that's the quickest enforcement mechanism. Usually they get notices, you know, cure this deficiency, you've got 30 days to fix this, and they usually do it. But if a landlord truly doesn't want to fix those things, they can

walk away from the program. That's just the voucher program. In the public housing world, it is more of a -- like, we've got to look at the property and then we work with the housing authority to cure deficiencies. But it's very different depending on the type of assistance. Did I hit your question for you?

DR. CHAMBERS: Yes.

MS. RADOSEVICH: Okay.

DR. RUCKART: As we go into the break, I just want to remind everyone and for the people who joined us late where the restrooms are. If you exit back on this door and follow around to the left, it'll be on your right. And also there's some refreshments for you to enjoy during the break.

MR. AMMON: Thank you, Perri. And with that, we will be on break till 11:30.

(Break taken)

MR. AMMON: If everybody in the room here can find your seats.

UNIDENTIFIED SPEAKER: We're about to get started.

MR. AMMON: We're about to get started, everybody.

MS. KHAN: And this is Samer from Ross. It would be helpful if folks in the room could just state their name when they speak so that the transcriber knows who is speaking. Thank you.

MR. AMMON: Thank you for that.

This is Matt Ammon, saying that we're going to be started up in one second, as soon as Anshu is ready.

DR. MOHLLAJEE: Ready.

MR. AMMON: I was going to give the background on this. I know you have the background.

DR. MOHLLAJEE: I have the background.

MR. AMMON: And I won't steal your thunder. So I'll wait till you are loading up.

DR. MOHLLAJEE: Are we ready?

UNIDENTIFIED SPEAKER: Yeah.

DR. MOHLLAJEE: Okay. Okay. Are we ready to start?

UPDATES FROM THE PLEA WORKGROUP

MR. AMMON: Yep. So thank you all for coming back and we're going to get an update from the Preventing Lead Exposure Adults workgroup.

DR. MOHLLAJEE: Yes. Hi, everyone. Once again my name is Anshu Mohllajee. I am the chief

of the EPI unit at the California Department of Public Health Childhood Lead Poisoning Prevention branch. I'm a LEPAC member and also a chair of this group.

So today I'm just going to be giving you an overview and update. Next slide, please.

And I want to start off with going over our work routine, including the members and the support team. And so I'm going to be looking at my notes so I get everybody right.

So Remy is there with her cute dog. She's an epidemiologist and program manager at the Pennsylvania Department of Health. And then Rebecca is a project manager of Adult Blood Lead Epidemiology and Surveillance at CDC NIOSH. Alicia Fletcher is an epidemiologist at the New York State Health Department in the Bureau of Occupational Health and Injury Prevention. And she's also a principal investigator of an occupation health surveillance grant through NIOSH. Erika is here in the room. She is also a LEPAC member, and she's the assistant professor at the University of Nevada, Las Vegas, School of Public Health. And then Michael is a medical toxicologist and occupational environmental

health medicine physician. And he has clinical faculty appointments at the University of Colorado School of Medicine and the School of Public Health. So we're a small and mighty group.

And then also we cannot do the work that needs to be done as part of the group and as part of the final deliverables without our great support team. So Perri is our designated federal officer and then the rest of this team as seen here: Alexis, Melissa, and Alexis Brown. And then two people who are not on here who are very vital to the work that we're doing is Nicholas Hatch who is right here in the room and then also Wen Hsu. So I want to thank them for all of their help and support. Next slide, please.

So I'm not sure if Matthew -- because I was waiting in line to get in, so I don't know if you went over LEPAC's charges, but here we are. This -- as we know why we're here, meeting as a group. And since I've been a LEPAC member, in 2019 our focus really has been more on childhood lead exposure. And so May of 2022, the LEPAC members suggested that a workgroup needed to be created to actually focus more on adults with

occupational lead exposures.

And if you see the LEPAC, what the charge is, that totally makes sense. It definitely fits in that when we're looking at lead prevention and how to deal with the effects of lead poisoning, we don't need to just focus on children. We can also include adults. And then also our discussions today with the director, also talking about intergenerational. And so it really makes sense that we are also going to be spending some time looking at what's occurring with adult lead exposure. So next slide, please.

So our number one goal is -- it is to review the literature, think about the lead exposures, think about recommendations, gaps in knowledge so that way we can eventually provide recommendations to public health agencies to take action to prevent exposures and mitigate lead-related adverse effects. And as we started to meet as a group, we were given a list of topics to think about: so epidemiology with adult lead exposures; take home lead exposures from jobs and hobbies; effects of long-term exposures, including exposures during childhood on cardiovascular and other diseases; best practices

for preventing lead exposure in adults; social justice, health equity implications of lead exposure in adults; and then communication strategies regarding adult lead exposure and long-term health effects.

And so our number one objective is to generate a final report that will be due in 2024, based on several or all of these topics and we'll talk about that more in a second and provide that report to present at a LEPAC meeting for consideration, deliberation, and any additional recommendations. And then eventually that report will be on the CDC website just like the BLV report is on the website as well. And really our hope is that the recommendations that we will be providing will be actual items that CDC and ATSDR can use to really promote lead poisoning prevention in adults. Next slide.

So we actually haven't had a meeting since July which is actually shocking that it's been that long. It doesn't feel like that. And, you know, kind of meet once a month or every other week based on everybody's schedules. And also once again really grateful to the team for creating a SharePoint cite for us for our

presentations, summaries, draft documents, things of that nature.

When we initially met, we looked at all of those six topics that I showed you previously and we realized that they were incredibly comprehensive. And so it did not make sense to us to add any additional topics. We also felt that all six topics were really necessary. And so therefore we've decided that we're going to focus on all six of those. And the process that we're going through is working together, having leads for each topic where we go over the data, we go over the present research that's available, identify data gaps, and then finally have recommendations for each topic.

And so we're about halfway through those six topics. And we're -- hopefully by the end of this year we'll be having a final draft -- sorry, is everything okay? Okay. And so -- oh, oh, okay, thank you so much. And while the draft will hopefully be done by the end of 2023, looking into 2024, unfortunately Erika and I, this is our last time going to be at a LEPAC meeting. And so we will need to have two new members to come in in 2024, one of which will

need to be the chair. And the main goal for those members -- even though Erika and I can still continue in any capacity we want to on the group, we do need to have LEPAC members officially on the team and the main goal will be to finalize a report in 2024 and present it at a LEPAC meeting.

And that's it. Does anybody have any questions? Please let us know, Perri or myself, if you're interested in being part of the group and if you have any suggestions on any of the topics.

MR. AMMON: If I may?

UNIDENTIFIED SPEAKER: Sure.

MR. AMMON: So is this going to be a -- excuse me if I -- you already went over this mixture of both exposures and recommendations. You know, there's two different -- two different ways, right? Industry, workplace, but then also take home.

DR. MOHLLAJEE: Yep.

MR. AMMON: So it's going to be a balance of the take home but then, you know, on the industry side -- I mean, I think it can be a mix of both indirect and direct, right? And then any

recommendations based on possible changes to the regulations --

DR. MOHLLAJEE: Yeah. So it's going to be a gamut of what those action items are going to be. So there are going to be some things that are much more easy low-hanging fruit. But to be honest, most of our action items so far are a little bit long term, requiring an infrastructure, requiring that agencies and also work occurring at the federal and the state and the local level all coming together.

So it really is going to be a gamut of everything. At least that's so far what we're thinking.

MR. AMMON: No, I think that's good. I think I see this leading into a lot of -- not only a set of recommendations because I think last time the industry side recommendations were updated was quite a long time ago, right? So that, I think, is going to be very, very helpful.

But then also, I think the -- the set of recommendations, the soft recommendations on the take-home side where, you know, we haven't really focused so much, you know, in our world on the take-home exposures and things of that nature

versus just focusing on in home -- Right? -- things of that nature. So I think there's going to have to be obviously a communication strategy around how do we communicate that as well, what does that look like, and how does that fold into kind of the existing world that we've gone in -- that we already have in terms of pathways; right? In terms of pathways and communication and things of that nature.

So I think, you know, as Dr. Allwood said early on, there's no safe level -- Right? -- of exposure. And we're trying to infuse more knowledge, certainly in terms of the soft take home but also in -- again helping to help guide on the industry side I think is going to be helpful as well. I know that's a much bigger lift. We know that based on regulations and, you know, things of that nature. But, you know, obviously it's been overlooked for many years but I think -- because it hasn't been -- I know probably somebody has a number last time it was updated. But I guarantee you it was a lot longer than anything else we've done on the regulatory side, that EPA has done, or the policy side, or things of that nature.

DR. RUCKART: I just wanted to add that another focus of the PLEA is on thinking about surveillance and more integrated surveillance too. So that will definitely help.

MR. AMMON: I imagine there's a big gap in the data on the adult side around data surveillance. You've got a huge gap?

DR. MOHLLAJEE: Yeah. Rebecca could go on and on about the gaps. Oh, yes. Yes.

MR. AMMON: Yeah. So I think in many ways in going through this exercise, it's going to show a lot more information we don't have --

DR. MOHLLAJEE: Right.

MR. AMMON: -- than what we have. And I think that there's obviously been a lot of data discussions, even in the morning, around work the CDC's doing and EPA is doing and, you know, trying to bring all that together. And I think, you know, this is just another -- another way to continue the conversation about -- about lead and exposure to lead, which again -- I've said this a million times, that I think has been somewhat trailing off but no less important because its -- you know, its toxicity and things of that nature hasn't waned. So that's important.

So that's just me kind of framing up just to make sure I'm in the right headspace, you know, about what you are looking at and everything else.

So let me turn it over -- and I didn't mean to commandeer the conversation, but Patrick has a question.

DR. PARSONS: Hi. Patrick Parson as a liaison for APHL. One of the issues that comes up -- and this may be a topic that your workgroup can address is that some laboratories have been reporting a different elevated reference value for adults compared with children. And some of those values are in the stratosphere relatively speaking.

I know that Dr. Kosnett, who is a member of your group is very passionate about this issue. It would be, I think, really helpful to have a recommendation that addresses that so that laboratories are under no illusions that a defensible reference value for adult exposure should be updated and it should be on the report.

DR. MOHLLAJEE: Excellent. Thank you so much for bringing that up. And we will include it and then we might also reach out to you for --

for more guidance. But, yes, Michael is definitely very passionate about this.

MR. AMMON: Nathan?

DR. GRABER: Well, thank you for taking on this monumental task. I think one of the biggest challenges I have visioning working on a project like this is how to keep it manageable and limited because that's a very big topic. But along -- to follow up, I guess, with what Dr. Parsons was saying is it's -- you know, I -- I'd like to know a little bit more about all of the different categories or groups you're making recommendations for. I am particularly interested in the clinical side and what recommendations have you made towards clinicians? And when Michael Kosnett -- and I spoke to him 20 years ago, we were working on lead in pregnancy guidelines, he said just -- you just have to -- you have to tell the doctors to ask people where they work.

And so there is -- should be a recommendation around that in the guidelines, particularly now as -- as we're moved into the era of electronic health records and -- and we're looking more now at the social care, social needs

of patients in the clinical setting. This might be a real opportunity to finally get that question asked. And then that can help a lot with understanding risk factors around lead exposure as well.

DR. MOHLLAJEE: Yes. I think we have put that on the wish list. I can't remember if it's on the clinician side or with the laboratory reporting. But I will bring that back to the group. And then also if you're open to it, I would love to be able -- you know, the group can interact with you as well. And, you know, you can -- you know, we can figure out, you know, how we can collaborate together to kind of go over the topics.

DR. GRABER: Well, Alicia Fletcher works two buildings down from me.

DR. MOHLLAJEE: Oh, well, cool. Then present it to Alicia. So -- we can also -- we've talked about having people actually participate in informational interviews and the sort. So we're very open to that.

MR. AMMON: Nathan.

Any other questions from inside here, in person before I move to members online?

I know we have extra time. And there's no harm in giving extra time for lunch. But before I do that, is there anything else administratively and anything else that we need to talk about, Paul or Perri?

DR. RUCKART: I do want to recognize that Aaron Lopata, a LEPAC member, has joined. He had some technical difficulties earlier. Does he have audio capability, Samer?

MS. KHAN: He actually lost connection. So we're still working on getting him back in.

DR. RUCKART: Well, we hope he can join us later. So we could just break a little early for lunch. I do want to mention that if you ordered a box lunch, it's available behind me. Outside this door, there's a table. There's also some vendors in the CDC cafeteria in building 21. Just go that way (indicating).

And we will start back up promptly at 1:30 with our public comments here. So thank you.

MR. AMMON: Thank you.

(Break taken)

MR. AMMON: Thank you all for coming back. Right now this is our public comment period. And we're going to hear from Dr. Diana Zuckerman on

lead and playground surfaces, rubber tires, and mulch, and artificial turf.

Dr. Zuckerman, if you can hear me, go ahead and begin your public comment. There you are.

DR. ZUCKERMAN: Hello. Thanks so much. And if you have trouble hearing me -- oops, I seem to have frozen. If you have trouble hearing me, please let me know because there's a lot of noise outside here.

MR. AMMON: Understood. We can hear you just fine. Thank you.

PUBLIC COMMENT

DR. ZUCKERMAN: Okay, great. I'm Dr. Diana Zuckerman, president of the National Center for Health Research. And prior to my current position, I was trained in epidemiology and public health and on the faculty at Yale, a research director at Harvard, and a bioethics fellow at the University of Pennsylvania. And I was also a professional staff member in the U.S. House of Representatives and Senate and the White House and a policy director at an HHS agency.

So I know what challenges you all face. And I really want to thank you for serving on this important advisory committee. I appreciate the

opportunity to speak to you today about these issues, some of these lead exposure issues that we -- that our center has been studying that have not been adequately addressed in public policy.

So the National Center for Health Research is a nonprofit research center. We're staffed by scientists, medical professionals, and public health experts. We conduct and explain research results that can improve the health and safety of adults and children. And importantly we do not accept funding from companies whose products we evaluate.

All of these products -- artificial turf, rubber tires, tile -- sorry -- mulch, and playground surfaces -- all contain lead, PFAs, and many other risky chemicals. And the crumb rubber, also called rubber mulch, also called tire mulch from recycled tires has lead. And sometimes some of these products are made with what's called virgin rubber and we don't know if that has lead or not. From what we've heard, it seems that some does and some doesn't. But since it's not tested, we can't answer that question. But what's really important to us is that children as well as adults are exposed day after

day and year after year to these materials.

So I'm going to start out talking about playground surfaces. For -- you know, these are the surfaces for slides and swings and climbing that are all over in every community. And some playgrounds and an increasing number of playgrounds are covered with either recycled tire crumb or virgin rubber. Some of these are black, some are colorful, and none are tested for lead.

A very popular product is called poured in place or PIP or P-I-P, which is a solid-looking rubber surface. And that one may be virgin rubber, although sometimes it isn't. But regardless, underneath the surface is almost always recycled tire crumb. And testing in many of these playground surfaces across the country has shown lead dust on the surface. And I'll talk a little bit more about that in a minute.

So here's a picture on the left. You can see this beautiful playground. I mean really it's beautiful. And it's colorful and who wouldn't want that in their child's school or in their neighborhood park. On the right is a real playground -- a real location in Washington D.C. I took this picture myself. The surface

used to be red rubber and every place you see black is where the surface material wore off.

Obviously the bottom of the slide is a place that's going to happen. But you can see it's happening in many different places. And every place that you see black on this photo is recycled tire crumb. And it's loose so it's accessible and that means kids can put it in their mouth, they can play with it, they can touch it. And believe me they do those things.

So here's a close-up photo. I hope you can understand it. It's a little confusing. If you see the sort of orangey red on the top -- on the bottom left and the top right corner, that's what used to be the surface. So it looks solid but you can see it's got all these white specks all over it. It's some kind of material composite made of rubber. We're not sure exactly what's in there.

More to our concern is all that black stuff. It looks like -- kind of like mulch but what it is is recycled tire crumb. And it's hard to see in this photo, but there's little specks of color, looks a little bit like candy. And kids do like to experiment with it and especially

little children, putting it in their mouth, playing it -- with their hands, then their hands get kind of black and messy. And then they touch other things with their hands.

So this recycled tire rubber, whether it's that or vir -- so called virgin rubber for play services and the rubber tiles that are in many homes now are all made from petroleum. And the plastic grass that makes up artificial turf often contains lead. The grass itself is so called plastic grass.

But many turf fields use recycled tire crumb for the infill. The infill is the -- those little black specs or other materials that are on top of the plastic grass. And it holds it down. It keeps it down. And it also makes it a little softer, if that's the right word, bouncier. And this is very commonly used, whether it's a National Football League fields or your local school field. And I wanted to mention that this stuff is everywhere.

It started out -- artificial turf started out just for professional football fields. It's now in a majority of high school fields across the country. And it's in many community fields

and other fields, Soccerplex for those of you who are local. I have kids playing soccer. Artificial turf is basically in every community.

And it did start out for professional sports or more affluent communities but it is now virtually everywhere. And the same is true for playgrounds. Many, many playgrounds in the Washington D.C. area, whether it's affluent neighborhoods or not affluent neighborhoods or even very poor neighborhoods, many of them now have these fields covering them -- these rubber surfaces covering them as well as the fields.

So it's important to know that -- you know, obviously, it goes from the -- you know, it goes from the ground to the air. It looks solid and you can't see it. But it's -- whether it's dust or other tiny particles are coming up with lead and with these other chemicals, there are a lot of hormone disrupting chemicals in these materials. In Washington D.C. there was recently a study of Georgetown. It was just in the news about a week ago that they found lead dust on the surface of the playgrounds locally. They also found other chemicals of concern in these rubber playground surfaces. And so Washington D.C.'s

government in its infinite wisdom decided that they would watch the surface of the playground which might help temporarily but doesn't solve the problem because, obviously, the dust is going to keep coming up and they're not going to be washing it everyday.

So the turf fields have this infill tire crumb, as I mentioned, and that gets kicked up into the air. But it's also -- actually I was doing a guest lecture at a college course and the students told me, Oh yeah, on hot days you can really smell these fields. They smell really badly. It's the chemicals coming up into the air. And I don't know that lead necessarily smells badly, but there's all these other chemicals in these materials. And if you can smell those chemicals, chances are the lead is also coming up.

And children and athletes and other adults are breathing in the lead chemicals and the lead and other chemicals and particulate matter when they play, when they walk on these surfaces, when they're nearby. And small children are eating the pieces.

It would be great if there were safety tests

but currently there are no tests required to study human health, the impact of human health prior to these materials going on the market. There are some voluntary standards, but they have nothing to do with human health, either short-term or long-term.

And as I'm sure you all know, the government does restrict lead and some endocrine disrupting chemicals, hormone disrupting chemicals from other products, including children's products. And different governments are -- both federal and state level are starting to restrict PFAs which is also in these materials.

But so far, these substances are not restricted in artificial turf; rubber tiles, indoors or out; mulch for playgrounds. Here's the sign. This is for those of you in the D.C. area, also a local sign on a field. It says: Warning. Do not eat infill mix in artificial turf as it may be harmful to your health. This was infill specifically made out of recycled tire crumb, which does have lead and does have these other chemicals. Of course the unfortunate thing is whether it's in English or Spanish the children most likely to eat it are not going to

be able to read the sign.

I don't want to digress into too many other areas. But these materials, whether it's artificial turf or these playground surfaces get very, very hot. This is a picture we took. It was a sunny, warm day in Washington. The grass was -- the air near the grass was about 90 degrees. And at the turf and at the playground surface, it was a hundred and eighty degrees. And of course that has implications for dust and other things getting into the air.

And then where does it go when they're done with it? These fields and these playgrounds, as you can see, don't last forever. On average the artificial turf lasts about eight years, sometimes even less if it's not properly maintained. The school playgrounds, if used a lot, will start to crack and break and get worn down. And it ends up in dumpsters and it ends up in landfills because no place, nowhere in the country will any of this material be recycled.

This is a photograph also locally, although I've seen very similar photographs in other states. This is -- the black stuff is the tire

crumb infill from an artificial turf field which after heavy rain just washed off somewhere else. It gets on sidewalks. It gets in groundwater. And it has in fact the chemicals from the -- from the recycled tire have -- tires have been found in water supplies in numerous states. You know, the stuff has to go somewhere and it goes somewhere and not where it's supposed to be.

So what are the alternatives? Artificial turf. People are told artificial turf need less watering; isn't that important when there's a drought in various parts of the country? But actually it does need to be watered. It doesn't necessarily need less water than a well-designed grass field because if you -- if you don't water an artificial turf field on a regular basis, it gets very hard and once it gets hard, unlike grass or ground, when it rains that will -- even if it was hard, it will be less hard. But that's not true for artificial turf. And let me just say that this is in the warranties of the artificial turf fields. It will say it has to be watered regularly to avoid it getting dangerously hard.

And others thought that, of course,

artificial turf would not need pesticides or herbicides. And wouldn't that be great? But, in fact, again that's not true because if you think of carpet it's made up of -- you know, think of wall-to-wall carpet. It may look like one big piece but it's actually small pieces that have seams that are put together. And so it has to have herbicides and sometimes pesticides that coat it, especially near these seams, to prevent the weeds from coming up in between these pieces of plastic carpeting and then ripping up the carpeting.

MS. KHAN: And, Dr. Zuckerman, sorry to interrupt. If you could wrap up in about a minute, that would be much appreciated.

DR. ZUCKERMAN: Yes, I will.

MS. KHAN: Thank you.

DR. ZUCKERMAN: I'm so sorry.

MS. KHAN: No --

DR. ZUCKERMAN: This is my next to the last slide. So engineered wood fiber feels just as spongy as rubber playground materials and it has no lead and it has no dangerous chemicals. And, of course, natural mulch can easily be bought instead of rubber mulch. In fact, I only found

out about rubber when I went to Home Depot to get some regular mulch and found that most of what they're selling is rubber mulch now.

And here's just a photograph of what it looks like to have engineered wood fiber underneath a slide instead of rubber.

And that's it and I'm sorry if I went over and thank you very much for the opportunity to speak today. And I'm happy to answer any questions.

MR. AMMON: Well, thank you, Dr. Zuckerman, for your presentation. I don't think we have time for questions, but I appreciate you bringing this to our attention. Thank you and have a good day.

DR. ZUCKERMAN: Thank you.

MR. AMMON: All right. We're going to transition and hear from EPA to give us an update on the dust lead hazards standards and dust lead clearance levels.

DR. RUCKART: And, Claire, if you're speaking, you're on mute.

MS. BRISSE: No, I wasn't but I will be now. Can folks see me and hear me?

DR. RUCKART: Yes, thank you.

MR. AMMON: Yes.

EPA DUST-LEAD HAZARD STANDARDS AND DUST-LEAD CLEARANCE LEVELS UPDATE

MS. BRISSE: Okay, great. Okay, so thank you so much for having me. Once again my name is Claire Brisse and I'll be presenting today on the dust lead hazard standards and the dust lead clearance levels reconsideration. This is the proposed rule stage and I wasn't sure, you know, what the level of background was. So we're going to go over kind of a general overview with a little bit of background, and I can give y'all an update on where we are. Next slide, please.

So once again our purpose today is just to provide some background information on this recent proposal to revise the dust lead hazard standards and the dust lead clearance levels. So you'll see those abbreviated throughout the presentation as DLHS and DLCL.

The proposal published on August 1st of this year and we underwent a 60-day public comment period which just ended on October 2nd of this month. An overview of some of the bigger changes in the rulemaking, although there are many other not listed here, is that we are proposing

something called Greater than Zero or GTZ codified as any reportable level for the dust lead hazard standards, and that's partnered with a clearance level of 3, 20, and 25 micrograms per square foot for floors, window sills, and troughs.

So within our proposal, we requested comment on two other approaches for the hazard standards, one that we called a numeric approach, which is essentially using just the modeling results and deciding what decrement of I.Q. or blood lead level is acceptable, as well something called a post-77 background approach. And both of those alternatives are discussed in length in the Federal Register notice. We also requested comment on an alternate clearance value of five forty and a hundred micrograms per square foot.

Within the rulemaking were also proposed changes to the definition of abatement as well as several other amendments, such as revising the definition of target housing to conform with the statute. That definition of abatement we're revising to essentially have the trigger be based off of the clearance levels as opposed to the hazards standards. Next slide, please.

And now I'll touch on a little bit of background. So I'll go kind of quickly over this slide but our statutory authority for this rulemaking stems from the Toxic Substance Control Act, Title IV, specifically sections TOSCA 401, 402, and 403.

So 401 -- I won't go over this slide in its entirety but 401 directs us to define -- it de -- excuse me, defines what a lead-based paint hazard is. And that's defined as conditions that cause exposure to lead from lead contaminated dust, soil, or paint that would result in adverse human health effects.

And section 403 directs us to regulate lead-based paint activities and that that -- those regulations must take into account reliability, effectiveness, and safety. And you'll see how this statutory criteria comes into play in the upcoming slides. Next slide, please.

So in terms of regulatory history, those who are more familiar with our program might have a basis of understanding about where we come from and where we're going. But for those that don't, these standards were established in 2001 in something we call the lead-based paint hazards

rule. They were originally established at 40 for floors and 250 for windowsills with mirrored hazards and clearance levels and then a slightly higher clearance level for troughs at 400.

We took a two-prong approach to revising those standards recently, in 2019 and 2021, and again we mirrored the hazards and clearance levels. And then this 2023 proposed rule, once again the hazard standards we proposed were any level greater than zero as reported by an EPA recognized laboratory and 3, 20, 25 for the clearance values.

And in part the reason we're moving forward with this proposal is in August of 2019, so roughly one month after we finalized our hazard standard revisions, a lawsuit was filed by public health advocates in the Ninth Circuit Court of Appeals and they sought judicial review of that 2019 final rule. And then roughly two years later the court remanded that 2019 rule back to us and stated that the hazard standards were not lowered to a level sufficient to protect health as Congress directed because we looked into factors in addition to health.

So at that time they al -- the court also

affirmed that we could consider other factors, specifically that statutory criteria I mentioned on the previous slide for liability, effectiveness, and safety when setting the clearance levels.

So once again because they remanded it back to us, obviously those rules remain in place but we were tasked with revising both standards. Next slide, please.

So this slide basically kind of goes over our proposed use of the hazards and clearance levels with this rulemaking. Once again the hazard standards I.D. the conditions that would result in adverse human health effects. So when we're trying to revise it, both in the proposal and as we transition to the final rulemaking now, that is what we're trying to address, is specifically what is that level that in terms of dust exposure in particular -- not sort of general public health, but in terms of dust exposure, what would result in adverse human health effects and what that level is.

And then the clearance values indicate the amount of leaded dust following a completion of an abatement activity. So the actual work that's

taking place, clearance values are the levels that are actually left on the surface once the work is considered complete. And once again those can consider nonhealth factors: specifically reliability, effectiveness, and safety.

And I believe you can probably see my pointer, but on the bottom left of the slide, you can see there's a graphic. On the bottom left there is a recommended activity which is reflected as a dashed line and a solid line that is shown by -- that represents a required activity.

So starting on the far left, there's an example of a triggering event, such as a child with an elevated blood lead level. From there we -- EPA's program would recommend an inspection or a risk assessment and those are used to determine whether there's lead-based paint present and kind of the severity of any lead-based paint hazards, et cetera.

If you find -- during that process you would typically take a dust wipe sample. If you find that the lead is less than our hazard standards, then no lead-based paint is present. But if you

find that it falls between the hazards and the clearance levels with this proposal, we would recommend best practices, cleaning, but not actually recommend an abatement because of that change in the definition of abatement that we proposed. And essentially anything that falls between those we wouldn't recommend an abatement.

However, if you do find that your dust wipe sample returns levels greater than or equal to our clearance values, from there that would be the trigger for us to recommend abatement or some kind of work to remove the hazard. And then from there, there's a series of requirements that you have to undergo, essentially taking another dust wipe sample. And in order for the abatement to be considered complete, you must get levels below the clearance values. Next slide, please.

So in terms of regulatory approaches, I'll just cover quickly a few key items. For starters, our approach to revising the hazards standards in this proposal. So once again we must set them considering only health factors. In that 2019 rule, we considered other things like practicality and consistency throughout the government. So because of that May 2021 court

opinion and our statutory authority, moving forward we will be reconsidering the hazards based only on health factors.

This GTZ approach which was our proposed dust lead hazard standard which established sort of a nonnumeric or really a nonstatic hazard standard and it would be any reportable level as identified by an accredited lead laboratory.

And some of the rationale for setting this standard was there's no evidence of a threshold that we're aware of for lead exposure below which there are no harmful effects on cognition. And additionally this was supported by our technical -- our technical support document, essentially by the modeling results which show that the lower a child's exposure is to dust lead, the less change they will have in their blood lead levels or I.Q. levels.

And, again, this sort of nonnumeric, nonstatic hazard standard for floors and windowsills would not be the same as the clearance levels for floors and windowsills. Essentially they would be decoupled. And this is sort of a big shift compared to the historical approach we've taken in the past where they've

mirrored each other.

And so this approach would allow residents essentially to know that there is dust lead present and that lead from dust can pose health hazards. So it would be helpful in terms of disclosure to the public.

And once again those two other approaches I previously mentioned were discussed in length in our preamble, and we requested comment on them. I recommend taking a peek at our Federal Register notice for more information. Next slide, please.

And in terms of revising the clearance levels, just a reminder once again that those are the values that indicate the amount of lead and dust on a surface following the completion of abatement. So those are the levels that are left on the surface once, you know, all the workers and everyone leaves. And you have to get levels below those to -- for abatement to be considered complete.

And once again that court opinion in May of 2021 explained that we can take nonhealth factors into account when revising the clearance levels, specifically our statutory authority of reliability, effectiveness, and safety. So we

proposed a clearance level of 3, 20, and 25 micrograms per square foot for floors, windowsills, and window troughs. We know troughs are the space that a window will sit in when it's closed. But we did discuss at length in the proposal and take comment on an alternative clearance value of 5, 40, and a hundred.

And a couple of different things that we considered when we were looking at which clearance value to propose was what percentage of jobs are able to clear to that level? Sort of the practicality piece of it, if there are any other examples at state or local levels of a specific lower clearance value already being used and enforced.

So, for example, that alternate clearance level of 5, 40, and a hundred is already being enforced in New York City. So we knew that that was achievable.

And we also looked at and discussed with laboratories their capability and capacity at these levels. Essentially are they able to provide test results for the lower clearance levels? Next slide, please.

So I won't go over this slide in depth, but

there's a couple different economic cost and benefit takeaways that we estimated. I think the big pieces are that this rule estimates that it would reduce the lead exposure of roughly 250 to 500,000 children under the age of six per year. And also that quantified benefits -- so these are from higher lifetime earnings due to avoided I.Q. decrement -- are approximately 1 billion to nearly 4.7 billion per year, according to our estimates. Next slide, please.

So I've included a little bit of additional information. There's, you know, a link to our website, the press release, the rule itself. Once again I want to emphasize that the public comment period has ended. It -- officially as of October 2nd. And we are transitioning now into the final rule development stage. We're hoping we have an estimated timeline of publication in October of 2024.

I've also included my information. I know that this was a very, very quick overview. And there's a lot of other aspects of the rule and nuances. So if folks want to reach out or send me an e-mail, that would be great.

And that's it for me. Thank you.

DR. ALLWOOD: Well, unfortunately we do not have time for questions. But, Claire, on behalf of the LEPAC, I'd like to express our gratitude for this very (inaudible) presentation. You know, you took a, you know, very challenging topic to speak on and did a really great job of explaining what's happening there.

And so we appreciate you taking time to be with us and I'm looking forward to further developments.

And I encourage everyone to reach out to Claire. She gave her e-mail and her phone number also.

That's really nice of you, Claire.

In case you have questions, please call. Thank you.

MS. BRISSE: Yeah, that would be great. Thank you.

DR. ALLWOOD: All right. And Matt had to step out of the room to attend to some pressing business. So I'm going to just be in the role of the chair for the next couple of items.

And so now I would like to move us into the discussions on lead service line replacement. You know, we're going to have a couple -- a few

speakers on this topic. I just want to kind of just set it up by saying that this is a really timely topic.

You know, there been a lot of recent developments regarding lead service line and, you know, trying to get rid of that. And, you know, no lesser place than Congress by demonstration has shown a tremendous amount of interest and some support for addressing this very vexing and almost intractable problem that we face about lead service lines that are numerous and also sometimes not even very well documented. So there is a challenge there.

So without further ado, I believe we have Steve Via that's up first. Steve is a director of federal relations at the American Water Works Association.

Steve.

MR. VIA: Lynn, do you want to start things off actually?

MS. THORP: Sure. And apologies -- my name is Lynn Thorp -- in that I was not on your agenda. But we're here -- we're very happy to be invited to talk to you a little bit about lead in water and lead in drinking water and lead service

lines and their replacement. And -- next slide, please.

We're here on behalf of the lead service line replacement collaborative. This is a group of 28 organizations. This includes environmental and health nonprofit organizations, like my own, and also drinking water system associations and others who came together in 2016 recognizing that there was a need and a growing interest in accelerating replacement of the lead service lines to bring water to our homes and buildings where they're present and that people from local elected leaders to drinking water professionals to concerned consumers needed tools and resources to help figure out how they can get this done, get to yes on this complicated question of replacing lead service lines.

So we came together to provide resources and tools to that end. And we've done that primarily through online tools which are on the Lead Service Line Collaborative's website. It is an encyclopedia of everything you need to know about lead service lines and their replacement, from the technical, financial, and other challenges that we meet on the path to getting rid of lead

service lines and as well as through forums for discussion and education, like webinars and meetings and other things. Next slide, please.

Just so you get an idea of who we are in the collaborative. My name is Lynn Thorp. I work at Clean Water Action and Clean Water Fund. We're an environmental organization. We work on a wide range of environmental and health issues at the national level and in 12 states.

Our national work, which I direct, is particularly focused on water pollution and drinking water and we're very honored to have been part of forming this lead service line replacement collaborative.

And I'm joined by Steve Via who is the director of federal relations at the American Water Works Association. AWWA, American Water Works Association is the largest association in the world of drinking water professionals. They provide technical support, scientific information, education, and other services for their over 50,000 members.

I think I got that right, Steve. So next slide and I'll turn it over to you.

MR. VIA: Okay. So while the Lead Service

Line Replacement Collaborative is very much focused on lead service lines, it's important to remember that when you talk about lead becoming dissolved or present in drinking water, it could come from a variety of sources.

And so as we talk about a lead release with the public, we think about our communications materials. We have to keep that broader frame in mind. And one thing we're going to refer to in a few moments is the Lead and Copper Rule rulemaking -- rulemakings. And those rulemakings are geared not just toward controlling lead released from lead service lines but also from these other sources where lead comes in contact with drinking water. So next slide.

So now if we just focus in on lead service line, we -- everybody can imagine a pipe stretching from a distribution system main out in the street to someone's home. But let's think about a couple of attributes of that line. As it leaves the water main, it's going to cross a property threshold in most instances. And so the water system historically has focused on maintaining the portion that's in the public ownership and the -- the resident or if not the

resident, the owner of the property has been responsible for maintaining the service line on -- on their side of that property line. There are different variations on that but it's the base case across United States and most other nations.

And when we think about where we're trying to go with accelerating lead service line replacement, we're trying to get that entire length out regardless of ownership. And earlier it was mentioned that sometimes we don't have as much information about the materials that are present as you might imagine. A large part of that is the fact that historically having been managed by the customer, the water system, the community-at-large doesn't really have a record of what that service line material is. They may -- they may have an indication but they may not have perfect knowledge.

The others thing about this drawing when we think about full lead service line placement, we're talking about not just in the street and in the yard but we're also talking about going through the wall of a house or the floor if it's coming up through a slab. We're talking about

bringing that placement all the way in to the first coupling inside of a customer's home. You all who deal with the public on a day-to-day basis realize that we have now changed the dynamic from a utility with trucks in the street to a utility that's knocking on your door and trying to get into your home, either as city staff, a public service authority, or perhaps contractors working for the utility. Next slide.

Lynn.

MS. THORP: Yeah. And the reason we were happy to be able to talk to the committee today is that we see quite a bit of an excess in common interest in our work and want to make sure that professionals who are dealing with multiple sources of lead and reducing exposure to those sources understand the importance of the water side and the need to integrate our work together.

One of our motivations in coming together in a collaborative: to see what we could do to accelerate replacement. Regardless of regulatory context or anything else is that we recognize that because of how lead exposure and lead's impacts work on people, every little bit of lead exposure that we can avoid is a good thing and

that we knew that with lead service lines present in our distribution systems for water, we had the possibility of lead exposure and therefore the need to address that source of lead along with the others, not to minimize the others but to add that to the equation.

But we also recognize the need for program integration with those who were working on all of the other sources. I think a reason this might be of particular interest to the committee is that there will be increasing activity around lead in water and replacing lead service lines.

I mentioned that, of course, we founded the collaborative some years ago because of increased community interest in water system interest and consumer interest. But now because of the regulations that Steve mentioned which include a requirement to identify lead service lines and to begin moving toward replacement -- and that may become even more clear in the next cycle of revisions to the regulations -- we will have households who have multiple sources of exposure to lead asking about water and hearing about water. So it's important that we all are integrating our messages and our efforts.

It's not a small matter. EPA is estimating over 9 million lead service lines still out there. So that's a significant number of households impacted. Another positive opportunity -- but one again that will increase the activity and the interest -- is that new federal funding is part of the bipartisan water infra -- Bipartisan Infrastructure Law includes 15 billion over five years to support lead service line replacement. And 49 percent of those funds are required to go to disadvantaged communities. There'll be loan forgiveness for those through the Drinking Water State Revolving Fund Program. Next slide.

MR. VIA: So we want to talk a little bit about those points of intersection with the LEPAC. We have the Lead and Copper Rule revisions. They are actually a regulation that's enforced today. But the way the Safe Drinking Water Act implements, water systems are taking steps now to have a -- a series of hard compliance states that begin in October of 2024. So a year from now.

One of those hard compliance state's deliverables is having an inventory of all of the

service lines in their service area and what material those service lines are. And there are two groups of pipe that are going to be identified as lead service lines. And that is service lines that have frank lead -- so it truly is a lead service line -- and galvanized service lines that were preceded or potentially in the past preceded by lead, lead pipe.

So those are what are going to be targeted subsequently for replacement underneath the current construct. Whenever a utility or a water system goes out to replace a lead service line, they're going to have a proactive duty to notify customers and to engage them in risk reduction, removing a lead service line, providing them with filters. There'll be a regular notice of water -- of households that are -- have lead service lines identified in that inventory annually.

There are also some other aspects of the rule that will have ongoing triggered notification of customers that participate in compliance monitoring where they have elevated lead levels. So there will be notices again, to customers in a -- in as rapid a fashion as

possible. And there will be a series of outreach to schools and childcare facilities in order to get a round of testing in each one of those facilities over the next five years.

So with that, we know that there's going to be a lot of outreach by water systems. There's going to be a lot of water systems and their contractors knocking on folks' doors, asking for information, perhaps having an opportunity to talk with them about lead more. And to Lynn's point, to the degree we can bring those communication materials together into something that everybody can communicate about -- lead in paint, lead in dust, lead in water -- in a coherent fashion, we could get more risk reduction across the spectrum of exposures that are there. And folks that are on the receiving end would have a better -- would be in a better position to evaluate their computing challenges in any particular structure.

Something that's also worth mentioning is that water systems will be required through this rulemaking or the one that's already on the books to share what they find in their investigations in individual homes that have high value with the

health department and also to share that information from the childcare and school sampling. And that's going to be an annual requirement. So there is going to be information directed toward health departments. And so there's a community of people there that will meet -- they will be on the receiving end, hence they need information to best use that information in a constructive fashion. Next slide.

So just I think Lynn and I will take a couple of shots here in concluding remarks. I think everybody here in this group understands that -- that lead in dust and paint is pervasive and what we're trying to do here is how to bring water into the conversation, realizing that in some homes it may be, some homes it may be another source, and then in yet another third group, it may be both.

We have different levels of knowledge about those different sources amongst clinicians and community healthcare professionals. And so to the degree we can -- we can get to coherent and cohesive communications, it would be really beneficial for that group of people and for the

public that they're serving.

And then I mentioned it briefly, but childcare facilities and schools. Like one of our previous speakers this afternoon, our point of exposure and water again is a part of that conversation. So it's a bit different from the household exposure, but it's also a part of this drinking water challenge that we're -- we're working on.

Lynn.

MS. THORP: Yeah. I just -- I want to reiterate, I think, that for us we would like the committee to recognize this increasing level of interest and activity around water in the coming years. We see that as a positive, again, because we know one important thing we can do to reduce lead in drinking water, getting those lead service lines out. But we do also have a hope that that increased awareness doesn't detract from addressing other sources of lead -- paint, dust, et cetera -- but that it indeed builds all of our work together and that we can in a cohesive way continue to improve.

And we appreciate the opportunity. Hope you will check out the Lead Service Line

Collaborative's online tools if you're interested in learning more. Thank you.

DR. ALLWOOD: Thank you, Lynn and Steve. I think we're going to have -- hear from the other speakers and then we'll open it up for questions.

So if you have a question for Lynn and/or Steve, if you can hold it, and then we'll have plenty of time for discussion.

So our next speaker on this topic is Kira Smith. Kira is with the EPA's Office of Groundwater.

And, Kira, welcome to the session and I'll turn it over to you for your remarks.

MS. SMITH: Sure. Thanks. I wasn't sure if I should be having my present -- oh, there it is, great. Thank you.

Well, thank you so much for the opportunity to be here. If I could go on to the next slide, please.

So this presentation is summarizing our guidance as well as our small entity guidance, the version of developing and maintaining a service line inventory. This was provided initially in August 2022. Earlier this year we came out with a small entity compliance guide.

But this is essentially to help water systems with requirements and best practices to develop their service line inventory.

The first step in removing lead service lines is identifying where they are. And so this is a key part. And Steve and Lynn alluded to the Lead and Copper Rule revisions of 2021. This is one part where we have definitively said we're going to move forward with this. We don't intend to propose a delay to the initial inventory requirements.

So before I get started, this presentation is more geared towards an audience of water systems in states. So I may go quickly through some of the things that are a little more in the weeds, but you'll get a copy of this presentation, I believe. And if you have any questions, my e-mail is right here on this slide.

Just a little bit about me and where I sit at EPA. I am the team leader for implementation of the Lead and Copper Rule. And so right now I've got about three rules I have to keep in mind when overseeing implementation. There's the current Lead and Copper Rule. There's the 2021 Lead and Copper Rule revisions. And we have to

keep in mind that EPA is under current rule making the Lead and Copper Rule improvements with the proposal coming out imminently we hope. So with that, if you could go to the next slide, please.

All right. So this presentation talks a lot about what's in the guidance, all the different hot topics, benefits of complete and accurate inventory. And then it gets into the technical details and requirements of the rule. So again I'm just going to touch on the things in the guidance and you can ask me questions later in the interest of time. And also I don't want people falling asleep on me. So next slide, please.

So the inventory guidance, basically what we put together, it's -- the purpose is to provide support for service line inventory requirements according to the 2021 LCRR. It's for water systems of all sizes. And it's also intended for states and other primacy agencies. It's for water systems that are just starting out with inventories as well as some that are already further along. There were numerous states and water systems that had already been proactive in

developing these prior to the LCRR. And also the guidance includes recommendations and best practices as well as sort of the required "you must." It's also technically what is something to consider and that we would recommend from a technical perspective. There's the case studies, example materials, and a template that we provided along with the guidance. Next slide, please.

So there's a lot of benefits to com -- oh, wait. Did we go backwards? There you go. Benefits of a comprehensive and accurate inventory. And so essentially these inventories are the foundation from which water systems can take action to address the -- what we've identified as the most significant source of lead in drinking water. It -- these are documents that can be used for applications for external funding. Steve and Lynn had mentioned the drinking water SRF, State Revolving Fund. I'll try to speak out acronyms. And there's $15 billion over the next five years. There's also about 11.7 billion added to the general drinking water SRF fund that can be used to fund lead service line replacement but can also be used for

other infrastructure projects. And we've also got a series of grants for various things that I can talk about later. It's not in the slide but I can speak to the different funding opportunities we have.

In addition the inventories obviously provide efficiency for lead service line replacement when water systems are planning replacement projects or other infrastructure water main replacement. If they know where the lead service lines are ahead of time, they can -- they can plan accordingly.

I think Steve and Lynn also mentioned that we want to get the full lead service line out instead of just having water systems replace the public portion. Any -- any portion up to the building. And there's a lot of discussion on what that means but essentially we want the lead -- the entire service line to come out. It allows for equity.

You know, you can prioritize replacing lines in the most -- that are serving the most vulnerable to the effect of lead or communities that have been historically underserved or disproportionately exposed to lead. And this is

maybe a place where there is potential to work with this group to identify those areas.

And I know there's a lot of different mapping efforts going on with different agencies and within EPA that I think, you know, we can start to look at this more holistically as we go. Having a complete inventory also helps with communication, you know, there's more opportunity to educate customers.

And it allows for mitigation of exposure risk to these customers, you know, in letting them know, okay, you have this kind of line. Here are some things you can take -- some action you can take to reduce your lead exposure.

And then also for water systems, it can improve asset management. I think asset management principles -- I participated in a webinar we did -- and I can't remember which March it was now. I think it was probably this past year -- on applying asset management principles to lead service line inventories which I think is a really good thing for small systems. But -- let's move on to the next slide, please.

So this slide looks a little funny. I think in trying to make it federally compliant, we cut

off some of the text. But essentially this is what's required by the LCRR. All service lines, they have to be classified in one of four categories. There's lead, galvanized required replacement, unknown, or nonlead. And it must include both system and customer side where ownership is split or there's a portion that's owned by the customer, a portion that's owned by the water system. Next slide, please.

Some of the things we recommend including -- and these aren't just to help your regulator know more, it's to help the community know more and for systems just to have more information at their fingertips. You know, keep in mind subclassifications. If you know that your nonlead lines are plastic, put plastic in your inventory. Keep track. Keep track of other lead sources, such as goosenecks and pigtails and connectors. This diagram shows a connector coming from the water main and you can see it looks like a gooseneck. That's how that name came to be. Lead solder, lead in plumbing if you happen to know. And then different characteristics of the service line. I'll talk a little bit later about install date and why

that's important. Next slide, please.

So this is the life cycle of an inventory. This is a figure that we have in the guidance document. And I point to this a lot. So the expectation for October 16, 2024 -- which is the date by which water systems have to start complying with the LCRR and submit their initial inventory to the state -- is to gather and build initial inventory. That's the expectation that we have, that EPA has for what gets submitted to the state initially.

From there, inventories become living documents where there's a continuous improvement, where you're looking into, you know, what do we actually see in the field? have we found more records? evaluate the reliability of records, cross-check, update your inventory until you have this complete inventory that identifies all of the materials of all of your service lines. And then, of course, there's going to be updates as you go and replace lead service lines. Note, at the bottom of this, it kind of has the "replace lead service lines." You don't have to wait for a complete inventory. We want systems to just start replacing them, start getting them out.

The Biden-Harris Pipe and Paint Action Plan states that the goal is to remove all lead pipes in the next decade. So -- and the bipartisan infrastructure funding is for -- that's specifically for lead service line replacement. That's now. We want these things replaced now. Next slide.

And so getting into the requirements, the LCRR requires a historical records reviewed where there are specific things like plumbing codes, construction codes, water system records that need to be reviewed in order to develop the initial inventory. We've got some recommended practices here that are just intended to help the systems and the regulators have more confidence in the actual information.

We get a question a lot from states, What's enough? And we get it from water systems too, like what's enough for an initial inventory? And so documenting what records and information you have is especially helpful. The screen shot here, these are cap cards that have identified lead service lines. It's kind of hard to read, but they're very old. And I can't remember what system they're from, but that kind of thing and

keeping track of that and documenting it. It's a lot of upfront work, but it helps to have a more robust inventory. Next slide.

This is something that is not in the rule. And this gets into the field investigation methods. There's a lot of different ones. There's visual, you know, take a penny and scratch the pipe. The "protect your tap" tool that EPA has -- and there's information here on that. And the link is intended to help residents identify what's their service line material, and it walks through different ways to check that and it explains what a scratch test or a magnet test will tell you.

There's other methods that we could get into that are -- you know, involve field investigations. Keeping track of the repairs, excavation, sometimes water sampling can be used. The guidance includes a discussion of the pros and cons of each method. And it sort of does a relative cost, labor, disturbance, accuracy. This was based on research that our Office of Research and Development had conducted. And it gets into different things. And then we have a lot of real world examples of what systems did

and the lessons learned. There's sort of one system that had cameras in their curb stops. And they were identifying lead service lines that way. And it worked for some things but not others. So again I'm just going through the tools that we've provided technically for systems. Next slide, please.

So this is, you know, a strategy for developing the initial inventory. So initial records could be screened because in 1986 the Safe Drinking Water Act essentially banned the use of lead in potable applications. And so lead free was defined as no more than 8 percent by weight -- I don't actually remember what the calculation is. But essentially following when the states enforced the 1986 Safe Drinking Water Act amendments -- and we have a list of when that was -- in the guidance document for each state, a lot of unknowns could be screened out as nonlead. And that's an expectation to sort of help. And this -- the starting date is set. This cone is sort of to show, like, what the unknowns are and how you can -- how you can reduce the number of unknowns and then set priorities for identifying them and how you might identify them: considering

vulnerable E.J. populations, areas with a lot of unknowns, places that are likely to be lead, and other things in the guidance. Next slide, please.

So there is also a requirement for water systems to notify persons served at locations where there is a lead service line, a galvanized required replacement, or a lead status unknown within 30 days after completing the initial inventory. So we're working on templates for that, but essentially it needs to include things like an explanation of the health effects of lead, steps they can take to reduce lead exposure.

It does -- well, I'm hoping it remains in, but there's a recommendation that if you have children, get your children -- get their blood tested. Contact your health professional and where to reach out for more information, how to contact the water system. And so look for that to come out soon.

It goes through -- also there are systems that have only nonlead lines. It talks about what those systems need to do. They do need to still have an initial inventory. And they do

need to have evidence-based records to demonstrate to the state that they are nonlead.

As I said before, initial inventory has to be submitted by October 16, 2024, which is the compliance date for the 2021 LCRR. And then there's the checklist in the appendices as well as part of the spreadsheet template for states on what considerations they should -- or they could use to kind of determine how complete is this? does it meet the requirements of LCRR and 40 CFR 14184(a)? and other things that they can do. They can ask the system for help in reviewing these inventories. Next slide, please.

Public accessibility. There's a requirement for water systems to make publicly accessible inventories that include the locations of their lead service lines and galvanized required replacement service line with a location indicator. We recommend they use an address, but they don't have to. We also recommend all service line materials. This is a screen shot of Greater Cincinnati Waterworks' map and how they've done it. They've done a lot of good work there. So -- and they've got color coding and it's easy to read. And there's also an example

of that, of this inventory in the -- in the guidance. It talks about format considerations. And we talk a little bit about consumer confidence report requirements because in CCRs there's going to be recommend -- or required text on where to find the publicly accessible inventory. Next slide, please.

This just goes through what the appendices include. And I've talked about that some more. I'm not going to go through this. Next slide.

The template. Now, the template is a spreadsheet. It's a separate file that we have on our website where the guidances are located. There's a lot of different -- there's a lot of information in these -- in this spreadsheet, but it does have a lot of -- it's not required "you must use this." A lot of states have adapted it. A lot of states have their own. But it does provide a tool that water systems and states can use as an example. Next slide, please.

This just shows the detailed portion. It's a screen shot. We have heard that small systems find this complicated. They don't have to use this, as I said before. Kind of the applying asset management principles can get you a simple

list that just sort of has, you know, location, service line material, install date, records, a very simple list that they can use. This is intended to kind of help where there's more complicated systems in the inventories. But we do have -- and this is filled-in examples in the template. I'm not going to go over them now, but that is what's in the spreadsheet. If anybody has questions about that, let me know after. Next slide.

So here's the link to our website where you can download the guidance. There's also a fact sheet and the template here where, as I said before, we're working on templates for the notification of potential lead service line to persons served by the end of this year. We are intending to propose the lead and comparable improvements rulemaking very, very soon and finalize it no later than October 16, 2024.

We've stated in the Federal Register on December 17, 2021, that we don't expect to change the requirements for the initial inventory. So we are moving forward with providing guidance and information on that. We also don't intend to propose a delay to the tier 1 public notification

that's required following a lead action level exceedance. We're working on templates for that as well.

So that's another place where there is potential outreach where there is sort of at least some measure of -- I don't want to say exposure because lead and copper sampling is measuring optimization of corrosion control. But where there's maybe not the best corrosion control, it's another way to contact individuals.

With that, I know I went really fast. Next slide is questions. And you can contact me at my e-mail. EPA e-mails are pretty simple. It's just last name dot first name at EPA dot gov. If you have comments on the guidance materials, there is an e-mail address to send those directly and again there's the website.

So I don't know if we have time for questions. I'll turn it back over to the ...

DR. ALLWOOD: Thank you so much, Kira. We're going to -- we have one additional presentation and we're kind of, like, right up on the break. But I'd like to keep us going a little bit. If people would hang in there a little, we'll hear from Dr. Warren Friedman who

works in Matt's office over at HUD.

And, of course, HUD, as you heard this morning in Tara's presentation, has a big interest in the stake in lead service lines. And we'll hear from Dr. Friedman what are some of the specific areas of interest from a HUD standpoint.

UNIDENTIFIED SPEAKER: Can you show his screen or are there slides for that?

MS. KHAN: I don't have the slides. This is Samer from Ross.

DR. ALLWOOD: No slides. No slides for this.

Warren?

UNIDENTIFIED SPEAKER: Does he have an e-mail --

DR. ALLWOOD: If you are speaking, you are muted.

UNIDENTIFIED SPEAKER: Yeah. Can he unmute himself?

DR. RUCKART: Tori and Samer, can you give him speaking access? Do you need any specific information to unmute him?

UNIDENTIFIED SPEAKER: Should it be warren.friedman@HUD.gov?

DR. RUCKART: Did you hear that?

(Cross-talking)

DR. FRIEDMAN: Can you hear me now?

UNIDENTIFIED SPEAKER: Yes.

DISCUSSIONS ON LEAD SERVICE LINE REPLACEMENT

DR. FRIEDMAN: Excellent. Okay, thank you, Paul. Appreciate the warm welcome.

And thank you, Matt, for rejoining the group.

I will talk about a few things. But first in line with what I have been asked before, I will introduce myself. I am Warren Friedman. I am the senior advisor in the Office of Lead Hazard Control and Healthy Homes at HUD. And my background is generationally physical chemistry and then I got into environment work which eventually got me to where we are now.

So speaking briefly about HUD's interest in lead service line replacement -- and certainly the two presentations so far in this segment were both very informative. So we share the interest in getting lead service lines out of the homes and this includes the assisted housing stock that we deal with directly as well as, of course, on the general issue of getting lead service lines out of all homes. We would also extend this to

childcare centers and to schools even though we don't regulate those.

I'll speak about some of the ways in which HUD does provide for funding of lead service line replacement. One of the ways is the Community Development Block Grant program. These are funds that go to primarily local governments but also some state governments to deal with rural areas. And under this communities develop their plans for how they want to improve their infrastructure as well as their housing and their businesses. This focuses on areas of low to moderate income. And the grantees, the block grant grantees have great discretion in how they can use their funds in support of improving their communities. And the Office of Community Planning and Development has determined that removal of lead service line and replacement with nonlead service lines is an eligible activity.

Within our office, the Office of Lead Hazard Control and Healthy Homes, we have a number of grant programs for which lead service line replacement is also an eligible activity. One of them is the Healthy Homes Production grant program. This goes to state and local

governments but also to nonprofits. And these are designed to improve health and safety conditions in housing. And removal of lead service lines is one of the things that is an eligible expense under the healthy production program.

The other major program for which this is an eligible activity is our Lead Hazard Reduction grant program.

Now, we've heard today, as in previous LEPAC meetings, that the authority for the Lead Hazard Reduction program and the Lead Safe Housing Rule and the EPA regulations that have been discussed by Claire and others is Title X. Well, Title X does not have the word "water" anywhere within it. It does not include water or exclude it. It does not mention it.

Therefore, dealing with water is not an authorized activity and funds cannot be spent on water such as lead service line replacement under Title X. However, we have in our office's grant program combined the Lead Hazard Reduction funding with Healthy Homes funding in the form of what we call Healthy Homes supplements to the Lead Hazard Reduction grants. So this uses

Healthy Homes funding, which has broad range of what it can cover. And so grantees for lead hazard reduction who were working in a home to control the lead hazards if they have Healthy Homes supplement funding can work on things other than the lead hazards covered by Title X. And one of the things they can do is lead service line replacement.

So we have a number of ways within HUD in which lead service line replacement can be funded. Now, under the Bipartisan Infrastructure Law, we have three different ways in which the EPA program under the Safe Drinking Water Act is to prioritize the removal of lead service lines. And the three priorities are disadvantaged communities, homes of low income homeowners, and landlords renting to low income families.

Now EPA has prioritized disadvantaged communities. And of course in disadvantaged communities there are many low-income homeowners and low-income renters. But those owners and renters often live outside of disadvantaged communities. That was why Congress provided for the three different independent priorities. And so we've talked with EPA and they've advised us

that the recipients of their state of revolving funds for the drinking water program are responsible for encouraging the activities in the areas outside of disadvantaged communities that are priorities under the act. And we've been continuing our conversation with EPA, also with some of the trade groups that are involved with the drinking water situation. And so we will continue to encourage the removal of lead service lines from the families for low-income own or rental outside of disadvantaged communities.

Now, in the fiscal year 2024 budget that all of us know about -- it's still underway -- the president's budget included the provision of $10 million for lead service line replacements to be coordinated with the activities that communities are undertaking to remove lead service lines.

The focus would be to make sure, to the extent possible, that HUD-assisted housing is having lead service lines replaced. There's not enough money as EPA has acknowledged to remove all lead service lines throughout the nation. And so seeing what we can do to figure out a pilot way in this tiny demonstration, just ten

million, to pilot how can we work with communities and with the states and with the EPA to promote the removal of lead service lines from assisted housing.

Now, put this budget in as a department, it was accepted by the president. And it went in the president's budget to Congress. Well, we all know negotiations on the budget have been extensive and fairly stringent. The latest version in the House and the latest version in the Senate has removed this provision that was in the president's budget. Of course, negotiations are ongoing and we will continue as a department to encourage the restoration of the lead service line pilot, lead service line removal demonstration.

In terms of future years, we are in the early stages of developing the FY '25 budget proposal and so we're not ready to discuss where that is because this has not been developed in a formal way yet. But, of course, this will be a public document when it's released by the president in January or February. And then we'll be able to provide LEPAC with an update at that point.

Matt, turn it back to you.

MR. AMMON: Thank you, Dr. Friedman.

DR. ALLWOOD: Does somebody have a mic that's working? You're using our power.

MR. AMMON: Well, remarkably, Dr. Warren Friedman's comments are exactly what I would say too. So after 30 years of working with him, that's exactly what I would've said.

So, again, Warren, thank you very much for that great overview. And with that, why don't we take a very short break. Actually why don't we go to 3:10 or 3:15. That'll give us a half hour (indiscernible). I'm only going to 3:15, so (indiscernible). I'll be back at 3:15 and then we will continue our discussion on lead service line replacement and closing comments. Ready?

UNIDENTIFIED SPEAKER: Yes. Yes.

MR. AMMON: Be back here at 3:15.

(Break taken)

LEAD SERVICE LINE DISCUSSION

MR. AMMON: So we had the framing today, really good presentation on lead service line replacement and definitely from different perspectives, right? We've had perspectives from two agencies and then an association. I think,

you know, it certainly shows that we are at a very critical time, you know, in many jurisdictions, life cycle in terms of the opportunity to make this happen. I think it's a unique historic, almost a generational opportunity to have this work be done. There is funding out there. I mean, obviously, I think that we all recognize that it's not enough funding. But, you know, this is on top of funding that already exists for the most part on a regular basis with EPA grants coming out, the states.

So this -- you know, it's certainly an investment and it means a lot for a couple reasons. Or just me personally and it was something that Dr. Warren Friedman talked about. It is related to the priority areas. You know, the priorities being -- being expanded from the regular work that is done by states to replace lead service lines. You know, in that this funding very much -- not at scale, but brings down to the unit level the prioritization that we are hoping that we see related to this funding. And, again, it's very different than the priorities that we see currently, you know, with

the -- I'm not going to say generic but disadvantaged communities but with the extra emphasis on homes of low-income families and also landlords renting to low-income families. You know, I think that's -- that's the historic part as well that put the work where it's going to make the most difference. And I don't think there's any of us here, no matter if we're feds or not, that that is how we should be operating, right? What's going to give us the best outcomes? And these are very, very long-term outcomes which are good. I mean, this investment's going to make a huge difference in, you know, the quality of life for certainly families and especially children.

And, again, with this investment, there are a lot of opportunities for all of us, no matter where we are and our work and what we do. I mean, this is really one of the best multisector -- requirements for multisector participation are enormous because all of us have a part, whether we know it or not, to play in this. And we had originally sent out a couple weeks ago -- to be exact -- let's me see, what did we send this guy? We had sent out

October 5th on an e-mail questions to help guide this last discussion for today. Some of the questions that we had sent out to everybody to think about are how can communities insure equitable access to lead service line replacement programs? What role can technology play in identifying and replacing lead service lines more efficiently? What are the best practices for managing disruptions during the lead service line replacement process? You know, what are the risks associated with lead service line replacements and how are they mitigated? How can water quality monitoring be enhanced during and after lead service line replacement?

Again, every person here has an answer for one of those questions. And so it would be good if we could go around the room and make sure that people are -- have an opportunity to engage and help frame in their own unique perspective. Because I think all of our perspectives collectively -- again are -- not only tell a story but are really a powerful indicator of everything that we could be doing to make sure this works.

And, again, you know, you can't understate

how critical this is at this time and the opportunity that it has for, you know, continuing all of our work, especially around lead. And I was very excited to see the funding go to EPA and to the states. And I'm excited to see and hear updates from where states are, you know, conceptually in terms of on the ground how this works. I mean it's not mind-boggling, but it's a lot of pieces that go into place -- a lot of pieces that go into play.

And we been asked to help out as well in areas where -- in states that have begun this work to help provide information, what we have, both in terms of our assisted housing stock and public housing authorities' locations, you know, things of that nature so that we can be part of that collective to be able to, again, make the most of this funding.

So first I'm going to -- I'm going to open it up and then I think we should do a round robin. Again, my opening statements were just opening statements. We can start there and then we get -- can get more specific. So I think I'm going to have to be like -- walk around with this mic, I think, which is totally -- oh, no, up

there? Okay.

UNIDENTIFIED SPEAKER: Or I can. It doesn't matter.

MR. AMMON: Well, we'll see. We'll see.

So with that, let me open it up and we'll start with EPA, with Grace.

MS. ROBIOU: So I'm kind of not going in order. But I --

MR. AMMON: You don't have to, don't have to.

MS. ROBIOU: But initially that maybe it's something I think we talk about the water is the last one -- What are the risks associated with replacing? -- somehow they're mitigated. I'd like to make sure that we have, you know -- have this body and also (indiscernible) agencies are thinking about potential for increased exposure to lead occurring when you open up the piping or everything.

So I'm (indiscernible) that there might be an increase in exposures temporarily while the piping is put in place. And I don't know if we have discussed and it seems like there's an opportunity to discuss how we could work together to either increase primary testing in those

geographic locations to match where there are cases occurring or increase surveillance, increase reporting. And there was some discussion about reporting and monitoring (indiscernible). This has all kind of come together to make sure that the community has assurances -- Right? -- that in the end this is going to be better, (indiscernible) better. So I've been worried about that. You might have seen it in some articles here and there too. I'm not sure that we're taking the (indiscernible).

MR. AMMON: That's important context. And I was just following up to see if there's any talk about mitigating the effects or any other type of specific funding related to that. I know we have CMS and HRSA. I don't know if members have any -- Mary Beth and Aaron, I don't know if they wanted to provide any additional comments or context to that.

DR. ALLWOOD: (indiscernible)

Kira, did you have any thoughts on the question?

MS. SMITH: Well, I was going to just say, you know, the LCRR, the revisions in 2021, included requirements for short-term mitigation

due to the initial kind of spikes you would see from replacing a service line or even disturbing a service line. And they included things like providing extra education to the customer, explaining that there might be increased lead just initially, following a full replacement or a disturbance.

In some cases the water system would be required to provide a certified pitcher filter or point-of-use device with six months of cartridges. And so that is kind of the short-term disturbance that would be contributing to the -- kind of the spikes. There is sort of a note that there is going to be that and that there is mitigation that is in the rule.

And, you know, also I put in the chat some information on our WIIN grants where we talk about not only testing but also mitigation. There's the school and childcare grant which is for sampling and reduction. So that includes mitigation strategies. That's maybe a little different than lead service line replacement. But there definitely are mitigation strategies.

And every time I mention, you know, in our public education and our notification that we

have to have information to the consumer on steps they can take to address the exposure and alleviate lead exposure, that there are a list of things that we provide that we say. And we actually have those on our website too.

I think having the short-term mitigation is important, but also we don't want to take away from the long-term benefits we would get from taking lead service lines out. And I don't want to detract from that. I don't think the folks here do either, but it is something to consider.

And, yeah, Steve just popped in the chat about the AWWA standard that kind of talks about good practice to reduce lead release.

MR. AMMON: Want to follow up, Paul?

DR. ALLWOOD: Yeah. Thanks for sharing that, Kira. You're right. There is a pretty, you know, important delicate balance there over a long commitment. But if part of the rule is that (indiscernible) also may be notified when lead service line is in place and then maybe find alternative sources. How would you -- how would you know -- you know, how would I know when it would be okay to not have those (indiscernible). There are tests that would -- that would be --

MS. SMITH: Well, there's -- there's also sampling that is in the rule, postreplacement sampling. That would be one indicator. Again, I said six months of cartridges. That's when we would expect to see the lead line -- or the lead levels go down after a full replacement. But ...

MR. AMMON: Yeah. So I have -- this is Matt. So I look at it like this. So as -- when we go into an area and we do different type projects, you know, it's always best to have a planning committee discuss timing and with specific roles.

And so, you know, we saw this in Flint too where we had grantees work with the locality and made sure that at the same time they were doing work we were going in and actually testing kids. We were actually going in and doing additional work in homes. I mean, if we're going to be working on water infrastructure, we might as well also check paint and things like that.

So just a very comprehensive way to make sure that to mitigate any of the impacts up front. So, you know, making sure that we had surveillance on kids; making sure that, you know, we could also do, like, faucet replacement and

things of that nature as much as we can to have it complete, which we can do with our Healthy Homes funding; any other type of comprehensive redo but then we do follow-up testing. Just making it a part of what we do on a regular basis.

Like, all of this should be thought of regularly, not that we have, you know, think of things, you know, after the fact, but all of this should be part of a planning docs up front when we deal with these larger community-investment type projects in communities.

It shouldn't just be, you know, we're just going to replace service lines, and that's kind of it. I mean, you know, there has to be some type of comprehensive review and evaluation and testing that goes hand in hand and -- because otherwise, you know, we miss an opportunity yet again to combine lead exposures and mitigate lead exposures whether it be from water or whether it be from other sources. You know, we're talking about primarily water here. But it just makes too much sense not to do that.

So that's what I was trying to get at today. I totally agree with the mitigation. And for me

it sounds easier because we have assets on the ground with our Lead Hazard Control and Healthy Homes programs that can do that, working hand in hand with the locality.

MS. ROBIOU: I was wondering who's in the driver's seat though? Is it the states?

MR. AMMON: Yes.

MS. ROBIOU: It -- I'm trying to --

MR. AMMON: Yes.

MS. ROBIOU: I'm sorry, I'm thinking out loud but, like, who -- who needs to organize all those pieces?

MR. AMMON: Right. Now, I'm thinking the state too, but I don't work at that level at the state where -- I -- I don't know. I mean, to me, it would be the state -- Right? -- that would organize that.

And -- but, you know, the state's goals may be very different than, you know, other type of either community-based or even our grantee goals. That -- that's where I'm blind in that. You know, if we learn from some localities that are already receiving funding and are already going through in this inventory evaluation and asset mapping and then try to figure -- not figure it

out but just work out the next steps. That's where I'm blind in just my own knowledge about how that would occur.

Because, to me, you know, when we go into an area, again, we have a very big planning body that always works community-wide to help organize who's going to be doing what and the steps I was mentioning. It's a regular part of what we do in our Lead Hazard Control grant program. But I don't know in this case -- and maybe Kira would know; I'm sure she does -- in terms of, you know, who is the organizing body and what specifically have certain states done in terms of steps to organize, implement, and the things that we've been talking about.

MS. SMITH: So I couldn't hear what the woman said in the room. I can only hear you. So I think the question is what are states doing to organize outreach for lead service line replacement? And having --

MR. AMMON: Yes. That --

MS. SMITH: -- a proactive program?

MR. AMMON: -- Grace.

MS. SMITH: Is that the question? Okay.

MR. AMMON: So that's part of the question.

The other one is who is the organizing body that would be coordinating the lead service line replacement work? At what level?

MS. SMITH: There are several levels of sort of coordinating. Mostly it's going to be done at the water system level. Like just traditionally, you know, infrastructure planning and projects is done at the water system level.

But I can tell you EPA has a program that we've been working via our Bipartisan Infrastructure Law set aside with four states who are -- we're partnering with the states to identify communities and figure out -- okay, what do these communities need in terms of lead service line replacement? Is it they need help developing inventories? Are they further along where they have an inventory but they don't know how to get funding? Do they need help, you know, filling out applications for funding? -- to get a sense of, you know, via these states kind of how these things work and what the challenges are associated with these.

At this point, you know, it's -- communication is really difficult, and I think it's key and it's important to engage the

community and just to let people know the importance of it. Because we are seeing places where even when a water system is paying to replace the private portion of a lead service line, the customers are refusing. They don't want their rosebush dug up. They don't quite understand.

And so from that perspective, I think community groups, if we can identify them and work with them, would be partners that I think we need to tap into somehow. And by "we" I'm speaking all levels. You know, you've got federal, you've got associations like Steve and Lynn represent, you've got states, you've got water systems. There's a lot of different levels and there's, you know -- and then you've got the consumers and sort of how to get them engaged is also -- it takes a village or it takes a government.

MR. AMMON: Sure. I mean, that -- I think that -- you know, just in my head that worries me because like I'm in an area -- and I think ours is the Washington Sewer and Sanitary Commission, right? They're the water authority for my area in -- outside of D.C. I've never talked to them.

I don't know anybody that's ever talked to them. I don't know if the health department's ever talked to them. You know, I know they have board meetings. I'm hoping they talk about this. But that's -- it's like a whole new ball game that I worry again that there's an opportunity missed. And maybe I just don't know.

MS. SMITH: Well --

MR. AMMON: And -- sure.

MS. SMITH: Have you -- are you familiar with the Consumer Confidence Report?

MR. AMMON: Well, I'm -- the -- like, any report I'm -- I'm worried about -- here's what I'm worried about. I'm worried about there's a source of funding and if you have a -- basically a private board -- it is a private board and a commission or a quasi-government board or commission organizing how this is done. They're going to do it the same old way they've always done it. And I guess, you know, I'm not -- I'm not deflecting that reports aren't important, what I'm saying is that the planning up front, to me, is very --

MS. SMITH: Oh, sure.

MR. AMMON: -- critical at this point

because it's a new source of funding. I don't want to go into status quo (indiscernible) --

MS. SMITH: I see what your saying. So --

MR. AMMON: -- (indiscernible). Right.

MS. SMITH: -- let me back up. The consumer confidence report is the report the water systems provide to all their customers annually. And most people don't even know that that's a thing that they receive as part of paying their water bill. They should get that. And it talks about all this information.

Nobody reads these unfortunately. But they do provide ways to get involved and information about the system. In terms of the new funding sources, there's certain things about implementation of these funding sources. And, you know, I'd have to defer to the folks that run the State Revolving Fund program. But, you know, in terms of planning for this extra $15 billion, that has to go to lead service line replacement, can only fund full lead service line replacement. And the eligibilities are different.

So they can't do what they've always done. They have to plan ahead to get that funding. So from that perspective, you know, it's also -- it

works both ways with the water systems. They have the programs in place; they have their improvement funding plan. And they're going to have to kind of adapt to a new way of thinking with this full lead service line replacement.

MR. AMMON: And I'm sorry if I'm asking questions but just -- so because the requirements are full line replacement, so that is from plant to house, right? Plant to unit? Although --

MS. SMITH: That's from water main to unit.

MR. AMMON: Okay. Water main to unit.

MS. SMITH: So it's the actual service line.

MR. AMMON: Gotcha. So the water main to the unit. Is there a piece of eminent domain if the property owner says, I don't want to do it? They can use eminent domain and saying, like, no, you have to because we're required to do this.

MS. SMITH: Different -- so that's -- that's -- a big challenge we're saying is access. And if a property owner refuses, most water systems don't feel they have the recourse. Now, some places they have ordinances in place that say it's too bad it's your private property; we're going to come and replace it.

Other places -- states -- this was a

discussion that came up when there was first the -- the $15 billion and the, you know, SRF, and full lead service line replacement. Some states have in place prohibitions on spending public money on private property. And that's not an EPA requirement. It's sort of state by state. So there's a lot of challenges there.

MR. AMMON: Yeah, I know -- I know that as an agency what I tend to find is that when somebody else is doing work that the funding originally came through the agency even though when it hits the local coffers it's considered local funding, they come right back to HUD and they're like, What are you all doing? Why aren't you looking at this? You know, and I'm just wondering if you're feeling that too where, you know, essentially you already have the pipeline for funding. How you would normally fund these is, you know, are you seeing anything coming back up to say, well, this is EPA's responsibility to make sure that everything has been done for what was required in the law?

MS. SMITH: Well, it's -- you know, and I'd have to defer to our State Revolving Fund folks. But there's been a lot of different discussions

that have come back up. Some is, you know, via the states because the way we implement the State Revolving Fund is we have an allocation capitalization grant to each state based on needs, the Drinking Water Infrastructure Needs survey.

And I think that there's different thin there's different questions. You know, you're talking about a memo, the eligibilities versus what's in the rule because it's not exactly the same. And its -- I think it just -- yeah, it gets confusing. Things come back to us. I -- I can't speak to, you know, the difficulty that you're seeing at HUD.

But I do think, you know, there's a good maybe opportunity here where if you're going in just to make sure you're looking at water in addition to paint and dust.

And also Lynn's hand has been up. So I don't want to monopolize the conversation.

MS. THORP: Thank you, Kira.

MS. SMITH: She has some things to talk about.

MS. THORP: Hi, Matt. I just -- my -- my hand went up when I was thinking about our

experience in the Lead Service Line Replacement Collaborative and also my experience as an environmental advocate person doing that work with water utilities and others.

And I just wanted to share that the way our nation's drinking water systems are preparing to deal with lead, both because of regulations, including the parts around lead service lines but of course the regulations, the Safe Drinking Water Act, Lead and Copper Rule has a lot of moving pieces.

Anyway the elevated public concern over the last years as well as the various stages of regulations revision, I -- Matt, I just want to assure you, if it helps, that water systems are on top of this. And all of them are kind of keenly getting ready to -- for compliance and all the activity. And many of them up have been taking action on lead service lines long before the requirements.

And it's, like I mentioned in our presentation, one of the reasons we founded this collaborative. I'd say that most particularly true in systems that are better resourced, the larger ones. And Washington Suburban Sanitary

Commission which serves the Maryland suburbs of D.C., more or less, is one of those, of course, a larger system and been on top of this. They did -- have signaled going back a decade or more that they probably don't have lead service lines that has to do with the nature of when our communities were built and all.

But I just want to signal that I see a very kind of attitude in the water sector around this than we see on some kinds of regulations of other kinds of entities. And it's because of the public attention and concern but also because of continual revision of the regulation.

So I'm not saying everything's great and sunshiny, but -- and I also don't think the 15 billion in lead service line replacement money in the Bipartisan Infrastructure bill is business as usual. So however, for example, a water system has approached the State Revolving Fund over the last year, 30 years or whatever it is, everyone knows there are different requirements on that money. The state authorities who give -- the State Revolving Fund authorities who run the program are being asked to do more outreach and more on transparency and accountability than

they're ever done before.

So I think there's opportunity at least to see some real bright spots. That's my sunny answer.

MR. AMMON: That's good. I started out --

MS. THORP: You got me on a sunny Monday.

MR. AMMON: Oh, that's good. And I don't want to be the pessimist. I just, you know -- I'm just trying to --

MS. THORP: Good worries.

MR. AMMON: Anyway, so I'm looking around. I had framed some questions to the group that were e-mailed to everyone. I'm just looking around at -- there you go.

(Cross-talking)

MS. SMITH: Matt, yeah, I can't hear anybody.

DR. PARSONS: So this is Patrick Parsons. I volunteered to go next on one of these questions. I may regret but -- and I'm going to go out of order too. How can public awareness and outreach and education campaigns be utilized to promote awareness about lead service line replacements and the need to test children?

Yeah, the need to test children. This is a

golden opportunity to go in there and do something that I think is really needed, that targeted approach to screening. If we're looking at replacing lead service lines, chances are this is very old property and we're going to find lead-based paint and maybe lead-based dust.

So this is a good opportunity. And I would -- if I were a parent and someone said, "Hey, you've got lead service lines and we're going to replace them," I'd be worried about what's going to happen to my kids. I'd want my kids to be tested. And so I'm going to make a plug to leverage the public health labs to do this.

You know, with a little bit of funding in those public health lab they -- most public health -- state public health labs have the capability to measure lead with high complexity techniques. So they're going to get down to the detection in which they need. We may need to work a little bit to modify their protocols so that they can handle capillary blood. So I think capillary blood is fine for screening. It's perfectly adequate to analyze by mass stick and you can get fairly high-quality data.

So I think that that is maybe an opportunity that's worth pursuing to address this particular question.

MR. AMMON: Thank you very much.

Yeah, I'll sit next to you.

DR. MARQUEZ: Okay, sounds good. This is Erika. And I just wanted to touch back on the outreach a little bit and echo the importance to engaging on a community level with community organizations about efforts that are going to happen in the community. Because a lot of he communities that we work in are undocumented communities, would probably say no off the bat, right? Like, we're government agencies, like -- and there's so much hesitancy in some of the at -- our at-risk communities that we have to acknowledge that and we have to acknowledge that we need to think of strategies to lessen the tension of government agencies coming into your home.

And I think that -- I'm glad that there are some outreach efforts. I hope that maybe our CLPPP programs can work more closely with our hot -- our water authorities and think about some of the strategies that need to be employed at a

community level to make sure we get buy-in. Because that -- I think that's our goal at the end of this, to get buy-in in the communities that need it.

MR. AMMON: I wholeheartedly agree. Running a federal program that involves us going into homes, we have block captains and everything else just to make sure. But I -- that's a huge critical part of making this work.

And one more question. We're actually at time for closing but does anybody else want --

MR. LOPATA: I was going to say -- oh, I'm sorry, this is Aaron. I'm only enabled to talk. I can't post comments. I've been having computer problems today. But I want -- and so just --

I haven't introduced myself yet today, but somebody mentioned me. Yes, I'm at HRSA.

And just looking at two of the questions, one having to do with, you know, education campaigns, public awareness, outreach, you know, that's a lot of what we -- we do a great deal of that through obviously our public health work. So it'd be, I think, helpful to understand what we're not doing enough of and what more needs to be done. And I think there's a space for us to

work there.

And then also I think in regards to getting support from community organizations, we do a lot of community-based work as well, and I'm also wondering, you know, when you guys were talking about the need -- the importance of working with community organizations and in some cases there are some maybe that aren't as interested in working or supporting and then others that are.

I think the benefit of having, like, committee -- you know, a committee like this that's across the federal government and then you have the outside groups -- organizations as well that it can match up the partnerships that previously people hadn't thought about.

So we definitely have a lot of, again, community-based groups that if they're not playing a role, they potentially could play a role. I just want to throw it out there in terms of looking at things more closely and where we have space where we could do that and help foster those partnerships.

That was all. I'm sorry.

DR. CHAMBERS: So I would mention that replacing service lines will increase property

values 7 to 8 percent. Will that cost be transferred to the renters in a lower income area?

MR. AMMON: I think that's an open question. I think that's an open question. Looking around, I'm not sure if anybody's going to answer that one.

DR. CHAMBERS: Okay.

MR. AMMON: Yeah. I mean, I don't know. I don't know if that's going to happen. Is somebody on (inaudible) word? I see Nathan.

Why don't we go to you, Nathan, while -- oh, there's Steve. Here, let's go to Nathan first.

DR. GRABER: I'll try to keep it brief as well. So I just want to reinforce what Pat said. As a pediatrician, it's really important to make sure that we take advantage of this as an opportunity to increase blood lead testing among the children who are most at risk for exposure. And as we know, that even though this is a really great effort to address a source of lead, deterring lead-based paint in these older homes is really the biggest issue still.

And the -- the population that's most at risk are, of course, the low-income families that

live in rental properties where they may not even know where they get their water from. They're not the ones who pay the bill, they don't get the water confidence reports, and they may not be familiar with that system.

It's not only a sea change for them to then have a relationship with their water supplier, but it's also a sea change in terms of a change in the relationship between the water operator and the community. They -- they -- you know, they have never worked inside people's homes. They work on the infrastructure in the streets. They work on the infrastructure outside of the homes and now they're being asked to start stepping foot in people's homes which, you know, is -- particularly for some landlords in these communities, they may not have real trust or any kind of relationship whatsoever to believe that the government should be coming into their homes.

So that's something that really has to be worked on at the community level in terms of building relationships and building trust. It's incredibly important across the board. The other thing is is that, you know, we talked about how this will increase property values. But, you

know, the lead service registry, one of the barriers -- which I just want to compliment Kira on acknowledging the tremendous complications in implementing this program. And you've already mentioned many of the barriers.

And I also saw a white paper online from EPA, which also acknowledged many of these barriers. Is that -- is that -- knowing that your property has a lead service line may actually lower your property value. So they may not participate even in the inventory which is the foundation of this program, knowing where the lead service line is is incredibly important for then implementing the program and replacing those lead service lines.

There is -- I didn't hear anybody mention the issues with removal of the lead service line through trenching versus -- or just pointed out versus simply working around it and leaving it in place and the perceptions of that as a complication but something that would save a tremendous amount of money in the program and maybe a solution, particularly when you have municipalities implementing a program where there's cost-sharing between the homeowner and

the property owner and the municipality where the property owner may not want to invest that money because they don't believe it's a risk. They -- maybe they do read their water confidence report and they know that their -- their lead control program is working and they don't have elevated lead in the water, in the drinking water in people's homes.

And it's a potential hazard, not a true hazard. And then you're going to go and disrupt the system and you're going to create a temporary hazard through that process. So it's something to keep in mind as well.

And I think I'll close on this last point, which is, you know, the water operators -- and I think, Steve, you'll probably talk about this -- is, you know, we have a workforce issue, and I think that's not just unique to New York State where I live, I think that's across the board where the -- there just are not enough water operators, certified water operators, for these systems. And people managing a large program like this, that's a lot of pressure on them. They have to maintain the system which is their first priority and then implementing a lead

service program like this puts another giant burden on a very -- on a shrinking workforce. And it'd be great if the federal government can put more effort into workforce development in this area and get more operators, which if you've ever met a water operator, you know they love their jobs. And I don't see why there aren't -- everybody's not running to do that. It's really -- maybe because it's a lot of work.

And then -- oh, just -- sorry. One other quick point. Sorry. There's also the legal landscape. And you talked about eminent domain, you also talked about some municipalities it's so complicated they have to get an easement for every single property from a judge in order to be able to even just, you know, do that kind of work in the lead service line. And that delays the program over a tremendous amount of time.

And finally the -- one thing about the drinking -- the State Drinking Water Revolving Fund is that it was mentioned in the slide, in the collaboration that 49 percent can be given to disadvantaged communities as a grant. And that's not a random number, that a number that the federal government dictates. 49 percent can be

given as grant. The other 51 percent is a zero-interest loan.

And so some municipalities, imagine, do not want to take on more debt and may not choose to do that. And so that may be a difficulty also, a barrier in implementing the program. And more educational work needs to be done with those communities about the risks, the potential risks for their -- for their residents for not participating.

MR. AMMON: I'm going to call -- is Steve -- did he have a comment?

Or do you have a comment, Steve?

MR. VIA: I didn't -- the past several speakers have brought out great points. And we could probably spend another couple hours here, but you have a full agenda.

And I did want to make one last point. Water systems across the United States are varied in their size and in the density of lead service lines. How pervasive they are is an issue in their community. So it's just like lead in housing and it -- it's -- it's -- we need to think about how to do this in a flexible fashion so that we -- we come up with place-based

solutions.

And the points that have been made here on the conversation about communication, just think about how hard it is for us as a group of people who talk about lead all the time to talk about relative risk and how to best manage -- managing lead in a particular home and then adding into that conversation the notion of a blood-lead level test of your child or a particular test about lead in water when you know that there's peeling paint on the wall. How do we actually set up the folks in the field for success so that households can really pick one or both or all of the alternatives for managing risk that suits their situation?

CLOSING COMMENTS

MR. AMMON: Yep. Thank you very much for that. And anyone else, final questions before ... Oh, now the speakers come on, perfect.

Anything else from anyone else on this?

Well, great. Well, my closing two-minute comment -- comments are -- really this is great. I mean, first of all, to have everybody here really engaged. The stuff we talked about today is obviously significant really for the entire country. These are really, really big things

that we talked about that go from, you know, a nationwide approach, you're reorienting, you know, the way we're thinking about housing inspections and, you know, across the U.S. lead service line replacements and all the work that we are doing in terms of offering different protections, you know, related to EPA dust lead standards.

And then, of course, the new horizon, the workgroup for adult lead. I mean, there's -- I've already said this. So there's no shortage of work for us to do, but in particular today was really about huge things that we really haven't seen in quite a long time. I mean, the progress that we've made and the work that's being done now, you know, is going to be really changing generationally in terms of their impacts and outcomes and I'm glad we learned about them today.

And, you know, I've already been excited about this work and, you know, thinking about how -- what else is there to do? There's always something to do. There is always something else to do. Even the lead service line replacement, I mean, it's a huge amount of work that is going to

take all our collective efforts to be engaged but also, you know, reap the outcomes in terms of improved communities and better quality of life and, you know, everything that we have -- are doing is around -- Right? -- improving quality of life and I appreciate that.

So is there anything else, Paul, that needs to be said? Or, Alexis, before we adjourn for today?

DR. ALLWOOD: Yeah. I would just take a --

MR. AMMON: Perri.

DR. ALLWOOD: Just to take a -- you know, a few seconds to just, you know, kind of echo your comments, Matt, but also to thank everybody who, you know, made it here in person, and, you know, for the folks who attended online. We really appreciate all of you. We're going to be back tomorrow morning, and, you know, we'll continue our discussions.

And, you know, we hope that, you know, everybody will be able to come feeling refreshed and energized and, you know, with a little bit of time to kind of get through all of the protocols so we can continue the meeting. And, you know, we're really very, very grateful for the -- for

the way the day turned out.

I can't say enough about, you know, the information that was shared today and all of the different perspectives that were put on the table. Every single one of them extremely valuable to us.

MR. AMMON: It's very helpful.

Perri?

DR. RUCKART: Yeah. I just wanted to say -- (indiscernible). Is it on now? It's on now?

I just wanted to let everyone know that you can leave your nametags and you can leave, you know, your agendas and things like that in the room. So it'll be waiting for you when you come back tomorrow.

I wanted to echo what Paul and Matt have said about being a really productive meeting. And I want to thank all of the support staff behind the scenes who've done a lot of work to get us here today.

So thank you and I hope everyone has a pleasant evening. And I'll see you tomorrow, some of you I will be seeing later for dinner. If I don't see you, have a pleasant evening.

MR. AMMON: Thank you.

UNIDENTIFIED SPEAKER: Our badges are dated till tomorrow. How do we get back in?

DR. RUCKART: You need to go to the visitor's center. It's like groundhog day.

(Concluded at 4:02 p.m.)

CERTIFICATE

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I, Mary K. McMahan, Certified Court Reporter in and for the State of Georgia at large, certify that the foregoing pages, 6 through 224, constitute, to the best of my ability, a complete and accurate transcription of the meeting and were accurately reported and transcribed by me or under my direction.

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